APPENDIX M

BIOLOGICAL RESOURCES

APPENDIX M-1

BIOLOGICAL TECHNICAL REPORT

BIOLOGICAL TECHNICAL REPORT

FOR

CHADWICK RANCH ESTATES

LOCATED IN THE CITY OF BRADBURY, LOS ANGELES COUNTY, CALIFORNIA

Prepared For:

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July 17, 2020

INFORMATION SUMMARY

A. Report Date: July 17, 2020

B. Report Title: Biological Technical Report for the Chadwick Ranch Estates Project

C. Project Site Location: City of Bradbury, Los Angeles County, Section 19 of Township 1 North, Range 10 West of the USGS Azusa quadrangle map; UTM coordinates approximately corresponding to the study area are 411407 mE and 3779912 mN (Zone 11S)

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1.0 INTRODUCTION

1.1 Background and Scope of Work

This document provides the results of general biological surveys and focused biological surveys for the Chadwick Ranch Estates Specific Plan (the Project) located in the City of Bradbury, Los Angeles County, California. This report identifies and evaluates impacts to biological resources associated with the proposed Project in the context of the California Environmental Quality Act (CEQA), and State and Federal regulations such as the Endangered Species Act (ESA), Clean Water Act (CWA), and the California Fish and Game Code.

The scope of this report (i.e. the Study Area) covers the approximately 111.8-acre Specific Plan, including proposed development and open space, and additional offsite improvements for access to the development. The Study Area also includes an area that is not a part of the Project, but that is surrounded by the onsite development and offsite improvement area. This "not a part" area was included in the overall Study Area to address potential indirect impacts. Including the Specific Plan boundary (111.8 acres), offsite improvements (22.83 acres) and the "not a part" area (4.66 acres), the overall Study Area totals 139.29 acres.

This report describes all methods employed regarding the general biological surveys and focused biological surveys, the documentation of botanical and wildlife resources identified (including special-status species), and an analysis of impacts to biological resources. Methods of the study include a review of relevant literature, field surveys, and a Geographical Information System (GIS)-based analysis of vegetation communities. As appropriate, this report is consistent with accepted scientific and technical standards and survey guideline requirements issued by the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), the California Native Plant Society (CNPS), and other applicable agencies/organizations.

The field study focused on a number of primary objectives that would comply with CEQA requirements, including (1) general reconnaissance survey and vegetation mapping; (2) general biological surveys; (3) habitat assessments and focused surveys for special-status plant species; and (4) habitat assessments and focused surveys for special-status wildlife species. Observations of all plant and wildlife species were recorded during the general biological surveys and are included as Appendix A: Floral Compendium and Appendix B: Faunal Compendium.

This document provides the results or a jurisdictional delineation identifying the limits of waters of the United States subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) pursuant to Clean Water Act (CWA) Section 404 and the Regional Water Quality Control Board (Regional board) pursuant to CWA Section 401, and streams subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code. Appendix E provides a separate Jurisdictional Delineation Report.

This document summarizes the results of a tree inventory performed by Dudek in 2018. The purpose of the inventory was to map and assess native trees pursuant to the City of Bradbury's Tree Preservation and Protection Ordinance (Chapter 9.06.090 of the City's Municipal Code).

1.2 Project Location

The Project is located in the City of Bradbury, Los Angeles, California [Exhibit 1 – Regional Map] and is located within Section 19 of Township 1 North, Range 10 West of the U.S. Geological Survey (USGS) 7.5" quadrangle map Azusa (dated 1966 and photorevised in 1972) [Exhibit 2 – Vicinity Map]. The Universal Transverse Mercator (UTM) coordinates approximately corresponding to the Study Area are 411407 mE and 3779912 mN (Zone 11S). Elevations at the property range from approximately 800 feet above mean sea level (amsl) to approximately 2,000 feet amsl. Adjacent land uses include proposed residential development to the west, open space to the east (Duarte Wilderness Preserve/San Gabriel Canyon Significant Ecological Area [SEA]); and open space to the north, including the Angeles National Forest.

1.3 Project Description

The Project will create 14 estate residential parcels. Development will require installation of a water tank, a booster station, debris and water quality basins the residential estates would allow a primary home and a guest house, other ancillary structures including but not limited to garages and stables. For analysis purposes, the allowable buildable area ranges from a minimum of 20,000 square feet to a maximum of 49,000 square feet. The undisturbed open space will be dedicated to a conservancy to be named and will ensure that 45.2% of the site remains undisturbed in perpetuity. All common areas within the project and areas that require ongoing maintenance will be maintained through a Homeowner's Association.

The proposed site design preserves the hillsides, limiting grading to a 50.5-acre area of the Specific Plan boundary. The area of impact is approximately 45.2% of total land holding of 111.8-acres. The project proposes a maximum of 14 dwelling units on a range of lot sizes, resulting in an overall average density for the project of 0.13 du/ac. In conformance with project goals, consistent housing styles are proposed to appeal to a range of future Chadwick Ranch Estates residents. The residential lot layouts are designed to reflect the project site's natural character by minimizing areas proposed for grading and softening the slopes between the residential pads. The Chadwick Ranch Estates residential product will provide primarily Estate Homes.

The project takes access through LA County Flood Control property using the existing easements to allow access from the intersection of Long Canyon Road and Bliss Canyon Road to the project site. A large portion of the existing Flood Control road system will be improved for the safety of current and future residents, as well as for ongoing Flood Control operations (offsite improvements).

The grading concept is primarily driven by the location of the access points and the existing topographic conditions of the site. The proposed project is in the gentlest portion of the property to minimize grading. The grading is planned to take place in one phase and will balance onsite, avoiding any importing or exporting of material while also proposing grading that blends with the natural topography. The proposed grading has natural movement and curves to mimic the rustic topography of the site. Where proposed grades meet existing topography, the grades will be rounded to blend and provide a natural effect.

The residential estate pads are created by contour grading the natural ground to provide flat pads and to balance the earthwork quantities on-site. Grading is anticipated to take approximately one year. The residential estates will be custom homes. The anticipated project buildout is 5 years from the start of construction. The majority or the project is dedicated as open space and will be left undisturbed.

The native landscape and open space surrounding the site extends into the project along roads, on slopes, in the community open space areas and on the edges of home sites to create an informal atmosphere that is important to the Bradbury Estates environment. In addition to this attention to the integration of the home sites, landscape and landform grading, the Chadwick Ranch Estates project plans to incorporate a specimen tree placement program for the lot owners within the Chadwick Ranch Estates development. This it to develop a sustainable urban forest management program through a public-private partnership.

The Project will maintain three fuel modification zones (A, B, and C). Zone A and B will both result in complete avoidance of existing vegetation, with Zone A consisting of 20-foot setback zone from structures, and Zone B consisting of an irrigated zone extending an additional 80 feet from the limits of Zone A (total of 100 feet from structures). Zone C consists of a native brush thinning zone that extends up to 200 feet from structures.

1.4 Existing Conditions

The Project site is located in the foothills of the San Gabriel Mountains, with elevations ranging from approximately 1,300 feet above mean sea level (amsl) to 775 feet amsl. The Project site has a prominent east-west ridgeline in the northern portion of the site with multiple lateral ridgelines that slope steeply to the south. The ridgelines and slopes are vegetated predominately with chaparral (including Scrub Oak Chaparral and a mixed chaparral) and California Buckwheat-California Sagebrush Scrub. Plants associated with the chaparral areas include scrub oak (*Quercus berberidifolia*), laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), hollyleaf redberry (*Rhamnus ilicifolia*), spiny redberry (*Rhamnus crocea*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), bush monkeyflower (*Diplacus aurantiacus*), chamise (*Adenostoma fasciculatum*), chaparral honeysuckle (*Lonicera subspicata*), fragrant sumac (*Rhus aromatica*), lemonadeberry (*Rhus integrifolia*), chaparral yucca (*Hesperoyucca whipplei*), and poison oak (*Toxicodendron diversilobum*). Plants associated with the coastal sage scrub include California buckwheat (*Eriogonum fasciculatum*), coastal sagebrush (*Artemisia californica*), deerweed (*Acmispon glaber*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), sawtooth goldenbush (*Hazardia squarrosa*), and coast prickly pear (*Opuntia littoralis*). The chaparral vegetation is the dominant scrub vegetation, with coastal sage scrub in smaller patches or intermixed with the chaparral. Overall, southern mixed chaparral is prominent on the north- and west-facing slopes, with Diegan coastal sage scrub on south- and east-facing slopes. The north-south ridgelines are separated by incised drainage features that drain towards offsite flood-control facilities to the south. The southernmost portion of the site contains a larger drainage feature supporting a riparian woodland dominated by coast live oak (*Quercus agrifolia*) and western sycamore (*Platanus racemosa*). Coast live oak trees also occur throughout the other drainage features and on adjacent slopes. Additional riparian vegetation includes black willow (*Salix gooddingii*) and mulefat (*Baccharis salicifolia*). Adjacent land uses include residential development to the west, south, and southeast; open space to the east (Duarte Wilderness

Preserve); and open space to the north, including the Angeles National Forest. Offsite lands to the north and east are also associated with a County of Los Angeles Significant Ecological Area (SEA) for San Gabriel Canyon.

The Specific Plan proposes approximately 86.4 acres of open space Lots, including approximately 60.6 acres to be conserved as Lot L. Although a portion of Lot L will be impacted by remedial grading and fuel modification, the majority will remain undisturbed and in conservation. The majority of the Lot L open space consists of chaparral vegetation dominated by scrub oak, laurel sumac, and other chaparral species described above. The Lot L open space also supports Coast Live Oak Riparian Forest that is associated with Bradbury Canyon. The open space associated with the Bradbury Canyon complex is expected to generally support the same species associated with the development footprint, although due to the presence of intermittent or perennial water sources, Bradbury Canyon would support other species not expected within the development footprint. For example, the coast range newt (*Taricha tarosa*) was observed on one occasion at a waterfall in Bradbury Canyon that would not be expected in the development footprint. Species evaluated within this report for development portion of the Specific Plan are also discussed throughout in the context of the open space.

2.0 METHODOLOGY

In order to adequately identify biological resources in accordance with the requirements of CEQA, Glenn Lukos Associates (GLA) assembled biological data consisting of three main components:

- Delineation of aquatic resources (including wetlands and riparian habitat) subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), and CDFW;
- Performance of vegetation mapping for the Project site; and
- Performance of habitat assessments, and site-specific biological surveys, to evaluate the presence (including the potential presence) or absence of special-status species in accordance with the requirements of CEQA.

In addition, GLA collected observational data and/or researched information related to wildlife movement/corridors, soils resources, and adjacent (offsite) sensitive/management lands.

The focus of the studies was determined through initial site reconnaissance, a review of pertinent literature, and knowledge of the region. Site-specific general surveys within the Project site were conducted on foot in the proposed development areas for each target plant or animal species determined to have a potential to occur and where focused surveys were appropriate. The emphasis of the field studies was on areas to be impacted by the Project through grading and fuel modification, totaling approximately 73.31 acres, including 50.48 acres within the Specific Plan boundary and the 22.83-acre offsite improvement area. Much of the offsite improvement areas consist of existing flood control access roads and adjacent ornamental planting areas, and so the primary focus of the field investigations was in native habitats associated with the development footprint. The majority of the remaining Lot L Open Space to remain undisturbed (i.e. north of

Bradbury Canyon) was not directly accessed due to the terrain and since these areas will not be impacted by the Project. Instead the majority of the Lot L Open Space was generally evaluated using aerial imagery and observations made from accessible portions of Bradbury Canyon and the adjacent ridgelines.

Areas that were analyzed for potential indirect effects, including offsite lands to the east (Duarte Wilderness Preserve/San Gabriel SEA), and proposed Open Space to north and south were either evaluated through direct surveys where the lands were accessible (i.e. portions of the Project's Open Space) or through observation from accessible portions of the Project site such as with the lands to the east where GLA did not have access.

The literature review included the following resources:

- California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39) (CNPS 2020);
- CNDDB for the USGS 7.5' quadrangles: Azusa and surrounding quadrangles (CNDDB 2020);
- Natural Resource Conservation Service (NRCS) soil data;
- USFWS online Information for Planning and Consultation (IPaC) system;
- USFWS National Wetland Inventory (NWI) mapping; and
- County of Los Angeles Significant Ecological Area (SEA) mapping.

Vegetation was mapped directly onto a 200-scale (1"=200') aerial photograph. Native vegetation communities were classified following A Manual of California Vegetation, Second Edition (MCVII), which is the California expression of the National Vegetation Classification, where the vegetation fit appropriately into a MCVII category. As necessary, the vegetation community mapping cross-referenced Holland (1986). Where neither system applied, such as with developed and ornamental plantings, then a category was specifically defined for this report. All flora and fauna identified on site during vegetation mapping was included in a floral and faunal compendium prepared for the Project. Vegetation communities not listed under the above-mentioned vegetation classification systems were named based on the dominant plant species present.

2.1 Summary of Surveys

GLA conducted biological studies in order to identify and analyze actual or potential impacts to biological resources associated with development of the Project site. Specific field tasks included 1) general biological surveys, including habitat assessments; 2) vegetation mapping; 3) focused plant survey; 4) focused surveys for the coastal California gnatcatcher; and 5) a delineation of jurisdictional waters. Due to constraints related access coordination, GLA consolidated the surveys into 10 separate site visits, with two biologists present on 6 of the 10 days, for a total of 16 "biologist days". Of the 10 dates when the site was surveyed, 6 of those dates included a morning gnatcatcher survey followed by dedicated efforts for plant surveys and/or the jurisdictional delineation fieldwork. The site contains minimal areas of potentially suitable habitat for gnatcatchers and so the emphasis of field time at the site was spent documenting floral resources and characterizing habitat for special-status animals. Furthermore,

on four of the gnatcatcher-survey dates a second biologist was present to perform other tasks, such that one biologist was dedicated to the gnatcatcher survey and the second biologist documented plants and otherwise evaluated the site for other resources. Once the gnatcatcher survey was completed, then the rest of the day was dedicated by both biologists to plant surveys. Since the Project site lacks wetlands and complex riparian mapping, the jurisdictional delineation was limited to taking occasional stream width data and photographs to characterize the jurisdictional resources, which did not consume much of the total survey time. Observations of all plant and wildlife species were recorded during each of the above-mentioned survey efforts [Appendix A: Floral Compendium and Appendix B: Faunal Compendium]. Table 2-1 provides a summary list of survey dates, survey types and personnel.

Table 2-1. Summary of Biological Surveys for the Project Site.

Survey Type	Survey Dates	Biologists
General Biological Survey and Habitat Assessments	**2017:** 4/11, 4/15	DM/ZW
Vegetation Mapping	4/15, 5/12, 5/25, 6/15	DM/ZW
Focused Plant Surveys	**2017:** 4/11, 4/15, 4/25, 5/2, 5/9, 5/12, 5/16, 5/25, 6/15, 6/27	DM/ZW/JA
Focused Gnatcatcher Surveys	**2017:** 4/11 4/25 5/2 5/9 5/16 6/27	 DM DM/ZW DM/JA DM/ZW DM/ZW DM
Jurisdictional Delineation	**2017:** 4/25, 5/9, 5/16 **2018:** 3/5	DM/ZW DM/ZW

DM = David Moskovitz; ZW = Zack West; JA = Jeff Ahrens

Individual plants and wildlife species are evaluated in this report based on their "special-status." For the purpose of this report, plants were considered "special-status" based on one or more of the following criteria:

- Listing through the Federal and/or State Endangered Species Act (ESA);
- Occurrence in the CNPS Rare Plant Inventory (Rank 1A/1B, 2A/2B, 3, or 4); and/or
- Occurrence in the CNDDB inventory.

Wildlife species were considered "special-status" based on one or more of the following criteria:

- Listing through the Federal and/or State ESA; and

- Designation by the State as a Species of Special Concern (SSC) or California Fully Protected (CFP) species.

Vegetation communities and habitats were considered "special-status" based on one or more of the following criteria:

- Global (G) and/or State (S) ranking of category 3 or less based on CDFW (see Section 3.2.2 below for further explanation); and
- Riparian habitat.

2.2 Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Project site, and consisted of five components: (1) a literature search; (2) preparation of a list of target special-status plant species and sensitive vegetation communities that could occur within the Project site; (3) general field reconnaissance surveys; (4) vegetation mapping according to the List of Vegetation Alliances and Associations; and (5) habitat assessments and focused surveys for special-status plants.

2.2.1 Literature Search

Prior to conducting fieldwork, pertinent literature on the flora of the region was examined. A thorough archival review was conducted using available literature and other historical records. These resources included the following:

- California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39) (CNPS 2020); and

- CNDDB for the USGS 7.5' quadrangles: Azusa and surrounding quadrangles (CNDDB 2020).

2.2.2 Vegetation Mapping

Vegetation communities within the Project site were mapped according to the List of Vegetation Alliances and Associations (or Natural Communities List). The list is based on A Manual of California Vegetation, Second Edition or MCVII (Sawyer, J.O, T. Keeler-Wolf and J.M. Evens 2009), which is the California expression of the National Vegetation Classification. Where necessary, deviations were made when areas did not fit into exact habitat descriptions. These vegetation communities were named based on the dominant plant species present. Plant communities were mapped in the field directly onto a 200-scale (1"=200') aerial photograph. A vegetation map is included as Exhibit 6. Representative site photographs are included as Exhibit 10.

2.2.3 Special-Status Plant Species and Habitats Evaluated for the Project Site

A literature search was conducted to obtain a list of special status plants with the potential to occur within the Project site. The CNDDB was initially consulted to determine well-known occurrences of plants and habitats of special concern in the region. Other sources used to develop a list of target species for the survey program included the CNPS online inventory (2020).

Based on this information, vegetation profiles and a list of target sensitive plant species and habitats that could occur within the Project site were developed and incorporated into a mapping and survey program to achieve the following goals: (1) characterize the vegetation associations and land use; (2) prepare a detailed floristic compendium; (3) identify the potential for any special status plants that may occur within the Project site; and (4) prepare a map showing the distribution of any sensitive botanical resources associated with the Project site, if applicable.

2.2.4 Botanical Surveys

GLA biologist David Moskovitz visited the site on April 11, 15, 25, May 2, 9, 12, 16 and 25, and June 15 and 27, 2017 to conduct general and focused plant surveys. GLA biologist Zack West participated in the surveys on April 15, 25, and May 9, 16 and 25. GLA biologist Jeff Ahrens participated in the survey on May 2. Of the ten site visits that included plant surveys, six of the surveys were performed on days when surveys were also performed for the coastal California gnatcatcher. On April 15 and 25, and May 9, 16, and 25, Mr. West focused on surveying for plants while Mr. Moskovitz performed the gnatcatcher survey, and then following the completion of the gnatcatcher survey, both continued to survey for plants. On May 2, Mr. Ahrens performed the gnatcatcher survey in the morning, with Mr. Moskovitz performing focused plant surveys for the entirety of the day. As such, although six of the plant survey visits occurred on the same day as gnatcatcher surveys, four of those dates included a biologist dedicated to plant surveys, and on the two days (April 11 and June 27) when a single biologist was present (Mr. Moskovitz) plant surveys were performed in the afternoon following the completion of the gnatcatcher surveys in the morning. Surveys were conducted in accordance with accepted botanical survey guidelines (CDFG 2009, CNPS 2001, USFWS 2000). As applicable, surveys were conducted at appropriate times based on precipitation and flowering periods. An aerial photograph, a soil map, and/or a topographic map were used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Project site. Surveys were conducted by following meandering transects within target areas of suitable habitat. All plant species encountered during the field surveys were identified and recorded following the above-referenced guidelines adopted by CNPS (2010) and CDFW by Nelson (1984). A complete list of the plant species observed is provided in Appendix A. Scientific nomenclature and common names used in this report follow Baldwin et al (2012), and Munz (1974).

2.3 Wildlife Resources

Wildlife species were evaluated and detected during field surveys by sight, call, tracks, and scat. Site reconnaissance was conducted in such a manner as to allow inspection of the entire Project site by direct observation, including the use of binoculars. Observations of physical evidence and direct sightings of wildlife were recorded in field notes during the visit. A complete list of wildlife species observed within the Project site is provided in Appendix B. Scientific nomenclature and common names for vertebrate species referred to in this report follow the Complete List of Amphibian, Reptile, Bird, and Mammal Species in California (CDFG 2008), Standard Common and Scientific Names for North American Amphibians, Turtles, Reptiles, and Crocodilians 6th Edition, Collins and Taggert (2009) for amphibians and reptiles, and the American Ornithologists' Union Checklist 7th Edition (2009) for birds. The methodology (including any applicable survey protocols) utilized to conduct general surveys, habitat assessments, and/or focused surveys for special-status animals are included below.

2.3.1 General Surveys

Invertebrates

During the biological surveys within the Study Area, invertebrates were documented if they were detected incidentally, with identifications recorded in field notes.

Birds

During the biological surveys within the Study Area, birds were detected incidentally by direct observation and/or by vocalizations, with identifications recorded in field notes.

Mammals

During the biological surveys within the Study Area, mammals were identified and detected incidentally by direct observations and/or by the presence of diagnostic sign (i.e., tracks, burrows, scat, etc.).

Reptiles and Amphibians

During the biological surveys within the Study Area, reptiles and amphibians were identified incidentally during surveys. Habitats were examined for diagnostic reptile sign, which include shed skins, scat, tracks, snake prints, and lizard tail drag marks. All reptiles and amphibian species observed, as well as diagnostic sign, were recorded in field notes.

2.3.2 Special-Status Animal Species Reviewed

A literature search was conducted in order to obtain a list of special-status wildlife species with the potential to occur within the Study Area. Species were evaluated based on two factors: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the

vicinity of the Project site, and 2) any other special-status animals that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs on the Project site.

2.3.3 Habitat Assessment for Special Status Animal Species

GLA biologists David Moskovitz and Zack West conducted habitat assessments for special-status animal species on April 15 and 25, 2017. An aerial photograph, soil map and/or topographic map were used to determine the community types and other physical features that may support special-status and uncommon taxa within the Project site.

2.3.4 Focused Surveys for Special-Status Animals Species

Coastal California Gnatcatcher

GLA biologists David Moskovitz (TE-084606-3) and Jeff Ahrens (TE-052159-5) conducted focused surveys for the coastal California gnatcatcher (*Polioptila californica californica*) for all suitable habitat areas within the Study Area. Mr. Zack West was present during the surveys on April 25, May 9 and 16, 2017. Surveys were conducted in accordance with the 1997 USFWS survey guidelines, which during the breeding season (March 15 through June 30) require a minimum of six surveys (per survey polygon) with at least one week separating each survey visit. The survey guidelines limit individual biologists to surveying a maximum of 80 acres per day. Since the majority of the proposed development footprint supports dense chaparral vegetation communities, there was minimal suitable habitat present for the gnatcatcher, with a total of 1.75 acres of contiguous sage scrub habitat within the offsite improvement area and the "not a part" area, in addition to smaller inclusions of sage scrub vegetation intermixed within the chaparral vegetation. As such, the Study Area contains considerably less than 80 acres of suitable habitat for the gnatcatcher, and therefore the survey area consisted of a single survey polygon.

Focused surveys were conducted on April 11 and 25, May 2, 9, and 16, 2017, and June 27, 2017. Pursuant to the survey guidelines, the surveys were conducted between sunrise and 12:00 p.m. Weather conditions during the surveys were conducive to a high level of bird activity. Table 2-2 summarizes the gnatcatcher survey visits. The results of the gnatcatcher surveys are documented in Section 4.0 of this report, and in Appendix C.

Table 2-2. Summary of Coastal California Gnatcatcher Surveys

Survey Date	Surveyor	Start/End Time	Temp ºF (start/end)	Start/End Wind Speed (mph)	Cloud Cover
4/11/17	DM	0700/1200	58/76	1-3/1-3	Clear
4/25/17	DM/ZW	0730/1145	62/74	0-2/1-3	Pt. Cloudy
5/2/17	DM/JA	0800/1100	66/81	1-3/2-4	Clear
5/9/17	DM/ZW	0745/1200	65/70	0-2/0-3	Overcast
5/16//17	DM/ZW	0830/1145	59/64	0-2/0-2	Pt. Cloudy
6/27/17	DM	0815/1145	68/81	1-3/0-2	Clear

DM = David Moskovitz, ZW = Zack West (non-permitted), JA = Jeff Ahrens

2.4 Tree Inventory

International Society of Arboriculture (ISA)-certified arborists with Dudek performed a tree inventory for the development footprint in 2018. The purpose of the inventory was to map and assess native trees pursuant to the City of Bradbury's Tree Preservation and Protection Ordinance (Chapter 9.06.090 of the City's Municipal Code). Dudek's arborists mapped and collected tree attribute information for all trees meeting the City's definition of a "protected tree," which includes native, prominent, significant, and orchard trees that have a minimum or expected diameter of 4 inches at 24 inches above final grade. The location of each individual mature tree was mapped using a Trimble Pathfinder Pro XH Global Positioning System (GPS) receiver. Protected trees were tagged in the field with an aluminum tree tag bearing a unique identification number. The tags were placed on the trunk of each inventoried tree, and tag numbers correspond with the individual tree data presented in Dudek's Tree Preservation and Protection Plan (dated July 2018).

Concurrent with tree mapping efforts, Dudek arborists collected tree attribute data, including species, quantity of individual trunks, individual trunk diameters, overall height, canopy extent, and general health and structural conditions. Trunk diameter measurements were collected at 24 inches above the ground along the trunk axis as described in Section 9.06.090.030 of the City's Municipal Code, with a few common exceptions. In cases where a tree's trunk is located on a slope, the 2-foot distance was approximated as the average of the shortest and longest sides of the trunk (i.e., the uphill side and downhill side of a tree's trunk, respectively), and the measurement was made at the circumference of the trunk at this point. Tree height measurements were ocular estimates made by experienced field arborists. Tree canopy diameters were typically estimated by "pacing-off" the measurement based on the investigator's knowledge of his stride length or by visually estimating the canopy width. The tree crown diameter measurements were made along an imaginary line intersecting the tree trunk that best approximated the average canopy diameter.

Pursuant to the *Guide for Plant Appraisal* (ISA 2000), tree health and structure were evaluated with respect to five distinct tree components: roots, trunk(s), scaffold branches, small branches, and foliage. Each component of the tree was assessed regarding health factors such as insect, fungal, or pathogen damage; fire damage; mechanical damage; presence of decay; presence of wilted or dead leaves; and wound closure.

2.5 Jurisdictional Delineation

GLA performed a jurisdictional delineation of the Study Area to identify the limits of waters of the U.S. subject to jurisdiction of the Corps and Regional Board, and waters of the State subject to the jurisdiction of CDFW. Mr. Moskovitz and Mr. West conducted completed parts of the delineation on during multiple visits at the site, including April 25, May 9 and 16, 2017 and March 5, 2018. Prior to beginning the field delineation, a color aerial photograph, a topographic base map of the property, the previously cited USGS topographic map, and a soils map were examined to determine the locations of potential areas of Corps, Regional Board, and CDFW jurisdiction. Suspected jurisdictional areas were field checked for evidence of stream activity and/or wetland vegetation, soils and hydrology. Where applicable, reference was made to the

2008 Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (OWHM Manual)[1] to identify the width of Corps jurisdiction and suspected federal wetland habitats on the site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[2] (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Arid West Supplement).[3] In the preparation of this report, reference was also made to the new (2020) ***Navigable Waters Protection Rule*** for identifying waters of the U.S. and the 2019 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Board Wetland Definition and Procedures) to identify suspected State wetland habitats.[4] While in the field the limits of the OHWM, wetlands, and CDFW jurisdiction were recorded using GPS technology and/or on copies of the aerial photography. Other data were recorded onto the appropriate datasheets. The results of the Jurisdictional Delineation are depicted on Exhibit 7 and 8.

3.0 REGULATORY SETTING

The proposed Project is subject to state and federal regulations associated with several regulatory programs. These programs often overlap and were developed to protect natural resources, including: state- and federally listed plants and animals; aquatic resources including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; other special-status species which are not listed as threatened or endangered by the state or federal governments; and other special-status vegetation communities.

3.1 State and/or Federally Listed Plants or Animals

3.1.1 State of California Endangered Species Act

California's Endangered Species Act (CESA) defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the

[1] U.S. Army Corps of Engineers. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States

[2] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

[3] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

[4] State Water Resources Control Board. 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State.

commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the Federal Endangered Species Act (FESA), CESA does not list invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened, endangered, or candidate species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

3.1.2 Federal Endangered Species Act

The FESA of 1973 defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification that result in injury to, or death of species as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a Federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

3.1.3 State and Federal Take Authorizations for Listed Species

Federal or state authorizations of impacts to or incidental take of a listed species by a private individual or other private entity would be granted in one of the following ways:

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).
- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) pursuant to Section 10(a) of the FESA. Upon development of

an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.

- Sections 2090-2097 of the CESA require that the state lead agency consult with CDFW on projects with potential impacts on state-listed species. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed as well as state-listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

3.2 California Environmental Quality Act

3.2.1 CEQA Guidelines Section 15380

CEQA requires evaluation of a project's impacts on biological resources and provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Sections 5.1.1 and 5.2.2 below set forth these thresholds and guidelines. Furthermore, pursuant to the CEQA Guidelines Section 15380, CEQA provides protection for non-listed species that could potentially meet the criteria for state listing. For plants, CDFW recognizes that plants on Lists 1A, 1B, or 2 of the CNPS *Inventory of Rare and Endangered Plants in California* may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants, which are regionally important, such as locally rare species, disjunct populations of more common plants, or plants on the CNPS Lists 3 or 4.

3.2.2 Special-Status Plants, Wildlife and Vegetation Communities Evaluated Under CEQA

Federally Designated Special-Status Species

Within recent years, the USFWS instituted changes in the listing status of candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. This term is employed in this document but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS.

For this report the following acronyms are used for federal special-status species:

- FE Federally listed as Endangered

- FT Federally listed as Threatened
- FPE Federally proposed for listing as Endangered
- FPT Federally proposed for listing as Threatened
- FC Federal Candidate Species (former C1 species)
- FSC Federal Species of Concern (former C2 species)

State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (SFP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California SSC are designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's CNDDB project. Informally listed taxa are not protected but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites.

For this report the following acronyms are used for State special-status species:

- SE State-listed as Endangered
- ST State-listed as Threatened
- SR State-listed as Rare
- SCE State Candidate for listing as Endangered
- SCT State Candidate for listing as Threatened
- SFP State Fully Protected
- SP State Protected
- SSC State Species of Special Concern

CNDDB Global/State Rankings

The CNDDB provides global and state rankings for species and communities based on a system developed by The Nature Conservancy to measure rarity of a species. The ranking provides a shorthand formula about how rare a species/community is and is based on the best information available from multiple sources, including state and federal listings, and other groups that recognize species as sensitive (e.g., Bureau of Land Management, Audubon Society, etc.). State and global rankings are used to prioritize conservation and protection efforts so that the rarest species/communities receive immediate attention. In both cases, the lower ranking (i.e., G1 or S1) indicates extreme rarity. Rare species are given a ranking from 1 to 3. Species with a ranking of 4 or 5 is common. If the exact global/state ranking is undetermined, a range is generally provided. For example, a global ranking of "G1G3" indicates that a species/community global rarity is between G1 and G3. If the animal being considered is a subspecies of a broader species, a "T" ranking is attached to the global ranking. The following are descriptions of global and state rankings:

Global Rankings

- G1 – Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or because of some factor(s) making it especially vulnerable to extinction.
- G2 – Imperiled globally because of rarity (6-20 occurrences), or because of some other factor(s) making it very vulnerable to extinction throughout its range.
- G3 – Either very rare and local throughout its range (21 to 100 occurrences) or found locally (even abundantly at some of its locations) in a restricted range (e.g., a physiographic region), or because of some other factor(s) making it vulnerable to extinction throughout its range.
- G4 – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 – Common, widespread and abundant.

State Rankings

- S1 – Extremely rare; typically, 5 or fewer known occurrences in the state; or only a few remaining individuals; may be especially vulnerable to extirpation.
- S2 – Very rare; typically, between 6 and 20 known occurrences; may be susceptible to becoming extirpated.
- S3 – Rare to uncommon; typically, 21 to 50 known occurrences; S3 ranked species are not yet susceptible to becoming extirpated in the state but may be if additional populations are destroyed.
- S4 - Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- S5 - Common, widespread, and abundant in the state.

California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The CNPS's Eighth Edition of the *California Native Plant Society's Inventory of Rare and Endangered Plants of California* separates plants of interest into five ranks. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California. The list serves as the candidate list for listing as threatened and endangered by CDFW. CNPS has developed five categories of rarity that are summarized in Table 3-1.

Table 3-1. CNPS Ranks 1, 2, 3, & 4, and Threat Code Extensions

CNPS Rank	Comments
Rank 1A – Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere	Thought to be extinct in California based on a lack of observation or detection for many years.
Rank 1B – Plants Rare, Threatened, or Endangered in California and Elsewhere	Species, which are generally rare throughout their range that are also judged to be vulnerable to other threats such as declining habitat.
Rank 2A – Plants presumed Extirpated in California, But Common Elsewhere	Species that are presumed extinct in California but more common outside of California
Rank 2B – Plants Rare, Threatened or Endangered in California, But More Common Elsewhere	Species that are rare in California but more common outside of California
Rank 3 – Plants About Which More Information Is Needed (A Review List)	Species that are thought to be rare or in decline but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific rank. In addition, many of the Rank 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.
Rank 4 – Plants of Limited Distribution (A Watch List)	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for Rank 3 species, CNPS lacks survey data to accurately determine status in California. Many species have been placed on Rank 4 in previous editions of the "Inventory" and have been removed as survey data has indicated that the species are more common than previously thought. CNPS recommends that species currently included on this list should be monitored to ensure that future substantial declines are minimized.
Extension	**Comments**
.1 – Seriously endangered in California	Species with over 80% of occurrences threatened and/or have a high degree and immediacy of threat.
.2 – Fairly endangered in California	Species with 20-80% of occurrences threatened.
.3 – Not very endangered in California	Species with <20% of occurrences threatened or with no current threats known.

3.3 Jurisdictional Waters

3.3.1 Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a), pursuant to the *Navigable Waters Protection Rule*[5] (NWPR), as:

(a) Jurisdictional waters. For purposes of the Clean Water Act, 33 U.S.C. 1251 *et seq.* and its implementing regulations, subject to the exclusions in paragraph (b) of this section, the term ''waters of the United States'' means:

(1) The territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;
(2) Tributaries;
(3) Lakes and ponds, and impoundments of jurisdictional waters; and
(4) Adjacent wetlands.

(b) Non-jurisdictional waters. The following are not ''waters of the United States'':

(1) Waters or water features that are
not identified in paragraph (a)(1), (2), (3), or (4) of this section;
(2) Groundwater, including groundwater drained through subsurface drainage systems;
(3) Ephemeral features, including ephemeral streams, swales, gullies, rills, and pools;
(4) Diffuse stormwater run-off and directional sheet flow over upland;
(5) Ditches that are not waters identified in paragraph (a)(1) or (2) of this section, and those portions of ditches constructed in waters identified in paragraph (a)(4) of this section that do not satisfy the conditions of paragraph (c)(1) of this section;
(6) Prior converted cropland;
(7) Artificially irrigated areas, including fields flooded for agricultural production, that would revert to upland should application of irrigation water to that area cease;
(8) Artificial lakes and ponds, including water storage reservoirs and farm, irrigation, stock watering, and log cleaning ponds, constructed or excavated in upland or in non-jurisdictional waters, so long as those artificial lakes and ponds are not impoundments of jurisdictional waters that meet the conditions of paragraph (c)(6) of this section;
(9) Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel;
(10) Stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater runoff;
(11) Groundwater recharge, water reuse, and wastewater recycling structures, including detention, retention, and infiltration basins and ponds, constructed or excavated in upland or in non-jurisdictional waters; and

[5] U.S. Environmental Protection Agency & Department of Defense. 2020. Federal Register / Vol. 85, No. 77 / Tuesday, April 21, 2020 / Rules and Regulations.

(12) Waste treatment systems.

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(e) as:

> *...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as 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 areas.*

1. Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions." In 1987 the Corps published the Wetland Manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the Wetland Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the Wetland Manual and Arid West Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

* More than 50 percent of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the Arid West 2016 Regional Wetland Plant List[6],[7]);

* Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and

* Whereas the Wetland Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year, the Arid West Supplement does not include a quantitative criteria with the exception for areas with "problematic hydrophytic vegetation", which require a minimum of 14 days of ponding to be considered a wetland.

[6] Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. Arid West 2016 Regional Wetland Plant List. Phytoneuron 2016-30: 1-17. Published 28 April 2016.

[7] Note the Corps also publishes a National List of Plant Species that Occur in Wetlands (Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016.); however, the Regional Wetland Plant List should be used for wetland delineations within the Arid West Region.

3.3.2 Regional Water Quality Control Board

The State Water Resource Control Board and each of its nine Regional Boards regulate the discharge of waste (dredged or fill material) into waters of the United States[8] and waters of the State. Waters of the United States are defined above in Section II.A and waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050[e]).

Section 401 of the CWA requires certification for any federal permit or license authorizing impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as Section 404 of the CWA and Section 10 of the Safe Rivers and Harbors Act, to ensure that the impacts do not violate state water quality standards. When a project could impact waters outside of federal jurisdiction, the Regional Board has the authority under the Porter-Cologne Water Quality Control Act to issue Waste Discharge Requirements (WDRs) to ensure that impacts do not violate state water quality standards. Clean Water Act Section 401 Water Quality Certifications, WDRs, and waivers of WDRs are also referred to as orders or permits.

1. State Wetland Definition

The State Board Wetland Definition and Procedures define an area as wetland as follows: ***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 following wetlands are waters of the State:

1. ***Natural wetlands;***
2. ***Wetlands created by modification of a surface water of the state;[9] and***
3. ***Artificial wetlands[10] that meet any of the following criteria:***

[8] Therefore, wetlands that meet the current definition, or any historic definition, of waters of the U.S. are waters of the state. In 2000, the State Water Resources Control Board determined that all waters of the U.S. are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the U.S. (California Code or Regulations title 23, section 3831(w)). This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state includes features that have been determined by the U.S. Environmental Protection Agency (U.S. EPA) or the U.S. Army Corps of Engineers (Corps) to be "waters of the U.S." in an approved jurisdictional determination; "waters of the U.S." identified in an aquatic resource report verified by the Corps upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of "waters of the U.S." or any current or historic federal regulation defining "waters of the U.S." under the federal Clean Water Act.

[9] "Created by modification of a surface water of the state" means that the wetland that is being evaluated was created by modifying an area that was a surface water of the state at the time of such modification. It does not include a wetland that is created in a location where a water of the state had existed historically but had already been completely eliminated at some time prior to the creation of the wetland. The wetland being evaluated does not become a water of the state due solely to a diversion of water from a different water of the state.

[10] Artificial wetlands are wetlands that result from human activity.

a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
b. Specifically identified in a water quality control plan as a wetland or other water of the state;
c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):

i. Industrial or municipal wastewater treatment or disposal,
ii. Settling of sediment,
iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
iv. Treatment of surface waters,
v. Agricultural crop irrigation or stock watering,
vi. Fire suppression,
vii. Industrial processing or cooling,
viii. Active surface mining – even if the site is managed for interim wetlands functions and values,
ix. Log storage,
x. Treatment, storage, or distribution of recycled water, or
xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
xii. Fields flooded for rice growing.[11]

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.

[11] Fields used for the cultivation of rice (including wild rice) that have not been abandoned due to five consecutive years of non-use for the cultivation of rice (including wild rice) that are determined to be a water of the state in accordance with these Procedures shall not have beneficial use designations applied to them through the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, except as otherwise required by federal law for fields that are considered to be waters of the United States. Further, agricultural inputs legally applied to fields used for the cultivation of rice (including wild rice) shall not constitute a discharge of waste to a water of the state. Agricultural inputs that migrate to a surface water or groundwater may be considered a discharge of waste and are subject to waste discharge requirements or waivers of such requirements pursuant to the Water Board's authority to issue or waive waste discharge requirements or take other actions as applicable.

3.3.3 California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW also defines a stream as “a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators.”

It is important to note that the Fish and Game Code defines fish and wildlife to include: all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45 and Division 2, Chapter 1 section 711.2(a) respectively). Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

4.0 RESULTS

This section provides the results of general biological surveys, vegetation mapping, habitat assessments and focused surveys for special-status plants and animals, and a jurisdictional delineation for Waters of the United States (including wetlands) subject to the jurisdiction of the Corps and Regional Board, and streams (including riparian vegetation) and lakes subject to the jurisdiction of CDFW.

4.1 Existing Conditions

The Project site is in the foothills of the San Gabriel Mountains, with elevations ranging from approximately 1,300 feet above mean sea level (amsl) to 775 feet amsl. The Project site has a prominent east-west ridgeline in the northern portion of the site with multiple lateral ridgelines that slope steeply to the south. The ridgelines and slopes are vegetated predominately with chaparral (including Scrub Oak Chaparral and a mixed chaparral) and California Buckwheat-California Sagebrush Scrub. Plants associated with the southern mixed chaparral include laurel sumac (*Malosma laurina*), scrub oak (*Quercus berberidifolia*), toyon (*Heteromeles arbutifolia*), hollyleaf redberry (*Rhamnus ilicifolia*), spiny redberry (*Rhamnus crocea*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), bush monkeyflower (*Mimulus aurantiacus*), chamise (*Adenostoma fasciculatum*), chaparral honeysuckle (*Lonicera subspicata*), fragrant sumac (*Rhus aromatica*), lemonadeberry (*Rhus integrifolia*), chaparral yucca (*Hesperoyucca whipplei*), and poison oak (*Toxicodendron diversilobum*). Plants associated with the coastal sage scrub include California buckwheat (*Eriogonum fasciculatum*), coastal sagebrush (*Artemisia californica*),

deerweed (*Acmispon glaber*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), sawtooth goldenbush (*Hazardia squarrosa*), and coast prickly pear (*Opuntia littoralis*). The chaparral vegetation is the dominant scrub vegetation, with coastal sage scrub in smaller patches or intermixed with the chaparral. Overall, southern mixed chaparral is prominent on the north- and west-facing slopes, with Diegan coastal sage scrub on south- and east-facing slopes. The north-south ridgelines are separated by incised drainage features that drain towards offsite flood-control facilities to the south. The southernmost portion of the site contains a larger drainage feature supporting a riparian woodland dominated by coast live oak (*Quercus agrifolia*) and western sycamore (*Platanus racemosa*). Coast live oak trees also occur throughout the other drainage features and on adjacent slopes. Additional riparian vegetation includes black willow (*Salix gooddingii*) and mulefat (*Baccharis salicifolia*). Adjacent land uses include residential development to the west, south, and southeast; open space to the east (Duarte Wilderness Preserve); and open space to the north, including the Angeles National Forest.

The Specific Plan proposes approximately 86.4 acres of open space Lots, including approximately 60.6 acres to be conserved as Lot L. Although a portion of Lot L will be impacted by remedial grading and fuel modification, the majority will remain undisturbed and in conservation. The majority of the Lot L open space consists of chaparral vegetation dominated by scrub oak, laurel sumac, and other chaparral species described above. The Lot L open space also supports Coast Live Oak Riparian Forest that is associated with Bradbury Canyon. The open space associated with the Bradbury Canyon complex is expected to generally support the same species associated with the development footprint, although due to the presence of intermittent or perennial water sources, Bradbury Canyon would support other species not expected within the development footprint. For example, the coast range newt (*Taricha tarosa*) was observed on one occasion at a waterfall in Bradbury Canyon that would not be expected in the development footprint. Species evaluated within this report for development portion of the Specific Plan are also discussed throughout in the context of the open space.

4.2 Vegetation Mapping

The Study Area contains nine vegetation/land use types, including six native vegetation communities, one community comprising non-native ornamental plantings, and disturbed/developed areas. The native vegetation communities include Coast Live Oak Woodland (*Quercus agrifolia* Woodland Alliance), Coast Live Oak Riparian Forest, California Sagebrush-California Buckwheat Scrub (*Artemisia californica-Eriogonum fasciculatum* Shrubland Alliance), Scrub Oak Chaparral (*Quercus berberidifolia* Shrubland Alliance), Southern Mixed Chaparral (*Malosma laurina* Shrubland Alliance), and Sycamore/Oak Riparian Forest (*Platanus racemosa-Quercus agrifolia* Woodland Alliance). The majority of the Lot L Open Space (northern portion of the Specific Plan) was not studied on the same level as the development footprint since these open space areas would not be subject to direct or indirect impacts from the Project. As such, this portion of the open space was generally characterized as Scrub Oak Chaparral/Southern Mixed Chaparral except for Coast Live Oak Riparian Forest associated with Bradbury Canyon. Since the tree inventory performed by Dudek specifically mapped individual scrub oaks within the development footprint, the tree inventory data assisted in the distinct mapping of Scrub Oak Chaparral versus Southern Mixed Chaparral for the development footprint.

The vegetation/land use types for the overall Study Area are summarized in three separate tables. Table 4-1 provides a summary of the vegetation types and their corresponding acreage for the 111.8-acre Specific Plan. Table 4-2 provides vegetation types for the offsite improvement area. Table 4-3 provides vegetation types for the 4.66-acre area that is not a part of the Project but that is surrounded by the Specific Plan (onsite improvements) and the offsite improvement area, and so this area was added to the analysis to address potential indirect impacts. Descriptions of each vegetation type follow the tables. A Vegetation Map is attached as Exhibit 6. Photographs depicting the Project site are shown in Exhibit 5.

Table 4-1. Summary of Vegetation/Land Use Types for the Specific Plan

Vegetation/Land Use Type	Permanent	Remedial	FMZ Zone B	FMZ Zone C	Avoided	Total
Coast Live Oak Riparian Forest (*Quercus agrifolia* Woodland Alliance)	0.91	1.48	0.00	0.91	7.20	**10.50**
Coast Live Oak Woodland (*Quercus agrifolia* Woodland Alliance)	0.00	0.00	0.00	0.00	0.40	**0.40**
Disturbed	1.63	0.09	0.00	0.00	0.39	**2.12**
Scrub Oak Chaparral (*Quercus berberidifolia* Shrubland Alliance)	27.48	4.12	0.20	1.47	2.24	**35.53**
Scrub Oak Chaparral/ Southern Mixed Chaparral	0.00	0.00	0.00	0.00	41.34	**41.34**
Southern Mixed Chaparral (*Malosma laurina* Shrubland Alliance)	7.59	3.98	0.17	0.41	9.70	**21.85**
California Sycamore/Coast Live Oak Woodland (*Platanus racemosa-Quercus agrifolia* Woodland Alliance)	0.01	0.03	0.00	0.00	0.00	**0.04**
Total	**37.63**	**9.71**	**0.38**	**2.79**	**61.27**	**111.77**

Table 4-2. Summary of Vegetation/Land Use Types for the Offsite Improvement Area

Vegetation/Land Use Type	Permanent	Remedial	FMZ Zone B	FMZ Zone C	Total
Coast Live Oak Woodland (*Quercus agrifolia* Woodland Alliance)	0.20	0.96	0.00	0.00	**1.16**
California Sagebrush-California Buckwheat Scrub (*Artemisia californica-Eriogonum fasciculatum* Shrubland Alliance)	0.42	0.97	0.00	0.00	**1.40**
Developed	3.55	2.44	0.06	0.87	**6.92**
Disturbed	0.00	0.07	0.00	0.10	**0.17**
Ornamental	0.32	0.65	0.00	0.00	**0.97**
Scrub Oak Chaparral (*Quercus berberidifolia* Shrubland Alliance)	3.03	2.51	0.06	0.21	**5.80**
Southern Mixed Chaparral (*Malosma laurina* Shrubland Alliance)	0.79	1.30	0.19	1.96	**4.24**
California Sycamore/Coast Live Oak Woodland (*Platanus racemosa-Quercus agrifolia* Woodland Alliance)	1.19	0.97	0.00	0.00	**2.17**
Total	**9.51**	**9.87**	**0.31**	**3.15**	**22.83**

Table 4-3. Summary of Vegetation/Land Use Types for the "Not a Part" Area

Vegetation/Land Use Type	Acreage
California Sagebrush-California Buckwheat Scrub (*Artemisia californica-Eriogonum fasciculatum* Shrubland Alliance)	0.35
Developed	1.61
Scrub Oak Chaparral (*Quercus berberidifolia* Shrubland Alliance)	0.19
Southern Mixed Chaparral (*Malosma laurina* Shrubland Alliance)	2.51
Total	**4.66**

Coast Live Oak Riparian Forest
Approximately 10.50 acres of Study Area (entirely within the Specific Plan) is comprised of the *Quercus agrifolia* Woodland Alliance (Coast Live Oak Woodland) as described in MCVII, but that is associated with the channel terraces and slopes of Bradbury Canyon, and so is specifically designated here is a riparian community (Coast Live Oak Riparian Forest) distinct from upland Coast Like Oak Woodland, which is derived from a Holland designation. As with the upland equivalent, the Coast Like Oak Riparian Forest is dominated by coast live oak (*Q. agrifolia*).

Coast Live Oak Woodland
Approximately 1.56 acres of the Study Area is comprised of the *Quercus agrifolia* Woodland Alliance (Coast Live Oak Woodland), as described in MCVII, in which coast live oak (*Q. agrifolia*) is the dominant tree species in the community. Approximately 0.40 acre of Coast Live Oak Woodland is associated with the Specific Plan, with another 1.16 acres associated with the offsite improvement areas, including the slopes of the adjacent property bordering the Flood Control access roads.

California Sagebrush-California Buckwheat Scrub
Approximately 1.75 acres of the Study Area is comprised of a shrubland alliance dominated by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*), as described in MCVII, including 1.40 acres associated with the offsite improvement areas (on a slope adjacent to the access road and Flood Control facility), and 0.35 acre associated with the "not a part" area. California sagebrush and California buckwheat are also present throughout the site, interspersed in the Scrub Oak Chaparral and Southern Mixed Chaparral communities. Additional scrub species associated with the shrubland alliance or otherwise occurring at the site, includes deerweed (*Acmispon glaber*), black sage (*Salvia mellifera*), white sage (*Salvia apiana*), sawtooth goldenbush (*Hazardia squarrosa*), and coast prickly pear (*Opuntia littoralis*).

Developed
Approximately 8.53 acres of the Study Area is developed, including 6.92 acres within the offsite improvement areas and 1.61 acres within the "not a part" area. Developed areas consist of existing Flood Control facilities, including debris basins and access roads, as well as other related facilities.

Disturbed
Approximately 2.29 acres of the Study Area is disturbed, primarily consisting of a dirt access road/fire break that follows the primary ridge along the northern edge of the development footprint. Although this area is generally unvegetated due to periodic maintenance of the access, the area does become intermittently vegetated with non-native, weedy species such as black mustard (*Brassica nigra*) and tocalote (*Centaurea melitensis*). Approximately 2.12 acres of the disturbed areas are in the Specific Plan, with 0.17 acre associated with the offsite improvement area.

Ornamental
Approximately 0.97 acre of the Study Area (entirely within the offsite improvement area) consists of areas along the existing access road that have been planted with non-native, ornamental tree species. Examples include Aleppo pine (*Pinus halepensis*), Afghan pine (*Pinus eldarica*), Peruvian pepper (*Schinus molle*), Italian cypress (*Cupressus sempervirens*), American sweetgum (*Liquidambar styraciflua*), Canary Island pine (*Pinus canariensis*), Santa Rosa plum (*Prunus salicina*), Pittosporum (*Pittosporum* sp.), silk oak (*Grivellia robusta*), southern live oak (*Quercus virginiana*), river red gum (*Eucalyptus camaldulensis*), and ash (*Fraxinus* sp.).

Scrub Oak Chaparral
Approximately 41.52 acres of the Study Area has been designated specifically as the *Quercus berberidifolia* Shrubland Alliance (Scrub Oak Chaparral), as described in MCVII, including 35.53 acres of the Specific Plan, 5.80 acres of the offsite improvement area, and 0.19 acre of the "not a part" area. As is discussed below, approximately 41.34 acres of the northern portion of the Specific Plan (Lot L Open Space) has been characterized in this report as a combination of Scrub Oak Chaparral and Southern Mixed Chaparral since the northern open space did not necessitate being mapped with the same level of detail as the development footprint. Altogether, approximately 88 percent of the Specific Plan (80 percent of the overall Study Area) is dominated by shrubs associated with chaparral vegetation communities, with California scrub oak (*Q. berberidifolia*) being a primary component. Scrub Oak Chaparral and Mixed Chaparral are the dominant vegetation communities on the slopes and ridges of the Project site. In areas identified as Scrub Oak Chaparral, California scrub oak is the dominant species in the shrub layer. Other shrubs species occurring in relatively smaller densities include laurel sumac (*Malosma laurina*), toyon (*Heteromeles arbutifolia*), hollyleaf redberry (*Rhamnus ilicifolia*), spiny redberry (*Rhamnus crocea*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), bush monkeyflower (*Mimulus aurantiacus*), chamise (*Adenostoma fasciculatum*), fragrant sumac (*Rhus aromatica*), lemonadeberry (*Rhus integrifolia*), and chaparral yucca (*Hesperoyucca whipplei*).

Southern Mixed Chaparral
Approximately 28.60 acres of the Study Area is described here as Southern Mixed Chaparral, including 21.85 acres of the Specific Plan, 4.24 acres of the offsite improvement area, and 2.51 acres of the "not a part" area. Within the Study Area, this vegetation community is dominated by laurel sumac. MCVII includes a Laurel Sumac Scrub Alliance that describes a community dominated by laurel sumac, or co-dominant with other chaparral species such as toyon, chamise, and hollyleaf redberry. However, since the chaparral mapped for the Study Area is best represented by a mix of chaparral shrubs, including laurel sumac as a dominant, then it appropriate to designate the community as Southern Mixed Chaparral, which is derived from Holland. Characteristic species include California scrub oak, laurel sumac, toyon and chamise. Other representative species include hollyleaf redberry, spiny redberry, blue elderberry, fragrant sumac, poison oak (*Toxicodendron diversilobum*), lemonadeberry, and chaparral yucca. As discussed above, Scrub Oak Chaparral is the dominant vegetation community within the Study Area, and California scrub oak is the most abundant tree/shrub species at the site.

Scrub Oak Chaparral/Southern Mixed Chaparral
As discussed above, approximately 41.52 acres and 28.60 acres of the Study Area have been specifically characterized as Scrub Oak Chaparral and Southern Mixed Chaparral, respectively. In addition, the northern portion of the Specific Plan (Lot L Open Space) contains approximately 41.34 acres of chaparral communities that did not necessitate the same level of detail in mapping as the development footprint. As such, these areas are generally characterized as supporting scrub oak and other chaparral shrubs as dominant species.

California Sycamore/Coast Live Oak Woodland
Approximately 2.21 acres of the Study Area consists of a riparian woodland comprised of California sycamore (*Platanus racemosa*) and coast live oak, including 0.04 acre of the Specific Plan and 2.17 acres of the offsite improvement areas. This vegetation community best fits into the *Platanus racemosa* Woodland Alliance, except that it has an equally dominant oak woodland component, and since this vegetation community is associated with a stream, the two dominant species are combined here as one riparian alliance.

4.3 Special-Status Vegetation Communities

The CNDDB identifies the following special-status vegetation communities for the Azusa quadrangle maps, and surrounding quadrangles: Canyon Live Oak Ravine Forest, Open Englemann Oak Woodland, Riversidian Alluvial Fan Sage Scrub, Southern California Arroyo Chub/Santa Ana Sucker Stream, Southern Coast Live Oak Riparian Forest, and Southern Sycamore Alder Riparian Woodland. The Study Area contains approximately 2.21 acres of California Sycamore/Coast Live Oak Woodland occurring in a riparian setting. In addition, approximately 10.50 acres of Coast Live Oak Riparian Forest is associated with Bradbury Canyon. All riparian habitats are considered special status. The Study Area does not support any other special-status vegetation communities.

4.4 Special-Status Plants

One special-status plant species (Englemann oak, *Quercus englemannii*) was detected at the Project site. Table 4-4 provides a list of special-status plants evaluated for the Study Area through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors: 1) species identified by the CNDDB and CNPS as occurring (either currently or historically) on or in the vicinity of the Study Area, and 2) any other special-status plants that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs within the site. The table includes habitat requirement information for each species as well as the elevation range and blooming period for each species. Since the Study Area is located on the lower edge of the San Gabriel Mountains, the table includes a number of species based on the CNDDB/CNPS review that are located at higher elevations and are associated with montane habitats that are not represented within the Study Area. As a function of occurrence at higher elevations, those species have later blooming periods (summer months), whereas the species with a potential for occurrence within the Study Area have blooming periods concentrating in the early spring to early summer. As such the timing of the focused surveys was appropriate relative to the species with the potential to occur.

Table 4-4. Special-Status Plants Evaluated for the Project Site

Species Name	Status	Species Information	Occurrence
Abrams' alumroot *Heuchera abramsii*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Upper montane coniferous forest (rocky). Elevation 2800 to 3500 meters. **Blooming Period:** July to August	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Alkali mariposa-lily *Calochortus striatus*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Alkaline and mesic soils in chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps. Elevation 70 to 1595 meters. **Blooming Period:** April to June	Not detected during focused surveys. The Project site is located within the elevation range of the species but generally does not exhibit the soil types/habitats where the species would be expected.
Alpine sulphur-flowered buckwheat *Eriogonum umbellatum* var. *minus*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Gravelly soils in subalpine coniferous forest and upper montane coniferous forest. Elevation 1800 to 3068 meters. **Blooming Period:** June to September.	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Bluish spike-moss *Selaginella asprella*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Granitic and rocky soils in cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland, subalpine coniferous forest, and upper montane coniferous forest. Elevation 1600 to 2700 meters **Blooming Period:** July	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Brand's star phacelia *Phacelia stellaris*	Federal: None State: None CNPS: Rank 1B.1	**Habitat Requirements:** Coastal dunes and coastal sage scrub. Elevation 1 to 400 meters. **Blooming Period:** March to June	Not detected during focused surveys, and generally not expected to occur due to a lack of suitable habitat.

Species Name	Status	Species Information	Occurrence
Braunton's milk-vetch *Astragalus brauntonii*	Federal: FE State: None CNPS: Rank 1B.1	**Habitat Requirements:** Closed-cone coniferous forest, chaparral, coastal sage scrub, valley and foothill grassland. Usually carbonate soils. Recent burn or disturbed areas. Elevation 4 to 640 meters. **Blooming Period:** January to August	Not detected during focused surveys.
California androsace *Androsace elongata* ssp. *acuta*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, valley and foothill grassland. Elevation 150 to 1305 meters. **Blooming Period:** March to June	Not detected during focused surveys.
California muhly *Muhlenbergia californica*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Mesic habitats, including seeps and streambanks, in chaparral, coastal scrub, lower montane coniferous forest, and meadows. Elevation 100 to 2000 meters. **Blooming Period:** June to September	Not detected during focused surveys.
California satintail *Imperata brevifolia*	Federal: None State: None CNPS: Rank 2B.1	**Habitat Requirements:** Mesic soils in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), and riparian scrub. Elevation 0 to 1215 meters. **Blooming Period:** September to May	Not detected during focused surveys.
California saw-grass *Cladium californicum*	Federal: None State: None CNPS: Rank 2B.2	**Habitat Requirements:** Meadows and seeps, and alkaline or freshwater marshes and swamps. Elevation 60 to 1600 meters. **Blooming Period:** June to September	Not detected during focused surveys.

Species Name	Status	Species Information	Occurrence
Catalina mariposa lily *Calochortus catalinae*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland. Elevation 15 to 700 meters. **Blooming Period:** March to June	Not detected during focused surveys.
Chaparral ragwort *Senecio aphanactis*	Federal: None State: None CNPS: Rank 2B.2	**Habitat Requirements:** Chaparral, cismontane woodland, coastal scrub. Sometimes associated with alkaline soils. Elevation 15 to 800 meters. **Blooming Period:** January to May	Not detected during focused surveys.
Chickweed oxytheca *Sidotheca caryophylloides*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Sandy soils in lower montane coniferous forest. Elevation 1114 to 2600 meters. **Blooming Period:** July to October	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CNPS: Rank 1B.1	**Habitat Requirements:** Playas, vernal pools, marshes and swamps (coastal salt). Elevation 1 to 1220 meters. **Blooming Period:** February to June	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat.
Coulter's matilija poppy *Romneya coulteri*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Often in burns in chaparral and coastal scrub. Elevation 20 to 1200 meters. **Blooming Period:** March to August	Not detected during focused surveys.
Duran's rush *Juncus duranii*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Mesic soils in lower and upper montane coniferous forests, meadows and seeps. Elevation 1768 to 2804 meters. **Blooming Period:** July to August	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.

Species Name	Status	Species Information	Occurrence
Engelmann oak *Quercus engelmannii*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Elevation 50 to 1300 meters. **Blooming Period:** March to June	Present. One Englemann oak individual was mapped during the tree inventory.
Ewan's (woodbeauty) cinquefoil *Drymocallis cuneifolia* var. *ewanii*	Federal: None State: None CNPS: Rank 1B.3	**Habitat Requirements:** Lower montane coniferous forest (near seeps and springs), meadows and seeps. Elevation 1900 to 2400 meters. **Blooming Period:** June to July	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Fragrant pitcher sage *Lepechinia fragrans*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Chaparral. Elevation 20 to 1310 meters. **Blooming Period:** March to October	Not detected during focused surveys.
Gray monardella *Monardella asutralis* ssp. *cinerea*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest. Elevation 1800 to 1350 meters. **Blooming Period:** July to August	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Greata's aster *Symphyotrichum greatae*	Federal: None State: None CNPS: Rank 1B.3	**Habitat Requirements:** Mesic soils in broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and riparian woodland. Elevation 300 to 2010 meters. **Blooming Period:** June to October.	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Grey-leaved violet *Viola pinetorum* var. *grisea*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Meadows and seeps, subalpine coniferous forest, and upper montane coniferous forest. Elevation 1500 to 3400 meters. **Blooming Period:** April to July	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.

Species Name	Status	Species Information	Occurrence
Hot springs fimbristylis *Fimbristylis thermalis*	Federal: None State: None CNPS: Rank 2B.2	**Habitat Requirements:** Meadows and seeps (alkaline, near hot springs). Elevation 110 to 1340 meters. **Blooming Period:** July to September	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat.
Hubby's phacelia *Phacelia hubbyi*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Gravelly, rocky, and talus soils in chaparral, coastal scrub, and valley and foothill grassland. Elevation 0 to 1000 meters. **Blooming Period:** April to July	Not detected during focused surveys.
Interior bush lupine *Lupinus excubitus* var. *johnstonii*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Decomposed granitic soil. Chaparral, Lower montane coniferous forest. Elevation 1500 to 2500 meters. **Blooming Period:** May to July	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Interior manzanita *Arctostaphylos parryana* ssp. *tumescens*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Montane chaparral and cismontane woodland. Elevation 2100 to 2310 meters. **Blooming Period:** February to April	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Intermediate mariposa-lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Rocky soils in chaparral, coastal sage scrub, valley and foothill grassland. Elevation 105 to 855 meters. **Blooming Period:** May to July	Not detected during focused surveys.
Jepson's bedstraw *Galium jepsonii*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Granitic, rocky or gravelly soil. Lower montane coniferous forest, Upper montane coniferous forest. Elevation 1540 to 2500 meters. **Blooming Period:** July to August	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.

Species Name	Status	Species Information	Occurrence
Johnston's bedstraw *Galium johnstonii*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Chaparral, lower montane coniferous forest, pinyon and juniper woodland, riparian woodland. Elevation 1220 to 2300 meters. **Blooming Period:** June to July	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Johnston's monkeyflower *Diplacus (Mimulus) johnstonii*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Lower montane coniferous forest (scree, disturbed areas, rocky or gravelly soil, roadsides). Elevation 975 to 2920 meters. **Blooming Period:** April to August	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Lemon lily *Lilium parryi*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Mesic soils in lower montane coniferous forest, meadows and seeps, riparian forest, and upper montane coniferous forest. Elevation 1220 to 2745 meters. **Blooming Period:** July to August	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils. Elevation 15 to 790 meters. **Blooming Period:** April to July	Not detected during focused surveys.
Mesa horkelia *Horkelia cuneata* var. *puberula*	Federal: None State: None CNPS: Rank 1B.1	**Habitat Requirements:** Sandy or gravelly soils in chaparral (maritime), cismontane woodland, and coastal scrub. Elevation 70 to 810 meters. **Blooming Period:** February to September	Not detected during focused surveys.
Mojave paintbrush *Castilleja plagiotoma*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Great basin scrub (alluvial), Joshua tree woodland, Lower montane coniferous forest, Pinyon and juniper woodland. Elevation 300 to 2500 meters. **Blooming Period:** April to June	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.

Species Name	Status	Species Information	Occurrence
Mojave phacelia *Phacelia mohavensis*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Sandy or gravelly soils in cismontane woodland, lower montane coniferous forests, meadows and seeps, pinyon and juniper woodland. Elevation 1400 to 2500 meters. **Blooming Period:** April to August	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Monkey-flower savory *Clinopodium mimuloides*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Streambanks, mesic soils. Chaparral, North coast coniferous forest. Elevation 305 to 1800 meters. **Blooming Period:** June to October	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Mount Gleason paintbrush *Castilleja gleasoni*	Federal: None State: Rare CNPS: Rank 1B.2	**Habitat Requirements:** Granitic soils in chaparral, lower montane coniferous forest, and pinyon and juniper woodland. Elevation 665 to 2170 meters. **Blooming Period:** May to September	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Nevin's barberry *Berberis nevinii*	Federal: FE State: SE CNPS: Rank 1B.1	**Habitat Requirements:** Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub. Elevation 70 to 825 meters. **Blooming Period:** February to June	Not detected during focused surveys.
Ocellated Humboldt lily *Lilium humboldtii* ssp. *ocellatum*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, riparian woodland. Occurring in openings. Elevation 30 to 1800 meters. **Blooming Period:** March to August	Not detected during focused surveys.

Species Name	Status	Species Information	Occurrence
Orcutt's linanthus *Linanthus orcuttii*	Federal: None State: None CNPS: Rank 1B.3	**Habitat Requirements:** Openings in chaparral, lower montane coniferous forest, and pinyon and juniper woodland. Elevation 915 to 2145 meters. **Blooming Period:** May to June	Not detected during focused surveys.
Palmer's mariposa lily *Calochortus palmeri* var. *palmeri*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Mesic soils in chaparral, lower montane coniferous forest, and meadows and seeps. Elevation 710 to 2390 meters **Blooming Period:** April to July	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat at the elevation range of the species.
Palomar monkeyflower *Erythranthe (Mimulus) diffusa*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Sandy or gravelly soils in chaparral, lower montane coniferous forest. Elevation 1220 to 1830 meters. **Blooming Period:** April to June	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat at the elevation range of the species.
Parish's gooseberry *Ribes divaricatum* var. *parishii*	Federal: None State: None CNPS: Rank 1A	**Habitat Requirements:** Riparian woodland. Elevation 65 to 300 meters. **Blooming Period:** February to April	Not detected during focused surveys.
Parish's oxytheca *Acanthoscyphus parishii* var. *parishii*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Sandy or gravelly soils in chaparral and lower montane coniferous forest. Elevation 1220 to 2600 meters. **Blooming Period:** June to September	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat at the elevation range of the species.
Parish's rupertia *Rupertia rigida*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, pebble (pavement) plain, valley and foothill grassland. Elevation 700 to 2500 meters. **Blooming Period:** June to August	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat at the elevation range of the species.

Species Name	Status	Species Information	Occurrence
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: None State: None CNPS: Rank 1B.1	**Habitat Requirements:** Sandy or rocky soils in open habitats of chaparral and coastal sage scrub. Elevation 275 to 1220 meters. **Blooming Period:** April to June	Not detected during focused surveys.
Peirson's lupine *Lupinus peirsonii*	Federal: None State: None CNPS: Rank 1B.3	**Habitat Requirements:** Gravelly or rocky soils in Joshua tree woodland, pinyon and juniper woodland, and lower and upper montane coniferous forest. Elevation 1000 to 2500 meters. **Blooming Period:** April to June	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Peirson's spring beauty *Claytonia lanceolata var. peirsonii*	Federal: None State: None CNPS: Rank 3.1	**Habitat Requirements:** In scree within subalpine and upper montane coniferous forest. Elevation 1510 to 2745 meters. **Blooming Period:** March to June	Not detected during focused surveys.
Peruvian dodder *Cuscuta obtusiflora var. glandulosa*	Federal: None State: None CNPS: Rank 2B.2	**Habitat Requirements:** Marshes and swamps (freshwater). Annual vine (parasitic). Elevation 15 to 280 meters. **Blooming Period:** July to October.	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat.
Pine fritillary *Fritillaria pinetorum*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Granitic or metamorphic soils in chaparral, lower and upper montane coniferous forests, pinyon and juniper woodland, and subalpine coniferous forest. Elevation 1735 to 3300 meters. **Blooming Period:** May to September	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Pine green-gentian *Frasera neglecta*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Lower montane coniferous forest, Pinyon and juniper woodland, Upper montane coniferous forest. Elevation 1400 to 2500 meters. **Blooming Period:** May to July	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.

Species Name	Status	Species Information	Occurrence
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley and foothill grassland. Elevation 100 to 1700 meters. **Blooming Period:** May to July	Not detected during focused surveys.
Robbins' nemacladus *Nemacladus secundiflorus* var. *robbinsii*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Openings in chaparral and valley and foothill grassland. Elevation 350 to 1700 meters. **Blooming Period:** April to June	Not detected during focused surveys.
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Chaparral, coastal sage scrub. Elevation 1 to 885 meters. **Blooming Period:** January to July	Not detected during focused surveys.
Rock Creek broomrape *Orobanche valida* ssp. *valida*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Granitic soils in chaparral, pinyon and juniper woodland. Elevation 1250 to 2000 meters. **Blooming Period:** May to September	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
San Antonio Canyon bedstraw *Galium angustifolium* ssp. *gabrielense*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Granitic, sandy, or rocky soils in chaparral and lower montane coniferous forests. Elevation 1200 to 2650 meters. **Blooming Period:** April to August	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic). Elevation 2 to 2040 meters. **Blooming Period:** July to December	Not detected during focused surveys.

Species Name	Status	Species Information	Occurrence
San Bernardino grass-of Parnassus *Parnassia cirrata* var. *cirrata*	Federal: None State: None CNPS: Rank 1B.3	**Habitat Requirements:** Mesic, stream sides, sometimes calcareous. Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. Elevation 1250 to 2440 meters. **Blooming Period:** August to September	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	Federal: Candidate State: SE CNPS: Rank 1B.1	**Habitat Requirements:** Coastal sage scrub, occurring on sandy soils. Elevation 150 to 1220 meters. **Blooming Period:** April to July	Not detected during focused surveys.
San Gabriel bedstraw *Galium grande*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Broadleaf upland forest, chaparral, cismontane woodland, and lower montane coniferous forest. Elevation 425 to 1500 meters. **Blooming Period:** January to July	Not detected during focused surveys.
San Gabriel linanthus *Linanthus concinnus*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Rocky soils and openings in chaparral, lower and upper montane coniferous forests. Elevation 1520 to 2800 meters. **Blooming Period:** April to July	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
San Gabriel manzanita *Arctostaphylos glandulosa* ssp. *gabrielensis*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Chaparral (rocky). Elevation 595 to 1500 meters. **Blooming Period:** March	Not detected during focused surveys.
San Gabriel Mountains dudleya *Dudleya densiflora*	Federal: None State: None CNPS: Rank 1B.1	**Habitat Requirements:** Chaparral, coastal sage scrub, lower montane coniferous forest. Occurring on granitic soils, cliffs, and canyon walls. Elevation 244 to 610 meters. **Blooming Period:** March to June	Not detected during focused surveys.

Species Name	Status	Species Information	Occurrence
San Gabriel Mountains hulsea (sunflower) *Hulsea vestita* ssp. *gabrielensis*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Rocky soils in lower and upper montane coniferous forest. Elevation 1500 to 2500 meters. **Blooming Period:** May to July	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
San Gabriel oak *Quercus durata* var. *gabrielensis*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Chaparral, cismontane woodland. Elevation 450 to 1000 meters. **Blooming Period:** April to May	Not detected during focused surveys.
San Gabriel ragwort *Senecio astephanus*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Rocky slopes, coastal bluff scrub, chaparral. Elevation 400 to 1500 meters. **Blooming Period:** May to July	Not detected during focused surveys.
San Gabriel River dudleya *Dudleya cymosa ssp. crebrifolia*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Chaparral, on granitic soils. Elevation 275 to 457 meters. **Blooming Period:** April to July	Not detected during focused surveys.
San Jacinto Mountains daisy *Erigeron breweri* var. *jacinteus*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Rocky soils in subalpine coniferous forest and upper montane coniferous forest. Elevation 2700 to 2900 meters. **Blooming Period:** June to September	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Scalloped moonwort *Botrychium crenulatum*	Federal: None State: None CNPS: Rank 2B.2	**Habitat Requirements:** Bogs and fens, lower and upper montane coniferous forest, meadows and seeps, marshes and swamps (freshwater). Elevation 1268 to 3280 meters. **Blooming Period:** June to September	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.

Species Name	Status	Species Information	Occurrence
Short-joint beavertail *Opuntia basilaris* var. *brachyclada*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Chaparral, Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland. Elevation 425 to 1800 meters. **Blooming Period:** April to August	Not detected during focused surveys.
Silky lupine *Lupinus elatus*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Lower and upper montane coniferous forest. Elevation 1500 to 3000 meters. **Blooming Period:** May to August	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Slender mariposa lily *Calochortus clavatus* var. *gracilis*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Chaparral and coastal sage scrub. Elevation 320 to 1000 meters. **Blooming Period:** March to June	Not detected during focused surveys.
Slender silver moss *Anomobryum julaceum*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Damp rock and soils on outcrops, usually roadcuts. Broadleaf upland forest, lower montane coniferous forest, North Coast coniferous forest. Elevation 100 to 1000 meters. **Blooming Period:** N/A	Not detected during focused surveys.
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CNPS: Rank 1B.1	**Habitat Requirements:** Sandy soils in alluvial scrub, chaparral, cismontane woodland. Elevation 200 to 760 meters. **Blooming Period:** April to June	Not detected during focused surveys.
Sonoran maiden fern *Thelypteris puberula var. sonorensis*	Federal: None State: None CNPS: Rank 2B.2	**Habitat Requirements:** Meadows and seeps (seeps and streams). Elevation 50 to 610 meters. **Blooming Period:** January to September	Not detected during focused surveys.

Species Name	Status	Species Information	Occurrence
Southern alpine buckwheat *Eriogonum kennedyi* var. *alpigenum*	Federal: None State: None CNPS: Rank 1B.3	**Habitat Requirements:** Granitic and gravelly soils in alpine boulder and rock field, and subalpine coniferous forest. Elevation 2600 to 3500 meters. **Blooming Period:** July to September	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Southern California black walnut *Juglans californica*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Chaparral, cismontane woodland, coastal sage scrub, alluvial surfaces. Elevation 50 to 900 meters. **Blooming Period:** March to August	Not detected during focused surveys.
Southern mountains skullcap *Scutellaria bolanderi* ssp. *austromontana*	Federal: None State: None CNPS: Rank 1B.2	**Habitat Requirements:** Mesic soils in chaparral, cismontane woodland, lower montane coniferous forest. Elevation 425 to 2000 meters. **Blooming Period:** June to August	Not detected during focused surveys.
Southern tarplant *Centromadia parryi* ssp. *australis*	Federal: None State: None CNPS: Rank 1B.1	**Habitat Requirements:** Disturbed habitats, margins of marshes and swamps, vernally mesic valley and foothill grassland, vernal pools. Elevation 0 to 480 meters. **Blooming Period:** May to November	Not detected during focused surveys.
Tehachapi ragwort *Packera ionophylla*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Granitic and rocky soils in lower and upper montane coniferous forest. Elevation 1500 to 2700 meters. **Blooming Period:** June to July	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CNPS: Rank 1B.1	**Habitat Requirements:** Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools. Elevation 25 to 1120 meters. **Blooming Period:** March to June	Not detected during focused surveys.

Species Name	Status	Species Information	Occurrence
Urn-flowered alumroot *Heuchera caespitosa*	Federal: None State: None CNPS: Rank 4.3	**Habitat Requirements:** Rocky soils in cismontane woodland, riparian forest (montane), lower and upper montane coniferous forest. Elevation 1155 to 2650 meters. **Blooming Period:** May to August	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Western sedge *Carex occidentalis*	Federal: None State: None CNPS: Rank 2B.3	**Habitat Requirements:** Lower montane coniferous forest, meadows and seeps. Elevation 1645 to 3135 meters. **Blooming Period:** June to August	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.
Western spleenwort *Asplenium vespertinum*	Federal: None State: None CNPS: Rank 4.2	**Habitat Requirements:** Rocky soils in chaparral, cismontane woodland, and coastal scrub. Elevation 180 to 1000 meters. **Blooming Period:** February to June	Not detected during focused surveys.
White rabbit-tobacco *Pseudognaphalium leucocephalum*	Federal: None State: None CNPS: Rank 2B.2	**Habitat Requirements:** Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland. Elevation 0 to 2100 meters. **Blooming Period:** July to December	Not detected during focused surveys.
Woolly mountain-parsley *Oreonana vestita*	Federal: None State: None CNPS: Rank 1B.3	**Habitat Requirements:** Gravel or talus in lower montane coniferous forest, subalpine coniferous forest, and upper montane coniferous forest. Elevation 1615 to 3500 meters. **Blooming Period:** March to September	Not detected during focused surveys, and not expected to occur due to a lack of suitable habitat and the elevation range of the species.

STATUS

Federal
FE – Federally Endangered
FT – Federally Threatened
FC – Federal Candidate

State
SE – State Endangered
ST – State Threatened

CNPS
Rank 1A – Plants presumed extirpated in California and either rare or extinct elsewhere.
Rank 1B – Plants rare, threatened, or endangered in California and elsewhere.
Rank 2A – Plants presumed extirpated in California, but common elsewhere.
Rank 2B – Plants rare, threatened, or endangered in California, but more common elsewhere.
Rank 3 – Plants about which more information is needed (a review list).
Rank 4 – Plants of limited distribution (a watch list).

Threat Code extension
.1 – Seriously endangered in California (over 80% occurrences threatened)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

4.4.1 Special-Status Plants Detected at the Project Site

Englemann Oak (*Quercus englemannii*) – The Englemann oak is a CRPR 4.2 species but is not federal or state listed. The species is known from chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland communities. One Englemann oak individual was mapped during the native tree inventory performed by Dudek. The tree is in the northern portion of the development footprint on the edge of the high ridge.

4.5 Special-Status Animals

Table 4-5 provides a list of special-status animals evaluated for the Project site through general biological surveys, habitat assessments, and focused surveys. Species were evaluated based on the following factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) on or in the vicinity of the Project site, and 2) any other special-status animals that are known to occur within the vicinity of the Project site, for which potentially suitable habitat occurs on the site.

Table 4-5. Special-Status Animals Evaluated for the Project Site

Species Name	Status	Habitat Requirements	Occurrence
Invertebrates			
Crotch bumble bee *Bombus crotchii*	Federal: None State: CE	Relatively warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Potential to occur.
Quino checkerspot butterfly *Euphydryas editha quino*	Federal: FE State: None	Larval and adult phases each have distinct habitat requirements tied to host plant species and topography. Larval host plants include *Plantago erecta* and *Castilleja exserta*. Adults occur on sparsely vegetated rounded hilltops and ridgelines and are known to disperse through disturbed habitats to reach suitable nectar plants.	Not expected to occur at the Project site.

Species Name	Status	Habitat Requirements	Occurrence
San Gabriel chestnut snail *Glyptostoma gabrielense*	Federal: None State: None Other: G2 S2	Rocky hillsides under plant debris and cactus, and in rock piles, wood rat nests, and spaces beneath logs, stumps and boulders.	Two empty shells of the chestnut snail were detected within Bradbury Canyon just north of the proposed impact area. Although not detected elsewhere within the Project site, the snail has the potential to occur within Project footprint.
Fish			
Arroyo chub *Gila orcutti*	Federal: None State: SSC	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Does not occur due to a lack of suitable habitat.
Santa Ana speckled dace *Rhinichthys osculus* ssp. *3*	Federal: None State: SSC	Occurs in the headwaters of the Santa Ana and San Gabriel Rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temperatures of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Does not occur due to a lack of suitable habitat.
Santa Ana sucker *Catostomus santaanae*	Federal: FT State: None	Small, shallow streams, less than 7 meters in width, with currents ranging from swift in the canyons to sluggish in the bottom lands. Preferred substrates are generally coarse and consist of gravel, rubble, and boulders with growths of filamentous algae, but occasionally they are found on sand/mud substrates.	Does not occur due to a lack of suitable habitat.
Amphibians			
Arroyo toad *Anaxyrus californicus*	Federal: FE State: SSC	Breed, forage, and/or aestivate in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt. Adjacent banks with sandy or gravely terraces and very little herbaceous cover for adult and juvenile foraging areas, within a moderate riparian canopy of cottonwood, willow, or oak.	Does not occur due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence
Coast Range newt *Taricha torosa*	Federal: None State: SSC	Found in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, drier chaparral, oak woodland, and grasslands are used.	The coast range newt was detected within flowing portions of Bradbury Canyon north of the Project site. The newt was not observed within the Project site but has a potential to occur.
Foothill yellow-legged frog *Rana boylii*	Federal: None State: SSC	Rocky streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands. Sometimes in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	Does not occur due to a lack of suitable habitat.
Southern mountain yellow-legged frog *Rana muscosa*	Federal: FE State: SE	Streams and small pools in ponderosa pine, montane hardwood-conifer, and montane riparian habitat types.	Does not occur due to a lack of suitable habitat.
Western spadefoot *Spea hammondii*	Federal: None State: SSC	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Does not occur due to a lack of suitable habitat.
Reptiles			
California glossy snake *Arizona elegans occidentalis*	Federal: None State: SSC	Inhabits arid scrub, rocky washes, grasslands, chaparral.	Potential to occur.
Coastal whiptail *Aspidoscelis tigris stejnegeri (multiscutatus)*	Federal: None State: SSC	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Potential to occur.

Species Name	Status	Habitat Requirements	Occurrence
Coast horned lizard *Phrynosoma blainvillii*	Federal: None State: SSC	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Potential to occur.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: SSC	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Potential to occur.
Red-diamond rattlesnake *Crotalus ruber*	Federal: None State: SSC	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Potential to occur.
California legless lizard *Anniella sp. 1*	Federal: None State: SSC	Common in the Coast Ranges from the vicinity of Antioch, Contra Costa Co. south to the Mexican border. Range includes the floor of the San Joaquin Valley from San Joaquin Co. south, the west slope of the southern Sierra, the Tehachapi Mountains west of the desert, and the mountains of southern California. Common in several habitats but especially in coastal dune, valley-foothill, chaparral, and coastal scrub types.	Potential to occur.
Two-striped garter snake *Thamnophis hammondii*	Federal: None State: SSC	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	Not expected to occur within the Project site due to a lack of suitable habitat.
Western pond turtle *Emys marmorata*	Federal: None State: SSC	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Does not occur due to a lack of suitable habitat.
Birds			
Bank swallow (nesting) *Riparia riparia*	Federal: None State: ST	Low areas along rivers, streams, ocean coasts or reservoirs. Often use human-made sites.	Does not occur due to a lack of suitable habitat.
Black swift (nesting) *Cypseloides niger*	Federal: BCC State: SSC	Nests in forested areas near rivers in dark, damp areas. Forages in skies over mountainous areas and on coastal cliffs.	Does not occur due to a lack of suitable habitat.
California black rail *Laterallus jamaicensis coturniculus*	Federal: BCC State: ST, FP	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Does not occur due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Occurrence
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: SSC	Low elevation coastal sage scrub and coastal bluff scrub.	Potential to occur but confirmed absent during focused surveys.
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Does not occur due to a lack of suitable habitat.
Southwestern willow flycatcher (nesting) *Empidonax traillii extimus*	Federal: FE State: SE	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Does not occur due to a lack of suitable habitat.
Swainson's hawk (nesting) *Buteo swainsoni*	Federal: None State: ST	Occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys for hunting and uses perches.	Does not occur due to a lack of suitable habitat.
Western yellow-billed cuckoo (nesting) *Coccyzus americanus occidentalis*	Federal: FT, BCC State: SE	Dense, wide riparian woodlands with well-developed understories.	Does not occur due to a lack of suitable habitat.
Yellow warbler (nesting) *Setophaga petechia*	Federal: BCC State: SSC	Breed in lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland. During migration, forages in woodland, forest, and shrub habitats.	Potential to occur.
Yellow-breasted chat (nesting) *Icteria virens*	Federal: None State: SSC	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Does not occur due to a lack of suitable habitat.
Mammals			
American badger *Taxidea taxus*	Federal: None State: SSC	Most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils.	Potential to occur.
Big free-tailed bat *Nyctinomops macrotis*	Federal: None State: SSC WBWG: MH	Roost mainly in crevices and rocks in cliff situations; also utilize buildings, caves, and tree cavities.	Does not occur due to a lack of suitable habitat.
Desert bighorn sheep *Ovis canadensis nelsoni*	Federal: None State: FP	Visually open foraging areas of grass near steep, rocky areas.	Does not occur due to a lack of suitable habitat.
Mountain Lion *Puma concolor*	Federal: None State: CE	Mountain lions use rocky areas, cliffs, and ledges that provide cover within open woodlands and chaparral, as well as riparian areas that provide protective habitat connections for movement between fragmented core habitat.	Tracks and scat were observed in the Study Area.

Species Name	Status	Habitat Requirements	Occurrence
Pallid bat *Antrozous pallidus*	Federal: None State: SSC WBWG: H	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	Potential to occur.
Pocketed free-tailed bat *Nyctinomops femorosaccus*	Federal: None State: SSC WBWG: M	Rocky areas with high cliffs in pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian.	Does not occur due to a lack of suitable habitat.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	Federal: None State: SSC	Occupies a variety of habitats but is most common among shortgrass habitats. Also occurs in sage scrub but needs open habitats.	Does not occur due to a lack of suitable habitat.
Townsend's big-eared bat *Corynorhinus townsendii*	Federal: None State: SSC WBWG: H	Coniferous forests and woodlands, deciduous riparian woodland, semi-desert and montane shrublands.	Does not occur due to a lack of suitable habitat.
Western mastiff bat *Eumops perotis californicus*	Federal: None State: SSC WBWG: H	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Potential to occur.
Western red bat *Lasiurus blossevillii*	Federal: None State: SSC WBWG: H	Prefers riparian areas dominated by walnuts, oaks, willows, cottonwoods, and sycamores where they roost in broad-leafed trees.	Potential to occur.
Western yellow bat *Lasiurus xanthinus*	Federal: None State: SSC WBWG: H	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Potential to occur.

STATUS

Federal
FE – Federally Endangered
FT – Federally Threatened
FPT – Federally Proposed Threatened
FC – Federal Candidate
BGEPA– Bald and Golden Eagle Protection Act

State
SE – State Endangered
ST – State Threatened
CE– Candidate Endangered
CFP – California Fully-Protected Species
SSC – Species of Special Concern

Western Bat Working Group (WBWG)
H – High Priority
LM – Low-Medium Priority
M – Medium Priority
MH – Medium-High Priority

OCCURRENCE

- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.

- Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.
- Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed.
- Confirmed present – The species was detected onsite incidentally or through focused surveys

4.5.1 Special-Status Wildlife with the Potential to Occur at the Project Site

Invertebrates

Crotch Bumble Bee (*Bombus crotchii*) – Crotch bumble bee is a State Candidate Endangered species[12]. In California, *B. crotchii* inhabits open grassland and scrub habitats. This species occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern California. This species was historically common in the Central Valley of California, but now appears to be absent from most of it, especially in the center of its historic range.

Bumble bees, including *Bombus crotchii,* are generalist foragers and have been reported visiting a wide variety of flowering plants. *B. crotchii* has a very short tongue, and thus is best suited to forage at open flowers with short corollas. The plant families most commonly associated with *B. crotchii* observations or collections from California include Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, and Boraginaceae. Plants in the genera *Asclepias, Chaenactis, Lupinus, Medicago, Phacelia,* and *Salvia* as example food plants. Note that these floral associations do not necessarily represent *B. crotchii's* preference for these plants over other flowering plants, but rather may represent the prevalence of these flowers in the landscape where this species occurs.

Bumble bees are social insects that live in colonies composed of a queen, workers, and reproductive individuals (males and new queens). Colonies are annual and only the new, mated queens overwinter. These queens emerge from hibernation in the early spring and immediately start foraging for pollen and nectar and begin to search for a nest site. Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. Initially, the queen does the foraging and care for the colony until the first workers emerge and assist with these duties. Bumble bees collect both nectar and pollen of the plants that they pollinate. In general, bumble bees forage from a diversity of plants, although individual species can vary greatly in their plant preferences, largely due to differences in tongue length. Bumble bees are well-known to engage in "buzz pollination," a very effective foraging technique in which they sonicate the flowers to vibrate the pollen loose from the anthers.

Crotch bumble bee is not a species that GLA generally evaluated for projects prior to the 2019 designation as a Candidate species, and so GLA did not have the opportunity to evaluate the Chadwick Ranch Estates Study Area in 2017/2018 for the bumble bee. GLA has incidentally

[12] The California Fish and Game Commission voted to designate Crotch bumblebee as Candidate Endangered species on June 12, 2019. The final determination is pending.

detected the bumble bee at several other properties in 2020 throughout Southern California, including properties in the desert and Inland Empire, including properties with similar habitat types. Based on the known distribution of Crotch bumble bee, the dominance of scrub vegetation within the Study Area, and the presence of suitable floral resources, the bumblebee has the potential to occur at the Study Area. GLA recommends that the EIR acknowledge the potential for Crotch bumble bee to utilize the Specific Plan, include mitigation for the loss of habitat under the assumption of presence, and then in a latter season perform focused surveys and coordinate with CDFW to determine if an ITP would be required if the bumble bee is confirmed as present.

San Gabriel Chestnut Snail (*Glyptostoma gabrielense*) – The San Gabriel chestnut snail is a terrestrial snail known from the San Gabriel Mountains and foothills in Los Angeles County, California. The chestnut snail is associated with rocky hills and mountains at relatively low elevations. More specifically habitat is described as rocky hillsides under plant debris and cactus, and in rock piles, wood rat nests, and spaces beneath logs, stumps and boulders. The San Gabriel chestnut snail has a G2 global ranking and a S2 state ranking. Species with a G2 ranking are described as imperiled globally because of rarity (6-20 occurrences), or because of some other factor(s) making it very vulnerable to extinction throughout its range. Species with a S2 ranking are described as very rare; typically between 6 and 20 known occurrences; and may be susceptible to becoming extirpated. Based on the global and state rankings, the San Gabriel chestnut snail is considered special-status under CEQA. On November 13, 2017, the Center for Biological Diversity filed petition with USFWS to list the snail under the FESA. However, on April 25, 2019, the USFWS determined that the petition did not present substantial information that listing may be warranted, and as such no further action was taken by USFWS.

Two empty shells of the chestnut snail were detected within the Bradbury Canyon portion of the Specific Plan just north of the proposed development footprint within the proposed open space. Areas within the development footprint were surveyed for the chestnut snail by raking of soil and leaf litter and inspecting the undersides of rocks and logs. No individuals were detected within the development footprint; however, the lack of detection does not constitute absence although the lack of detection likely indicates that, if present, the snail occurs in a low density within the development footprint. Since the majority of the development footprint consists of steep terrain and is densely vegetated with chaparral and other scrub vegetation, the potential for occurrence of the chestnut snail within the development footprint based on the habitat descriptions is likely limited to the downslope areas of the canyons. Due to the modification of the lower portions of the canyons for flood control purposes, the extent of the chestnut snail within the development footprint may be further limited.

Amphibians

Coast Range Newt (*Taricha torosa*) – The Coast Range newt is a California Species of Special Concern. The newt frequents terrestrial habitats, but breed in ponds, reservoirs, and slow-moving streams. The newt is found in wet forests, oak forests, chaparral, and rolling grasslands. In southern California, drier chaparral, oak woodland, and grasslands are used.
Lack of data on the movement ecology of this species prevents a complete characterization of the microhabitats used. This species has been depleted by large-scale historical commercial

exploitation coupled with the loss and degradation of stream habitats, especially in Los Angeles, Orange, Riverside, and San Diego counties.

Newts were observed in the Bradbury Canyon portion of the Specific Plan just north of the development footprint, within a portion of the canyon where flowing water was present. The development footprint is generally not expected to support the Coast Range newt due to a lack of appropriate breeding hydrology in the smaller canyons. However, since newts occur in Bradbury Canyon, then at the very least individuals could might use the upland slopes of the canyon that are within the remedial grading/or fuel modification area at the northern edge of the development footprint.

Reptiles

California Glossy Snake (*Arizona elegans occidentalis*) – The California gloss snake is a California Species of Special Concern. The glossy snake inhabits arid scrub, rocky washes, grasslands, and chaparral. The glossy snake was not incidentally detected within the Specific Plan during biological surveys but has the potential to occur at the site.

Coastal Whiptail (*Aspidoscelis tigris stejnegeri*) – The coastal whiptail is a California Species of Special Concern. The whiptail inhabits open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations. The coastal whiptail was not incidentally detected within the Specific Plan during biological surveys but has the potential to occur at the site.

Coast Horned Lizard (*Phrynosoma blainvillii*) – The coast horned lizard is a California Species of Special Concern. The horned lizard inhabits a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands. The coast horned lizard was not incidentally detected within the Specific Plan during biological surveys but has the potential to occur at the site.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgultea*) - The coast patch-nosed snake is a California Species of Special Concern. The patch-nosed snake inhabits coastal chaparral, desert scrub, washes, sandy flats, and rocky areas. The coast patch-nosed snake was not incidentally detected within the Specific Plan during biological surveys but has the potential to occur at the site.

Red-Diamond Rattlesnake (*Crotalus ruber*) - The red-diamond rattlesnake is a California Species of Special Concern. The rattlesnake inhabits heavy brush and rock outcrops, including coastal sage scrub and chaparral. The red-diamond rattlesnake was not incidentally detected within the Specific Plan during biological surveys but has the potential to occur at the site.

California Legless Lizard (*Anniella sp. 1*) - The California legless lizard is a California Species of Special Concern. The legless lizard is common in the Coast Ranges from the vicinity of Antioch, Contra Costa Co. south to the Mexican border. Range includes the floor of the San Joaquin Valley from San Joaquin Co. south, the west slope of the southern Sierra, the Tehachapi Mountains west of the desert, and the mountains of southern California. Common in several

habitats but especially in coastal dune, valley-foothill, chaparral, and coastal scrub types. The California legless lizard was not incidentally detected within the Specific Plan during biological surveys but has the potential to occur at the site.

Birds

Coastal California Gnatcatcher (*Polioptila californica californica*) – The coastal California gnatcatcher is Federally listed as threatened and is a California Species of Special Concern. The gnatcatcher inhabits low elevation coastal sage scrub and coastal bluff scrub. The subspecies tends to occur most frequently within the California sagebrush-dominated stands on mesas, gently sloping areas, and along the lower slopes of the coast ranges. Gnatcatchers also use chaparral, grassland, and riparian or alluvial habitats where they occur adjacent to sage scrub. The use of these habitats appears to be most frequent during late summer, autumn, and winter during dispersal periods, with smaller numbers of birds using such areas during the breeding season. The coastal California gnatcatcher was not detected within or adjacent to the Specific Plan during protocol presence/absence surveys. The Specific Plan supports very minimal suitable habitat for the gnatcatcher. As noted above the offsite development area contains approximately 1.40 acres of California Sagebrush/California Buckwheat Scrub, with small inclusions of sage scrub vegetation scattered amongst the denser chaparral vegetation in the lower elevation portions of the development footprint. Given the general lack of larger contiguous patches of sage scrub habitat, the gnatcatcher is not expected to occur within the proposed impact areas, open space, or adjacent lands; however, the focused surveys were performed in 2017 to confirm the absence of gnatcatchers for the purpose of analysis.

Yellow Warbler (*Setophaga petechia*) – The yellow warbler is a California Species of Special Concern. The warbler breeds in lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland. During migration, forages in woodland, forest, and shrub habitats. The yellow warbler was not detected within the Study Area during biological surveys; however, the species has a potential occur in riparian woodlands associated with the Study Area, including the Bradbury Canyon portion of the Specific Plan, and within the offsite improvement area.

Mammals

American Badger (*Taxidea taxus*) – The American badger is a California Species of Special Concern. The American badger prefers open areas and may also frequent brushlands with little groundcover. When inactive, occupies underground burrows. The species is most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils. The American badger was not observed within the overall Study Area during biological surveys, but the species has some potential to occur at the site. The Study Area, including the development footprint and proposed open space of the Specific Plan, generally contains scrub habitat that could support the badger, although GLA biologists did not observe any burrows of a size that would indicate badger presence. However, it is possible that badgers could use habitat within open space areas that were not surveyed.

Bats (miscellaneous species) – The overall Study Area is expected to support a number of bat species, including the potential for several special-status species. The Study Area contains a variety of tree species such as coast live oak, western sycamore, willow, palm trees, and several non-native tree species. Bats with the potential to occur at the site for roosting, including the potential for maternity roots, include pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), and western yellow bat (*Lasiurus xanthinus*). These four bat species are all California Species of Concern. Although species such as pallid bat typically use rocky areas for roosting that are not present at within the development footprint, the site at least could be utilized for foraging where individuals/colonies are utilizing nearby lands for roosting.

Mountain Lion (*Puma concolor*) – Mountain lions associated with the Southern California population are designated as a State Candidate Endangered species[13]. Mountain lions use rocky areas, cliffs, and ledges that provide cover within open woodlands and chaparral, as well as riparian areas that provide protective habitat connections for movement between fragmented core habitat. Mountain lions have large home ranges with the ranges of males as larger as 250 square miles. Padley (1989, 1996) monitored female home ranges in the Santa Ana Mountains, finding that annual home ranges varied from 32 to 87 square miles, with a mean range of 43 square miles. The diet of mountain lions in Southern California includes mule deer as their principal prey, but also other ungulates, rabbits and larger rodents.

Mountain lion tracks and scat were detected by GLA within the Bradbury Canyon during the biological surveys, and given the presence of movement potential movement routes (canyons and ridgelines) and a prey population (including mule deer) throughout the Study Area, the overall Specific Plan and offsite improvement area is acknowledged as part of a larger home range in the San Gabriel Mountains for mountain lions. Mountain lions are expected to use both Bradbury Canyon and Spinks Canyon as primary local movement routes, as well as the smaller ridgelines and drainage areas within the development footprint for local movement. In addition, the existing Flood Control access road is likely used periodically as a connection between Bradbury Canyon and Spinks Canyon.

4.6 Nesting Birds

The Study Area contains trees, shrubs, and ground cover that provide suitable habitat for nesting native birds. Mortality of native birds (including eggs) is prohibited under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code.[14]

[13] The California Fish and Game Commission voted to designate Southern California mountain lions as a Candidate Endangered species on April 16, 2020. The final determination is pending.

[14] The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R.21). In addition, Sections 3505, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

4.7 Wildlife Linkages/ Corridors and Nursery Sites

Habitat linkages are areas which provide a communication between two or more other habitat areas which are often larger or superior in quality to the linkage. Such linkage sites can be quite small or constricted, but may can be vital to the long-term health of connected habitats. Linkage values are often addressed in terms of "gene flow" between populations, with movement taking potentially many generations.

Corridors are similar to linkages but provide specific opportunities for individual animals to disperse or migrate between areas, generally extensive but otherwise partially or wholly separated regions. Adequate cover and tolerably low levels of disturbance are common requirements for corridors. Habitat in corridors may be quite different than that in the connected areas, but if used by the wildlife species of interest, the corridor will still function as desired.

The Project's development footprint is located between two larger canyons supporting wildlife movement, including Bradbury Canyon to the north and Spinks Canyon to the east, both of which feed into large debris basins. A portion of Bradbury Canyon is located within open space proposed for the Specific Plan. The development footprint generally consists of the lower portion of a series of ridgelines that terminate at the Flood Control access road to the southwest. The ridgelines also feed into both Bradbury Canyon and Spinks Canyon to the north and south, as well as into smaller canyons contained within the development footprint boundary. The northern edge of the development footprint contains a high prominent ridge that originates in National Forest lands to north, extending south and then west through the development footprint, and then southwest, connecting the Flood Control access road and the Bradbury Canyon debris basin. The ridge slopes down to the north into Bradbury Canyon and to the south into the development footprint. The top of the ridgeline is maintained as a fire break/access road, providing an ideal movement route for wildlife. The main ridgeline also feeds smaller ridgelines and canyons to the south and southeast within the development footprint, all of which extend to the southeast connecting with the Flood Control access road and the Spinks Canyon debris basin.

The overall Study Area, including the onsite and offsite development areas and the proposed open space, provides both live-in habitat and movement opportunities for many mammalian species, including black bear (*Ursus americanus*), mountain lion (*Puma concolor*), mule deer (*Odocoileus hemonius*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), and gray fox (*Urocyon cinereoargenteus*). Black bears were detected throughout the Specific Plan through camera detection and/or sign. A wildlife camera was set up in Bradbury Canyon (open space portion of the Study Area) north of the development footprint in 2017, and black bears were detected by the camera. In addition, bear tracks and scat were detected both within the proposed open space in Bradbury Canyon, as well as within the development footprint. Tracks and scat were detected in a canyon in the southeastern portion of the development footprint, and based on the prominence of the tracks, the canyon appears to be used regularly by bears moving into Spinks Canyon to the southeast when accessing the residential communities to forage for food. As discussed above in Section 4.5, mountain lion tracks and scat were observed within proposed open space in Bradbury Canyon, and mountain lions have the potential to utilize the entire Specific Plan and offsite development area as part of a larger home range. Although the development footprint does not by itself constitute a "wildlife corridor", it does support local wildlife movement.

Wildlife nurseries are sites where wildlife concentrate for hatching and/or raising young, such as rookeries, spawning areas, and bat colonies. Nurseries can be important to both special-status species as well as commonly occurring species. The Study Area in general is used by wildlife for breeding, including the Specific Plan and portions of the offsite improvement area; however, the Study Area does not support bird rookeries for species such as herons, egrets, etc., and does not provide habitat for fish spawning. As discussed above in Section 4.5, the Study Area is expected to support a number of bat species for both roosting and foraging, including potential maternity roosting.

4.8 Tree Inventory

The City's Tree Preservation and Protection Ordinance (Chapter 9.06.090 of the City's Municipal Code) regulates the removal of protected trees species. The City's Ordinance defines a tree as:

- a woody perennial plant which usually has (but is not limited to) a single dominant trunk and has a mature height of fifteen feet (15') or more, or has a trunk diameter of four inches (4") or more measured at twenty-four inches (24") above finished grade.

Dudek's arborists mapped a total of 2,120 trees at the Project site, of which 711 meet the City's size requirements as protected trees, including 644 native trees and 67 non-native significant trees. Dudek mapped another 1,359 trees that were under the City's size thresholds and are not expected to exceed the size thresholds within the lifetime of the Project. Dudek's report is included as Appendix C. Table 4-6 provides a list of trees to be removed by the Project.

Table 4-6. Inventory of Trees for the Development Footprint

Scientific Name	Common Name	Number of Trees
*Cupressus sempervirens**	Italian cypress	19
*Eucalyptus camaldulensis**	Red River gum	9
Fraxinus spp.*	ash	1
*Grevillea robusta**	silk oak	1
Heteromeles arbutifolia	toyon	163
*Liquidambar styraciflua**	American sweetgum	1
*Pinus canariensis**	Canary Island pine	9
*Pinus eldarica**	Afghan pine	1
*Pinus halepensis**	Aleppo pine	28
Pittosporum spp.*	pittosporum species	1
Platanus racemosa+	western sycamore	45
*Prunus salicina**	Santa Rosa plum	3
Quercus agrifolia+	coast live oak	430
Quercus berberidifolia+	California scrub oak	1290
Quercus englemannii	Englemann oak	1
Salix lasiolepis+	arroyo willow	3
Sambucus nigra ssp. *caerulea*+	blue elderberry	100
*Schinus molle**	Peruvian pepper	9
*Ulmus parvifolia**	Chinese elm	1
Washingtonia filifera+	California fan palm	4
	TOTAL	**2120**

+ = native tree; * = non-native, significant tree

4.9 Critical Habitat

The Project site is not located within USFWS-designated Critical Habitat, as was verified through the USFWS IPaC online planning tool and USFWS Critical Habitat GIS shapefiles [Exhibit 11 – USFWS Critical Habitat Map]. The nearest Critical Habitat is for the southwestern willow flycatcher associated with the San Gabriel River, located approximately 1.5 miles east/southeast of the Project site, and for Braunton's milkvetch, located approximately 2.0 miles west/northwest of the Project site. The proposed Project would not affect these Critical Habitat areas and does support either species.

4.10 Jurisdictional Waters

The Project site contains portions of six drainage features (Drainages A through F) that are subject to the jurisdictions of the Corps, Regional Board, and/or CDFW. The six drainage features are part of two separate drainage systems, both of which have been modified at the downstream end for flood protection. Five of the six drainage features (B through F) are identified in the USFWS National Wetland Inventory (NWI). Although the NWI references can be useful in performing jurisdictional delineations, the designations themselves do not convey a regulatory status to the drainage features, including as wetlands protected pursuant to CEQA.

Determination of the presence wetlands and other riparian habitat were made based on criteria of the Corps, Regional Board, and/or CDFW.

Drainage E represents Bradbury Canyon, the majority of which is located within proposed Open Space areas of the Specific Plan, although part of the natural portion of Bradbury Canyon is located within proposed remedial grading and fuel modifications areas of the development footprint. A portion of the Bradbury Canyon Flood Control channel is located within Project's offsite improvement area. Bradbury Canyon originates offsite to the northeast, flowing generally southwest before entering a large debris basin. Flows from the basin enter a concrete-lined flood control channel via a standpipe and a spillway. The Project's permanent grading footprint does not include the natural streambed of Bradbury Canyon, but does include a portion of the flood control channel where the proposed access road will cross the channel. In addition, the remedial grading footprint includes a small portion of the natural bottom of Bradbury Canyon and the fuel modification zone includes portions of the southern slope of the canyon. Drainage A consists of a relatively short (200 linear feet) ephemeral drainage that due to flood control modifications no longer has a streambed connection to Bradbury Canyon. However, some flows from Drainage A are expected to run into the debris basin. The majority of Bradbury Canyon is identified by the NWI as a Freshwater Forested/Shrub Wetland, with the Bradbury Debris Basin identified as a Freshwater Pond and Freshwater Emergent Wetland.

Spinks Canyon is located east of the Project. A small portion of the property boundary overlaps with a jurisdictional portion of the Spinks Canyon (identified here as Drainage F); however, this portion will not be directly impacted by the Project. The NWI identifies this portion of Spinks Canyon as a Riverine System.

Drainages B, C, and D are part of a larger overall drainage complex within the Project site that is tributary to Spinks Canyon. Spinks Canyon flows into a large debris basin to the southeast of the Project site. Drainage B originates onsite in the north-central portion of the site, flowing south and the southeast before entering a corrugated pipe culvert under the flood control access road before entering the Spinks Canyon debris basin. The upper part of Drainage B is vegetated with Scrub Oak Chaparral and Mixed Chaparral, with the lower portion supporting the California Sycamore/Coast Live Oak Woodland. The western portion of the watershed for Drainage has been modified to construct several smaller debris basins (Spinks Debris Disposal Area) that protect properties to the south and moderate runoff into the Spinks Canyon debris basin. Drainage C and D generally originate onsite and both connect to a smaller, offsite debris basin before entering a pipe and extending under the flood control access road to the Spinks Canyon debris basin. The NWI identifies Drainage B as a Freshwater Forested/Shrub Wetland. Drainages C and D are identified by the NWI and Riverine System.

4.10.1 Corps Jurisdiction

The overall Study Area (including the Specific Plan and offsite improvement area) contains approximately 1.55 acres of drainage features exhibiting characteristics associated with waters of the U.S. and that may be regulated by the Corps [Exhibit 7 – Corps/RWQCB Jurisdictional Delineation/Impact Map]. However, pursuant to the recent ***Navigable Waters Protection Rule***, it is possible that some of the drainage features within the Study Area (including proposed impact

areas) might not meet the updated definitions of waters of the U.S. upon further review by the Corps. As such, this report acknowledges a maximum of 1.55 acres of waters of the U.S., which might become reduced during coordination with the Corps to obtain a CWA Section 404 permit. A separate Jurisdictional Delineation Report is attached as Appendix A.

The portions of the delineation areas that were observed directly in the field (Specific Plan development footprint and the offsite improvement area) do not contain jurisdictional wetlands. GLA accessed portions of Bradbury Canyon within the proposed open space that did not exhibit wetland indicators; however, other portions of Bradbury Canyon within the open space may support wetlands since GLA observed flowing water in upper portions of the Canyon.

Of the 1.55 acres of potential Corps jurisdiction, approximately 1.34 acres are associated with the Specific Plan (Table 4-7), with 0.21 acres associated with the offsite improvement area (Table 4-8).

Table 4-7. Summary of Corps Jurisdiction for the Specific Plan

Drainage	Non-Wetland Waters	Wetlands	Total
B	0.17	0	0.17
C	0.13	0	0.13
D	0.08	0	0.08
E (Bradbury Canyon)	0.93	0	0.93
F (Spinks Canyon)	0.03	0	0.03
Total	**1.34**	**0**	**1.34**

Table 4-8. Summary of Corps Jurisdiction for the Offsite Improvement Areas

Drainage	Non-Wetland Waters	Wetlands	Total
A	0.01	0	**0.01**
B	0.11	0	**0.11**
E (Flood Control)	0.09	0	**0.09**
Total	**0.21**	**0**	**0.21**

4.10.2 Regional Board Jurisdiction

The same areas identified as potential waters of the U.S. (i.e. Corps jurisdiction) would be regulated by the Regional Board either pursuant to CWA Section 401 or Section 13050[e] of the California Water Code 13050, depending on the status of drainage features as waters of the U.S. Regardless, the Study Area contains approximately 1.55 acres of waters regulated by the

Regional Board, including 1.34 acres within the Specific Plan area, and 0.21 acres within the offsite improvement [Exhibit 7 – Corps/RWQCB Jurisdictional Delineation/Impact Map]. Tables 4-9 and 4-10 summarize Regional Board jurisdiction for the Specific Plan and offsite improvement area, respectively.

Table 4-9. Summary of Regional Board Jurisdiction for the Specific Plan

Drainage	Non-Wetland Waters	Wetlands	Total
B	0.17	0	0.17
C	0.13	0	0.13
D	0.08	0	0.08
E (Bradbury Canyon)	0.93	0	0.93
F (Spinks Canyon)	0.03	0	0.03
Total	**1.34**	**0**	**1.34**

Table 4-10. Summary of Regional Board Jurisdiction for the Offsite Improvement Area

Drainage	Non-Wetland Waters	Wetlands	Total
A	0.01	0	**0.01**
B	0.11	0	**0.11**
E (Flood Control)	0.09	0	**0.09**
Total	**0.21**	**0**	**0.21**

4.10.3 CDFW Jurisdiction

The overall Study Area (including the Specific Plan and offsite improvement area) contains approximately 13.57 acres of CDFW jurisdiction, including 11.30 acres within the Specific Plan and 2.27 acres within the offsite improvement area [Exhibit 8 – CDFW Jurisdictional Delineation/Impact Map]. Approximately 12.71 acres of riparian vegetation has been mapped within the Study Area based on field observations, including 10.54 acres within the Specific Plan and 2.17 acres within the offsite improvement area. Additional riparian vegetation might be present within portions of the open space that were not accessed for the field studies. However, these areas would not be impacted by the Project (direct or indirect) and therefore the amount of riparian vegetation in these avoided areas (or the lack thereof) is not relevant to the analysis. Tables 4-11 and 4-12 summarize CDFW jurisdiction for the Specific Plan and offsite improvement area, respectively.

Table 4-11. Summary of CDFW Jurisdiction for the Specific Plan

Drainage	Unvegetated Streambed	Riparian Vegetation	Total
B	0.23	0.04	**0.27**
C	0.13	0	**0.13**
D	0.08	0	**0.08**
E (Bradbury Canyon)	0.29	10.50	**10.79**
F (Spinks Canyon)	0.03	0	**0.03**
Total	**0.76**	**10.54**	**11.30**

Table 4-12. Summary of CDFW Jurisdiction for the Offsite Improvement Area

Drainage	Unvegetated Streambed	Riparian Vegetation	Total
A	0.01	0	**0.01**
B	0	2.17	**2.17**
E (Flood Control)	0.09	0	**0.09**
Total	**0.10**	**2.17**	**2.27**

5.0 IMPACT ANALYSIS

The following discussion examines the potential impacts to plant and wildlife resources that would occur as a result of the proposed project. Impacts (or effects) can occur in two forms, direct and indirect. Direct impacts are considered to be those that involve the loss, modification or disturbance of plant communities, which in turn, directly affect the flora and fauna of those habitats. Direct impacts also include the destruction of individual plants or animals, which may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

Indirect impacts pertain to those impacts that result in a change to the physical environment, but which is not immediately related to a project. Indirect (or secondary) impacts are those that are reasonably foreseeable and caused by a project but occur at a different time or place. Indirect impacts can occur at the urban/wildland interface of projects, to biological resources located downstream from projects, and other offsite areas where the effects of the project may be experienced by plants and wildlife. Examples of indirect impacts include the effects of increases in ambient levels of noise or light; predation by domestic pets; competition with exotic plants and animals; introduction of toxics, including pesticides; and other human disturbances such as hiking, off-road vehicle use, unauthorized dumping, etc. Indirect impacts are often attributed to the subsequent day-to-day activities associated with project build-out, such as increased noise, the use of artificial light sources, and invasive ornamental plantings that may encroach into native areas. Indirect effects may be both short-term and long-term in their duration. These impacts are commonly referred to as "edge effects" and may result in a slow replacement of native plants by non-native invasives, as well as changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to project sites.

Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. A cumulative impact can occur from multiple individual effects from the same project, or from several projects. The cumulative impact from several projects is the change in the environment resulting from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

5.1 California Environmental Quality Act (CEQA)

5.1.1 Thresholds of Significance

Environmental impacts to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State of California:

> *"Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and*

preserve for future generations representations of all plant and animal communities..."

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7 (Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

"The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ..."

Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed project.

5.1.2 Criteria for Determining Significance Pursuant to CEQA

Appendix G of the 2017 State CEQA guidelines indicate that a project may be deemed to have a significant effect on the environment if the project is likely to:

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

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

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

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

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.2 Special-Status Species

Appendix G(a) of the CEQA guidelines asks if a project is likely to "have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service."

5.2.1 Special-Status Plants

The proposed Project will not directly impact any special-status plants. The Project site contains a single Englemann oak tree, which as noted above is designated by CNPS as a CRPR 4.2 species. The Dudek report noted that the tree might be impacted indirectly by the Project but is not identified for removal. If impacted, the tree will be replaced pursuant to the City of Bradbury's Tree Preservation and Protection Ordinance; however, the loss of the single tree would not be considered significant under CEQA.

5.2.2 Special-Status Animals

The proposed Project will result in the loss of habitat with the potential to support a number of special-status animals. The following discusses the potential impact by animal group:

Invertebrates

The Project will remove habitat with the potential to support two special-status invertebrate species, specifically Crotch bumble bee and the San Gabriel chestnut snail. The loss of habitat for Crotch bumblebee would consist of potential floral resources and nest sites associated with the onsite scrub vegetation. Given the rapid decline documented for the bumblebee, the loss of habitat for the bumblebee may be considered to have a substantial adverse effect on the species. As such, the loss of habitat (if present) may be considered potentially significant prior to mitigation. As discussed above in Section 4.5.1, GLA recommends that the EIR acknowledge the potential for Crotch bumble bee to utilize the Specific Plan, include mitigation for the loss of habitat under the assumption of presence, and then in a latter season perform focused surveys and coordinate with CDFW to determine if an ITP would be required if the bumble bee is confirmed as present.

As noted above in Section 4.5.1 of this report, two empty shells of the chestnut snail were detected within the Bradbury Canyon portion of the Specific Plan (proposed as open space) outside of the development footprint. The chestnut snail was not detected within the development footprint, although its presence cannot be ruled out. However, based on the lack of detection, if the chestnut snail is present within the development footprint, then it is expected to occur in a low density. Since the majority of the Specific Plan has steep terrain and is densely vegetated with scrub oak chaparral and other scrub vegetation, the potential for occurrence of the chestnut snail based on the habitat descriptions is likely limited to the downslope areas of the canyons, including within both the development footprint and the proposed open space. Due to the modification of the lower portions of the canyons for flood control purposes, the extent of the chestnut snail within the development footprint may be further limited. As such, impact to the species (if present within the development footprint) is expected to be minimal. Furthermore, since the Project will preserve the northern portion of the Specific Plan where the snail was detected, including the majority of Bradbury Canyon and its tributary canyons associated with the proposed open space, the loss of additional potential habitat within the Project footprint would be less than significant without additional mitigation required.

Amphibians

The Project will remove habitat with the potential to support one special-status amphibian species (Coast Range newt). Given the limited hydrology within the development footprint to support the newt, the newt is not expected to occur within the majority of the impact area. The loss of habitat would be limited to the upslope portions of Bradbury Canyon on the northern edge of the development footprint, although since the majority of those impacts would be associated with the Zone C fuel modification, the loss of habitat (if any) for the newt would be minimal. Given that the Project will preserve the northern portion of the Specific Plan where the newt was detected, including the majority of Bradbury Canyon and its tributary canyons associated with the proposed open space, the loss of potential habitat would be less than significant without additional mitigation being required.

Reptiles

The Project will remove habitat with the potential to support several special-status reptile species, including the California glossy snake, coastal whiptail, coast horned lizard, coast patch-nosed snake, red-diamond rattlesnake, and California legless lizard. Give the relatively low sensitivity of these species, and with the proposed preservation of open space associated with the Project, the loss of potential habitat for these species would be less than significant without additional mitigation being required.

Birds

The Project will remove habitat with the potential to support one special-status bird species (yellow warbler). The loss of habitat would be limited to a smaller portion of riparian habitat that is a subset of the California Sycamore/Oak Woodland vegetation community within Drainage B (offsite improvement area). The sycamore/oak community is depicted on the

vegetation map [Exhibit 6 and Exhibit 10]. Based on the relatively low sensitivity of the yellow warbler and the limited potential for occurrence at the Project site, potential impacts to the yellow warbler would be less than significant without mitigation being required.

Mammals

The Project will remove habitat with the potential to support special-status animals, including the American badger and several bat species (pallid bat, western mastiff bat, western red bat, and western yellow bat). The badger has some potential to occur within the Study Area, although badger burrows were not observed within the development footprint. The Study Area, including the development footprint and proposed open space of the Specific Plan, generally contains scrub habitat that could support the badger, although GLA biologists did not observe any burrows of a size that would indicate badger presence. However, it is possible that badgers could use habitat within open space areas that were not surveyed. Given the relatively low sensitivity ranking of the species, the proposed preservation of open space containing potential habitat, and the lack of burrow detection within the development footprint, the loss of potential habitat for the American badger would be less than significant without additional mitigation required.

The potential loss of habitat for bats would include trees with the potential for use as roosting sites, and particularly for maternity roosting, as well as the general loss of forage habitat. The loss of maternity roost habitat in general for special-status bats may be considered potentially significant depending on the extent of use. Pallid bats generally utilize rocky areas for roosting, which is not represented by the Project site. As such, the use of the site by pallid bats would most likely be for foraging. Roost habitat for the western mastiff bat would be limited since the site does not contain cliff crevices or structures with a higher likelihood of use, but the onsite trees could provide roosting opportunities. The western red bat would generally be limited to the riparian areas onsite, particularly the western sycamore trees in the lower portion of Drainage B. The western yellow bat would have limited roosting potential at the Project site, including several palm trees in the riparian area and potentially other trees. The loss of maternity roosts may be potentially significant prior to mitigation for one or more bat species, although the preservation of Bradbury Canyon and the additional open space, combined with proposed tree replacement and riparian habitat mitigation discussed in Section 6.0 would reduce any impacts to below a level of significance.

5.3 Sensitive Vegetation Communities

Appendix G(a) of the CEQA guidelines asks if a project is likely to "have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service." Vegetation impacts will occur as a result of permanent grading, remedial grading, and fuel modification. The Project will maintain three fuel modification zones (A, B, and C). Zone A and B will both result in complete avoidance of existing vegetation, with Zone A consisting of 20-foot setback zone from structures, and Zone B consisting of an irrigated zone extending an additional 80 feet from the limits of Zone A (total of 100 feet from structures). Zone C consists of a native brush thinning zone that extends up to 200 feet from structures. All of Zone A and the majority of Zone B overlap with the grading limits, and so

impacts resulting in the removal of vegetation within these zones are attributed to grading activities. For those portions for Zone B and C that exceed the grading limits, vegetation impacts are allocated to those zones. A vegetation community overlay with the impact footprint is provided as Exhibit 10. Tables 5-1 and 5-2 summarize Project impacts to vegetation/land use types for the Specific Plan and offsite improvement area.

Table 5-1. Summary of Vegetation/Land Use Impacts for the Specific Plan

Vegetation/Land Use Type	Permanent	Remedial	FMZ Zone B	FMZ Zone C	Total Impacts	Avoided
Coast Live Oak Riparian Forest (*Quercus agrifolia* Woodland Alliance)	0.91	1.48	0	0.91	**3.30**	7.20
Coast Live Oak Woodland	0	0	0	0	**0**	0.40
Disturbed (*Quercus agrifolia* Woodland Alliance)	1.63	0.09	0	0	**1.72**	0.39
Scrub Oak Chaparral (*Quercus berberidifolia* Shrubland Alliance)	27.48	4.12	0.20	1.47	**33.27**	2.24
Scrub Oak Chaparral/ Southern Mixed Chaparral	0	0	0	0	**0**	41.34
Southern Mixed Chaparral (*Malosma laurina* Shrubland Alliance)	7.59	3.98	0.17	0.41	**12.15**	9.70
California Sycamore/Coast Live Oak Woodland (*Platanus racemosa-Quercus agrifolia* Woodland Alliance)	0.01	0.03	0.00	0.00	**0.04**	0.00
Total	**37.62**	**9.70**	**0.37**	**2.79**	**50.48**	**61.27**

Table 5-2. Summary of Vegetation/Land Use Impacts for the Offsite Improvement Area

Vegetation/Land Use Type	Permanent	Remedial	FMZ Zone B	FMZ Zone C	Total Impacts
Coast Live Oak Woodland (*Quercus agrifolia* Woodland Alliance)	0.20	0.96	0.00	0.00	**1.16**
California Sagebrush-California Buckwheat Scrub (*Artemisia californica-Eriogonum fasciculatum* Shrubland Alliance)	0.42	0.97	0.00	0.00	**1.40**
Developed	3.55	2.44	0.06	0.87	**6.92**
Disturbed	0.00	0.07	0.00	0.10	**0.17**
Ornamental	0.32	0.65	0.00	0.00	**0.97**
Scrub Oak Chaparral (*Quercus berberidifolia* Shrubland Alliance)	3.03	2.51	0.06	0.21	**5.80**
Southern Mixed Chaparral (*Malosma laurina* Shrubland Alliance)	0.79	1.30	0.19	1.96	**4.24**
California Sycamore/Coast Live Oak Woodland (*Platanus racemosa-Quercus agrifolia* Woodland Alliance)	1.19	0.97	0.00	0.00	**2.17**
Total	**9.51**	**9.87**	**0.31**	**3.15**	**22.83**

The proposed Project will impact six native vegetation types, including Coast Live Oak Riparian Forest, Coast Live Oak Woodland, California Sagebrush/California Buckwheat Scrub, Scrub Oak Chaparral, Southern Mixed Chaparral, and California Sycamore/Coast Live Oak Woodland. Development within the Specific Plan boundary will impact approximately 3.30 acres of Coast Live Oak Riparian Forest (0.91 acres of permanent grading, 1.48 acres of remedial grading, and 0.91 acre of fuel modification), 33.27 acres of Scrub Oak Chaparral (27.48 acres of permanent grading, 4.12 acres of remedial grading, and 1.67 acres of fuel modification), 12.15 acres of Southern Mixed Chaparral (7.59 acres of permanent grading, 3.98 acres of remedial grading, and 0.61 acres of fuel modification), and 0.04 acre of California Sycamore/Coast Like Oak Woodland (0.01 acre of permanent grading and 0.03 acre of remedial grading).

Development within the offsite improvement area will impact 1.16 acres of Coast Live Oak Woodland (0.20 acre of permanent grading and 0.96 acre of remedial grading), 1.40 acres of California Sagebrush/California Buckwheat Scrub (0.42 acres of permanent grading and 0.97 acres of remedial grading), 5.80 acres of Scrub Oak Chaparral (3.03

acres of permanent grading, 2.51 acres of remedial grading, and 0.27 acres of fuel modification), 4.24 acres of Southern Mixed Chaparral (0.79 acre of permanent grading, 1.30 acres of remedial grading, and 2.15 acres of fuel modification), and 2.17 acres of California Sycamore/Coast Live Oak Woodland (1.19 acres permanent grading and 0.97 acres of remedial grading).

The Coast Live Oak Riparian Forest (3.30 acres total impact) and California Sycamore/Coast Live Oak Woodland (2.21 acres total impact) are considered riparian communities and are therefore sensitive pursuant CEQA. Impacts to 5.51 acre of riparian communities would be potentially significant prior to mitigation. However, the California Sagebrush-California Buckwheat Scrub, Scrub Oak Chaparral, Southern Mixed Chaparral, and the non-riparian Coast Live Oak Woodland are not considered sensitive under CEQA and would not require mitigation simply based on the vegetation type.

5.4 Wetlands

Appendix G(c) of the State CEQA guidelines asks if a project is likely to "have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means."

The Project site does not contain any state or federally protected wetlands.

5.5 Wildlife Movement and Native Wildlife Nursery Sites

Appendix G(d) of the State CEQA guidelines asks if a project is likely to "interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites."

As discussed above in Section 4.7, the Project site provides both live-in habitat and movement opportunities for many mammalian species, including black bear, mountain lion, mule deer, bobcat, coyote, and gray fox. However, the Project site does not constitute a "migratory wildlife corridor". The proposed Project will remove all live-in habitat for these and other wildlife species within the Project footprint and will restrict the movement of wildlife through the site. However, the Project will not interfere substantially with movement within Bradbury Canyon and Spinks Canyon, and wildlife moving along ridge routes between the canyons will still be able to access those canyons to the west and east from ridgelines north of the Project site. The Project proposes fencing and gates to prevent/deter the public from accessing the Flood Control facilities, including the Bradbury Debris Basin, the Spinks Disposal Area, and the Spinks Debris Basin. The existing Flood Control access road coming in from Bliss Canyon Road is currently used to access the Bradbury Debris Basin (west of the access road) but also turns south, extending past the Spinks Disposal Area and then connecting to the Spinks Debris Basin. The Project will construct a primary access road to the development area (Street "A") that will extend up the ridge from near the Bradbury Debris Basin. Access will be maintained to the Bradbury

Debris basin as well as the extended road down to the Spinks Debris Basin. However, a fence will be constructed along the Bradbury Debris Basin and a gate will be installed at the ramp down to the debris basin, excluding the public from that area. An additional gate will be installed on the opposite side of Street A preventing public vehicle access down the Flood Control road to the Spinks Debris Basin. Both gates will be constructed to allow wildlife to pass through, allowing continued connectivity from the Bradbury Canyon to Spinks Canyon via the access road. Since the connecting access road will be used only for Flood Control access and for emergency secondary access to the development area, traffic on the road will not increase from residential use.

As discussed above in Section 4.6, the project has the potential to impact active bird nests if vegetation is removed during the nesting season (February 1 to August 31). Impacts to nesting birds are prohibited by the MBTA and California Fish and Game Code. An avoidance measure to address nesting birds is included below in Section 6.0. Although impacts to native birds are prohibited by MBTA and similar provisions of California Fish and Game Code, impacts to native birds by the proposed Project would not be a significant impact under CEQA. The Project site does not support rookeries, colonies, etc. that may be considered as "nursery" sites under CEQA. The native birds with potential to nest on the Project site would be those that are common to the region. The number of individuals potentially affected by the Project would not significantly affect regional, let alone local populations of such species.

5.6 Local Policies or Ordinances

Appendix G(e) of the State CEQA guidelines asks if a project is likely to "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance." As discussed above in Section 4.8, the City of Bradbury has a Tree Preservation and Protection Ordinance (Chapter 9.06.090 of the City's Municipal Code; City of Bradbury 2012) that regulates the removal of protected trees species. Pursuant to the definitions in the Ordinance, Dudek's arborists mapped 711 trees meeting the City's size requirements as protected trees, including 644 native trees and 67 non-native significant trees. Of the 711 trees, 341 will require removal due to direct grading impacts, with another 60 trees experiencing encroachment into the tree protection zone from grading, and approximately 270 trees that may be indirectly impacted. Approximately 50 trees would require removal due to health issues. The remaining 32 of the 711 protected trees would be preserved in place with no direct or indirect impacts. Dudek's report is included as Appendix C. Table 5-3 provides a list of City protected trees to be removed by the Project.

Table 5-3. City of Bradbury Protected Trees to be Removed by the Project

Scientific Name	Common Name	Number of Trees
*Cupressus sempervirens**	Italian cypress	1
*Grevillea robusta**	silk oak	1
Heteromeles arbutifolia	toyon	18
*Liquidambar styraciflua**	American sweetgum	1
*Pinus canariensis**	Canary Island pine	1
*Pinus eldarica**	Afghan pine	1
*Pinus halepensis**	Aleppo pine	1
Platanus racemosa+	western sycamore	25
Quercus agrifolia+	coast live oak	121
Quercus berberidifolia+	California scrub oak	145
Salix lasiolepis+	arroyo willow	1
Sambucus nigra ssp. *caerulea*+	blue elderberry	19
*Schinus molle**	Peruvian pepper	2
Washingtonia filifera+	California fan palm	4
	TOTAL	**341**

+ = native tree; * = non-native, significant tree

5.7 Habitat Conservation Plans

Appendix G(f) of the State CEQA guidelines asks if a project is likely to "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan." The Project is not subject to the requirements of a Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state conservation plan. As such, the proposed Project would not conflict with any such plan.

5.8 Jurisdictional Waters

The proposed Project will impact jurisdictional waters, including riparian habitat as discussed above in Section 5.3.

5.8.1 Corps Jurisdiction

The proposed Project will impact up to 0.78 acre of Corps jurisdiction, none of which support wetlands [Exhibit 7 – Corps/RWQCB Jurisdictional Delineation/Impact Map], of which 0.57 acre is associated with the Specific Plan and 0.21 acre is located within the offsite improvement area. Approximately 0.58 acre of the overall impacts will result in a permanent loss of waters due to proposed grading impacts, including remedial grading where it will not be feasible to restore the drainage features to pre-construction contours and maintain hydrology to those features. Another 0.04 acre of temporary impacts may occur to a portion of Bradbury Canyon (Drainage E) as a result of remedial grading where the drainage contours will be restored post-construction. In addition, another 0.16 acre of potential Corps jurisdiction is located within

proposed fuel modification areas (Zone C). However, since this represents a thinning zone, then the fuel modification would only result in an impact to Corps jurisdiction if the activities resulted in a discharge of dredge or fill material into the drainage, i.e. disturbance to the streambed. The CEQA impact thresholds only address wetlands with regards to federal waters, and as noted above in Section 5.4 the Project will not impact wetlands. However, impacts to Corps jurisdiction will require a CWA Section 404 permit from the Corps and a CWA Section 401 Water Quality Certification from the Regional Board, and mitigation will be required through the permitting process. In addition, as noted above in Section 4.10.1, it is possible that some of the drainage features may not be considered as waters of the U.S. pursuant to the new *Navigable Waters Protection Rule*. The final determination of the features would be made through coordination with the Corps during the permitting process. The Project footprint includes additional areas of potential Corps jurisdictional where impacts would not occur, including a portion of a flood control channel from the Bradbury Canyon debris basin where a bridge is proposed to span the channel. Tables 5-4 and 5-5 summarize impacts to Corps jurisdiction for the Specific Plan and offsite improvement area, respectively.

Table 5-4. Impacts to Corps Jurisdiction (Specific Plan)

Drainage	Permanent	Remedial	Zone C	Total
B	0.13	0.03	0	**0.16**
C	0.12	0.01	0	**0.13**
D	0.08	0	0	**0.08**
E (Bradbury Canyon)	0	0.04	0.15	**0.19**
F (Spinks Canyon)	0	0	0.01	**0.01**
Total	**0.33**	**0.08**	**0.16**	**0.57**

Table 5-5. Impacts to Corps Jurisdiction (Offsite Improvement Area)

Drainage	Permanent	Remedial	Total
A	0	0.01	**0.01**
B	0.07	0.04	**0.11**
E (Flood Control)	0.08	0.01	**0.09**
Total	**0.15**	**0.06**	**0.21**

5.8.2 Regional Board Jurisdiction

The proposed Project will impact 0.78 acre of Regional Board jurisdiction, none of which support wetlands [Exhibit 7 – Corps/RWQCB Jurisdictional Delineation/Impact Map], of which 0.57 acre is associated with the Specific Plan and 0.21 acre is located within the offsite improvement area. Approximately 0.58 acre of the overall impacts will result from proposed grading impacts, including remedial grading where it will not be feasible to restore the drainage features to pre-construction contours and maintain hydrology to those features. Another 0.04 acre of temporary impacts may occur to a portion of Bradbury Canyon (Drainage E) as a result of remedial grading where the drainage contours will be restored post-construction. In addition, another 0.16 acre of Regional Board jurisdiction is located within proposed fuel modification areas (Zone C). However, since this represents a thinning zone, then the fuel modification would only result in an impact to Regional Board jurisdiction if the activities resulted in a discharge of dredge or fill material into the drainage, i.e. disturbance to the streambed.

Impacts to areas of Regional Board jurisdiction that are considered waters of the U.S. will require Water Quality Certification pursuant to CWA Section 401. However, as noted above, it is possible that some of the drainage features may not be considered as waters of the U.S. pursuant to the new *Navigable Waters Protection Rule*. If applicable, those features would be regulated by the Regional Board under the Porter-Cologne Water Quality Control Act whereby the Regional Board must issue Waste Discharge Requirements (WDRs). Tables 5-6 and 5-7 summarize impacts to Regional Board jurisdiction for the Specific Plan and offsite improvement area, respectively.

Table 5-6. Impacts to Regional Board Jurisdiction (Specific Plan)

Drainage	Permanent	Remedial	Zone C	Total
B	0.13	0.03	0	**0.16**
C	0.12	0.01	0	**0.13**
D	0.08	0	0	**0.08**
E (Bradbury Canyon)	0	0.04	0.15	**0.19**
F (Spinks Canyon)	0	0	0.01	**0.01**
Total	**0.33**	**0.08**	**0.16**	**0.57**

Table 5-7. Impacts to Regional Board Jurisdiction (Offsite Improvement Area)

Drainage	Permanent	Remedial	Total
A	0	0.01	**0.01**
B	0.07	0.04	**0.11**
E (Flood Control)	0.08	0.01	**0.09**
Total	**0.15**	**0.06**	**0.21**

5.8.3 CDFW Jurisdiction

The proposed Project will impact approximately 6.08 acres of CDFW jurisdiction, of which 5.50 acres support riparian vegetation [Exhibit 8 – CDFW Jurisdictional Delineation/Impact Map]. Of the 5.50 acres of riparian habitat impacts, approximately 4.59 acres of impact will be attributed to grading, including 2.48 acres of remedial grading where re-vegetation may not be feasible due to fuel modification requirements and other constraints. The remaining 0.91 acre of riparian habitat is located within fuel modification areas (Zone C) associated with Bradbury Canyon. Since Zone C is a thinning zone, it is unclear the extent of tree removal that will be required in this area and the ultimate impact to riparian habitat. For purposes of this analysis, it is assumed that all 0.91 acre would be removed by the Project for fuel modification purposes. Impacts to CDFW jurisdiction will require a Lake and Streambed Alteration Agreement from CDFW. Impacts to riparian habitat are considered potentially significant as a sensitive vegetation community, as discussed above in Section 5.3. Impacts to both riparian and non-riparian CDFW jurisdiction would be subject to mitigation through the permitting process. Tables 5-8 and 5-9 summarize impacts to CDFW jurisdiction for the Specific Plan and offsite improvement area, respectively.

Table 5-8. Summary of Impacts to CDFW Jurisdiction (Specific Plan)

	Permanent		**Remedial**		**Zone C**		
Drainage	**Riparian**	**Unvegetated**	**Riparian**	**Unvegetated**	**Riparian**	**Unvegetated**	**Total**
B	0.01	0.16	0.03	0.07	0	0	**0.27**
C	0	0.12	0	0.01	0	0	**0.13**
D	0	0.08	0	0.00	0	0	**0.08**
E	0.91	0	1.48	0.02	0.91	0	**3.32**
F	0	0	0	0	0	0.01	**0.01**
Total	**0.92**	**0.36**	**1.51**	**0.10**	**0.91**	**0.01**	**3.81**

Table 5-9. Summary of Impacts to CDFW Jurisdiction (Offsite Improvement Area)

	Permanent		**Remedial**		**Zone C**		
Drainage	**Riparian**	**Unvegetated**	**Riparian**	**Unvegetated**	**Riparian**	**Unvegetated**	**Total**
A	0	0.01	0	0.01	0	0	**0.02**
B	1.19	0	0.97	0	0	0	**2.16**
E (Flood Channel)	0	0.08	0	0.01	0	0	**0.09**
Total	**1.19**	**0.09**	**0.97**	**0.02**	**0**	**0**	**2.27**

5.9 Indirect Impacts to Biological Resources

In the context of biological resources, indirect effects are those effects associated with developing areas adjacent to adjacent native open space. The development footprint is located west of the Duarte Wilderness Preserve (which is part of the San Gabriel Canyon SEA) and south of Bradbury Canyon and other open space proposed for conservation as part of the Specific Plan. The northern edge of the open space is near the Angeles National Forest but based on the distance between the development footprint from the National Forest (which is upslope from the development footprint), the Project will not indirectly affect resources on the National Forest lands. The Project is not expected to result in significant indirect impacts to special-status biological resources, with the implementation of Project design features to avoid/minimize impacts attributed to the following:

- Drainage;
- Toxics;
- Lighting;
- Noise;
- Invasives; and
- Barriers.

5.9.1 Drainage

All runoff generated by the proposed Project will drain away from sensitive habitat areas and protected open space. Runoff will be directed to an onsite detention basin and then into modular wetland system units for water quality treatment. Flows will then discharge into a storm drain that will connect to the Spinks Canyon Debris Basin. The Project's contractor will develop a Stormwater Pollution Prevention Plan (SWPPP) to address runoff and water quality during construction.

5.9.2 Toxics

Land uses proposed in proximity to sensitive areas that use chemicals or generate bioproducts such as manure that are potentially toxic or may adversely affect wildlife species, habitat or water quality shall incorporate measures to ensure that application of such chemicals does not result in discharge to the sensitive areas. In the case of a residential development, examples of chemicals could include pesticides and herbicides applied to landscape areas or used by residents, or any other chemicals that could enter natural areas through runoff. Measures such as those employed to address drainage issues shall be implemented. As noted above, the proposed Project will implement a SWPPP that will address runoff during construction. Post-construction, all runoff will be directed to an onsite detention basin for treatment prior to release towards the Spinks Canyon Debris Basin.

5.9.3 Lighting

Artificial lighting generated by development projects has the potential to adversely affect wildlife and plants located within adjacent natural open space. Lighting can alter the general rhythm of species, whether adapted to daytime or night-time activities. Artificial lighting can affect the nocturnal movement of wildlife and can interfere with predator/prey interactions. The night lighting within the development footprint will utilize low intensity fixtures and will be down shielded. In addition, all lighting will be directed away from the Duarte Wilderness Preserve/SEA to the east and the proposed open space to the north within the Specific Plan, such that there will be no change in ambient lighting in the adjacent sensitive areas.

5.9.4 Noise

Like artificial lighting, noise levels that exceed typical levels for natural areas have the potential to adversely affect wildlife. Animals use natural sound in many ways, including to navigate through their environment, to find food, attract mates, and avoid predators. Increased levels due to external sources has the potential to disrupt animal behavior by interfering with the natural noises that animals rely on. In general, projects can incorporate setbacks, berms and/or walls to minimize the effects of noise on adjacent sensitive areas pursuant to applicable rules, regulations and guidelines related to land use noise standards. For planning purposes, wildlife within adjacent open space should not be subject to noise that would exceed residential noise standards. The Project is designed to minimize noise affects on adjacent open space in several ways. The Project is generally designed so that most of the noise generation will be to the interior of the Project and not facing open space to the north and east. The Project will construct one street that will circulate through the entirety of the property for most of the developed edge, with 10 of the 14 home pads positioned to the inside of the street facing the Spinks Debris Disposal Area and not with the backyards facing the northern open space of Lot L or the offsite Duarte Wilderness Preserve. Instead, the Project components facing the open space mostly consists of the street and maintained open space such as vegetated slopes and debris/detention basins that will buffer the home pads from the open space. Of the four home pads that are positioned to outside of the street, two of them (#9 and #10) are located within the southeastern portion of the development footprint generally facing the Spinks Debris Basin. Pad #13 is in the southern portion of the property facing away from the Lot L open space and the Duarte Wilderness Preserve. Pad (#1) is located within the northwestern portion of the development footprint generally facing the Bradbury debris basin. Pad #1 also will have nearly 200 feet of maintained open space between the pad edge and the nearest open space. All the home pads will have a 5-foot wall or fence constructed around the entirety of the backyard that will help to attenuate noise from the yards.

5.9.5 Invasive Species

The Project will avoid the use of invasive plant species in common landscaping areas adjacent to the sensitive open space.

5.9.6 Barriers

Adjacent to the sensitive open space, the Project will incorporate barriers, where appropriate to minimize unauthorized public access, domestic animal predation, or illegal trespass. Such barriers may include native landscaping, rocks/boulders, fencing, walls, signage and/or other appropriate mechanisms. As discussed above in Section 5.5, the Project proposes fencing and gates to prevent/deter the public from accessing the Flood Control facilities, including the Bradbury Debris Basin and the Spinks Debris Basin, which will therefore restrict access to the Lot L open space via Bradbury Canyon and to the Duarte Wilderness Preserve via Spinks Canyon. As discussed above in Section 5.9.4, the northern and eastern edges of the development footprint will consist mostly of the street, landscaping areas, and debris/detention basins facing the open space areas. Public access will not be provided to open space and the general design of the Project will not be conducive to public access as a result of steep slopes and landscaping. Furthermore, there are no public use areas such as parks, etc. that would feed into the open space areas. As also noted above, the backyards of the 14 home pads would be enclosed with a 5-foot wall or fence restricting access beyond the home pads.

5.10 Cumulative Impacts to Biological Resources

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered potentially significant. "Related projects" refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed project. The Project will contribute to cumulative impacts for those resources where impacts would be potentially significant individually. This includes impacts identified above for Coast Live Oak Riparian Forest, California Sycamore/Coast Live Oak Woodland, and Crotch bumble bee (assuming presence).

6.0 MITIGATION/AVOIDANCE RECOMMENDATIONS

The following discussion provides recommendations for project-specific mitigation/avoidance measures for actual or potential impacts to special-status resources.

6.1 Crotch Bumblebee

As discussed above, the Project will remove habitat with the potential to be used by Crotch bumble bee. The California Fish and Game Commission voted on June 12, 2019 to accept a petition for the bumblebee as a candidate species for listing under CESA. It is recommended that the EIR assume the presence of Crotch bumble bee and include a measure acknowledging potential mitigation to offset the loss of habitat. The measure should also require that focused surveys be conducted prior to construction to confirm the presence/absence of the bumble bee if the species remains as a State Endangered species following the completion of the Fish and Game Commission's review. If the bumble bee is still designated as a Candidate species or is conferred a final listing status and is confirmed present at the site, then the Project proponent will contact CDFW to obtain an Incidental Take Permit (ITP), if necessary. The loss of occupied habitat, if present, would include the preservation of 41.34 acres of suitable habitat within the proposed open space consisting of Scrub Oak Chaparral and Southern Mixed Chaparral. If the bumble bee is determined to be present within the development footprint and the amount of occupied habitat necessitates a greater amount of conservation than the 41.34 acres of habitat within the open space, then the Project proponent will acquire additional offsite lands and/or purchase credits from a local mitigation bank to the satisfaction of CDFW.

6.2 Nesting Birds

The Project site contains vegetation with the potential to support native nesting birds. As discussed above, the MBTA and California Fish and Game Code prohibits mortality of native birds, including eggs. The following is recommended to avoid mortality to nesting birds:

- As feasible, Project activities that could disturb active nests or otherwise disrupt nesting activities, including but not limited to the removal or trimming of vegetation, the removal of structures, and the general disturbance of the ground surface, should be conducted outside of the nesting season, which is generally identified as February 1 through September 15. If avoidance of the nesting season is not feasible, then a qualified biologist shall conduct a nesting bird survey within seven days prior to any disturbance of the site. Since some raptor species can begin nesting as early as January 1, trees with the potential to support raptors should be surveyed if the habitat is to be removed after January 1. If active nests are identified, the biologist shall establish suitable buffers around the nests, and the buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests. The buffer size should vary as a function of the type of bird that is nesting (raptor versus non-raptor), the level of disturbance, and other factors such as the terrain and other vegetation separating the construction activity from the active nest.

6.3 Bats

As discussed above, the Project has the potential to impact maternity roost habitat for bats, including several special-status species. The following is recommended to avoid impacts to active maternity roosts:

- As feasible, the removal of potential bat roosting habitat (i.e., trees) should be avoided during the bat maternity season (April 1 through July 31). If avoidance of the maternity season is infeasible, then pre-construction bat surveys should be performed prior to the removal of any trees with the potential to support bats. If individual trees are determined to be maternity roosts, then those trees will be avoided until after July 31.

6.4 Protected Trees

As discussed in the Dudek report, the City's Municipal Code does not identify specific tree replacement standards for projects affecting native and/or protected trees. The City does require the submission of a tree preservation and landscaping plan per Section 9.06.090.040 of the Municipal Code. Projects in the City typically require mitigation for native trees (*Quercus* species only) that exceed 6 inches DBH and 15 feet or higher in height at a 2-to-1 ratio with 24-inch box trees of like species or payment of in-lieu fees. Additionally, non-*Quercus* native trees and non-native significant trees do not typically require mitigation. The direct impact to 266 protected oak trees (121 coast live oaks and 145 California scrub oaks) and the encroachment of 36 protected oak trees (including 26 coast live oaks and 10 California scrub oaks) requires mitigation tree plantings per the City standards to demonstrate that the Project will not conflict with the City's Municipal Code. Mitigation plantings will focus on container oak plantings into the built landscape for protected oaks at 2:1 ratio replacement ratio for as much as can be accommodated by the Project, with the balance to be replaced through the payment of in-lieu fees unless additional planting opportunities occur within the proposed open space. The Project's preliminary landscape exhibit identifies 250 coast live oak trees and 160 scrub oak shrubs to be planted within the development footprint. At a 2:1 replacement ratio, the development footprint may be able to accommodate the live oak tree plantings and approximately half of the scrub oak plantings.

6.5 Jurisdictional Waters

As noted above, the Project will impact approximately 0.78 acre of non-wetland waters subject to the jurisdiction of the Corps and Regional Board, and will impact 6.08 acres of CDFW jurisdiction, of which approximately 5.50 acres consist of riparian vegetation. Prior to the disturbance of jurisdictional waters, the Project proponent will obtain a CWA Section 404 permit from the Corps and a Section 401 Water Quality Certification from the Regional Board, as well as a Lake and Streambed Alteration Agreement from CDFW. In addition, the Project will mitigate the loss of jurisdictional waters as follows:

- The Project proponent will purchase mitigation credits from an approved mitigation bank to offset impacts at a minimum 1:1 ratio. The actual mitigation ratio will be determined through coordination with the Corps, Regional Board, and CDFW during the permitting

process. The final replacement ratio may be offset through the preservation of existing jurisdictional waters within the Project's open space.

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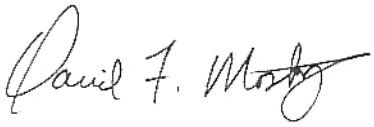
8.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.



Signed:_____ Date: ___July 17, 2020_____

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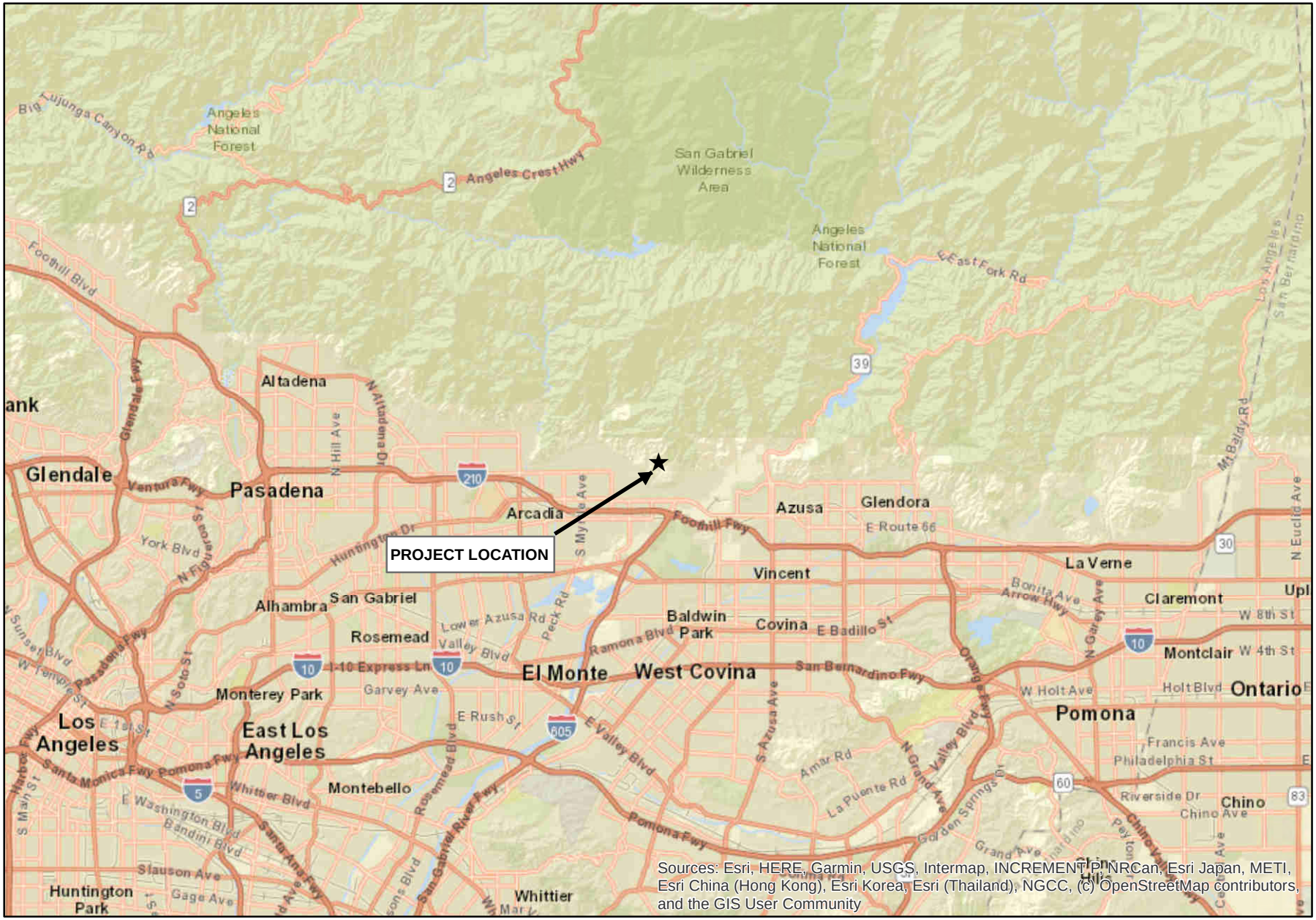


Source: ESRI World Street Map

N

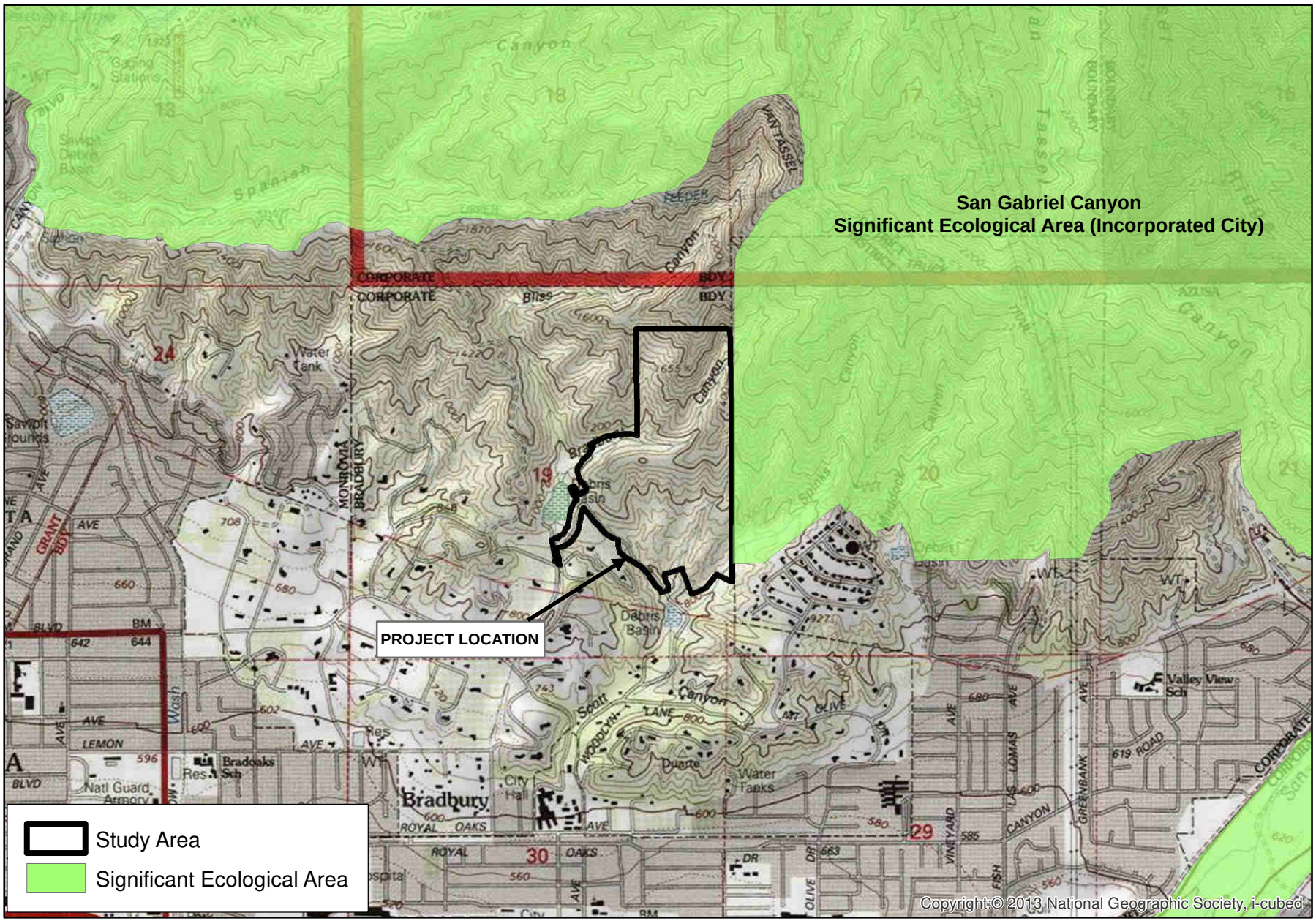
0 2 4 8 Miles

CHADWICK RANCH ESTATES

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Azusa, CA quadrangle

N

0 1,000 2,000 4,000 Feet

CHADWICK RANCH ESTATES

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Study Area Boundary

Property Boundary

Project Site Plan

Significant Ecological Area

N

0 150 300 600

Feet

1 inch = 300 feet

CHADWICK RANCH ESTATES

Site Plan Map

GLENN LUKOS ASSOCIATES

Exhibit 3A

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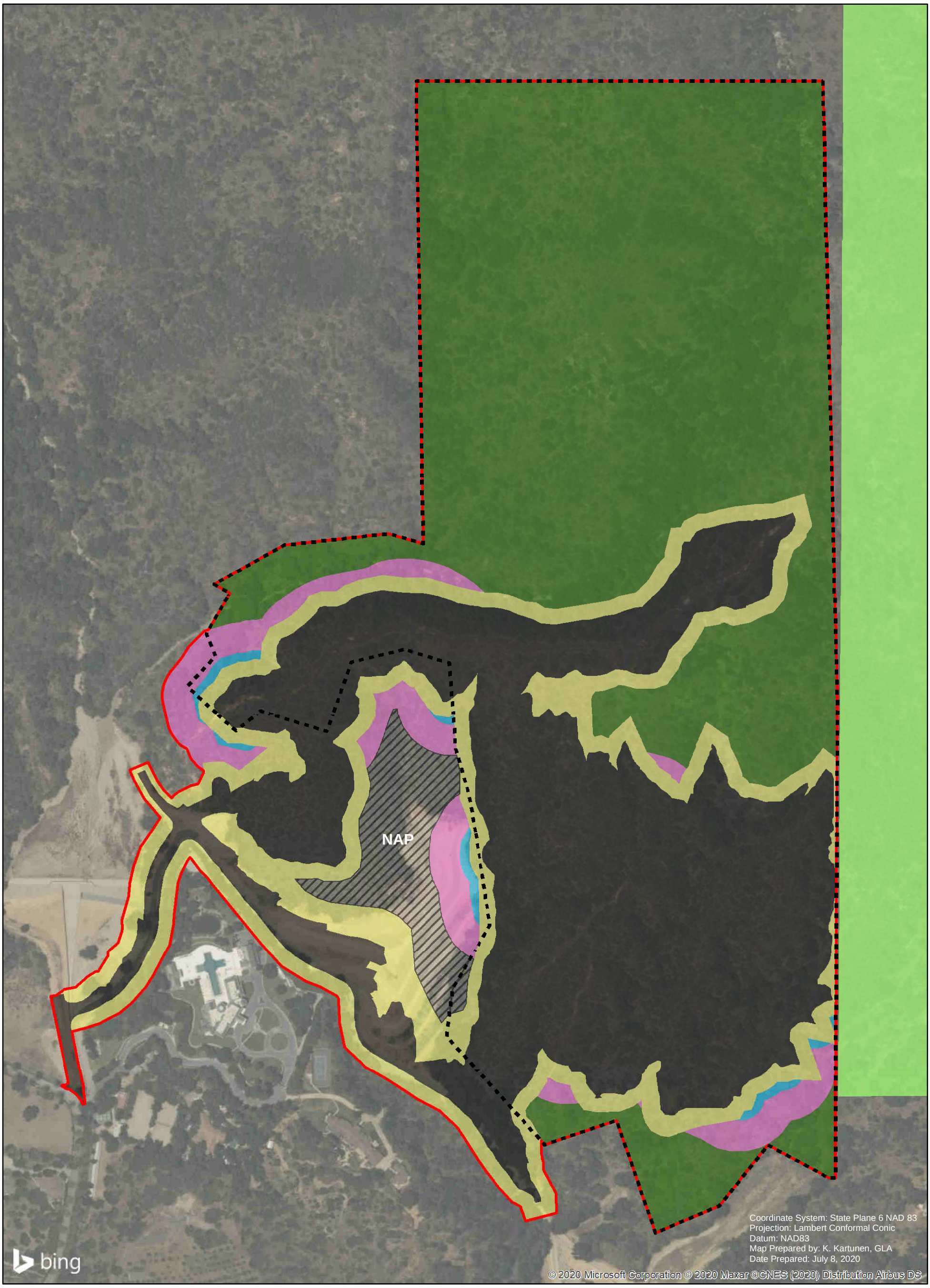

Study Area Boundary
Property Boundary
Significant Ecological Area
Open Space
Permanent Impact Limits
Remedial Grading
Fuel Modification Zone B
Fuel Modification Zone C
Not a Part

N

0 150 300 600
Feet

1 inch = 300 feet

CHADWICK RANCH ESTATES

Site Plan Map

GLENN LUKOS ASSOCIATES

Exhibit 3B

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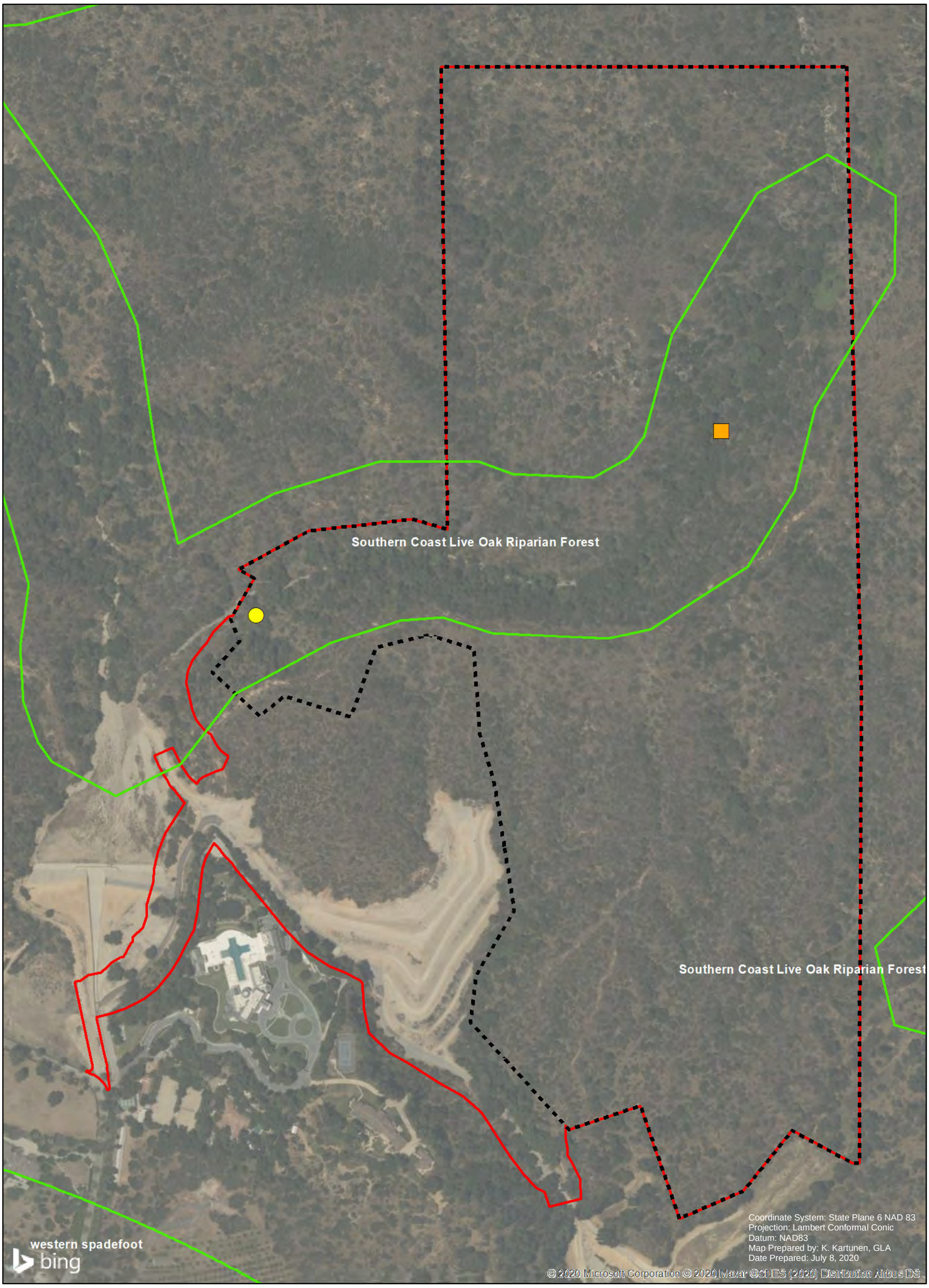

Study Area Boundary

Property Boundary

CNDDB

Coast Range Newt

San Gabriel Chestnut Snail

N

0 150 300 600

Feet

1 inch = 300 feet

CHADWICK RANCH ESTATES

Special-Status Species Location Map

GLENN LUKOS ASSOCIATES

Exhibit 4

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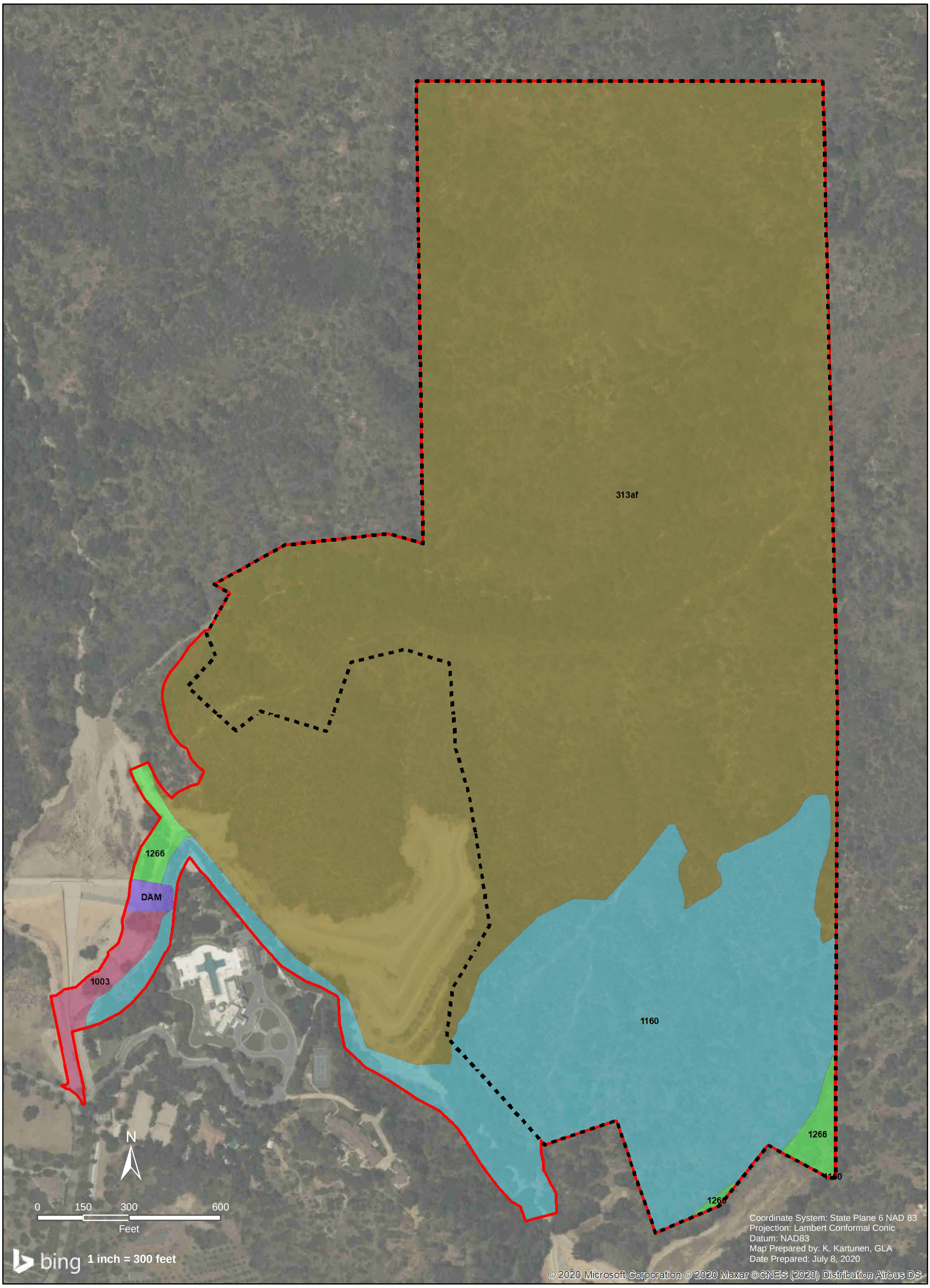

Study Area Boundary

Property Boundary

1003 - Urban land-Palmview-Tujunga, gravelly complex, 2 to 9 percent slopes

1160 - Padova-Walong complex, 30 to 85 percent slopes

1266 -Soboba and Tujunga soils, 0 to 5 percent slopes, frequently flooded

313af - Trigo family, granitic substratum, 60 to 90 percent slopes

DAM - Dams

CHADWICK RANCH ESTATES

Soils Map

GLENN LUKOS ASSOCIATES

Exhibit 5

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N

0 150 300 600

Feet

bing 1 inch = 300 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: July 8, 2020

- Property Boundary
- Study Area Boundary
- Coast Live Oak Riparian Forest
- Coast Live Oak Woodland
- California Sagebrush Scrub-California Buckwheat Scrub
- Developed
- Disturbed
- Ornamental
- Scrub Oak Chaparral
- Scrub Oak Chaparral/Southern Mixed Chaparral
- Southern Mixed Chaparral
- Sycamore/Oak Riparian Forest

CHADWICK RANCH ESTATES

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 6

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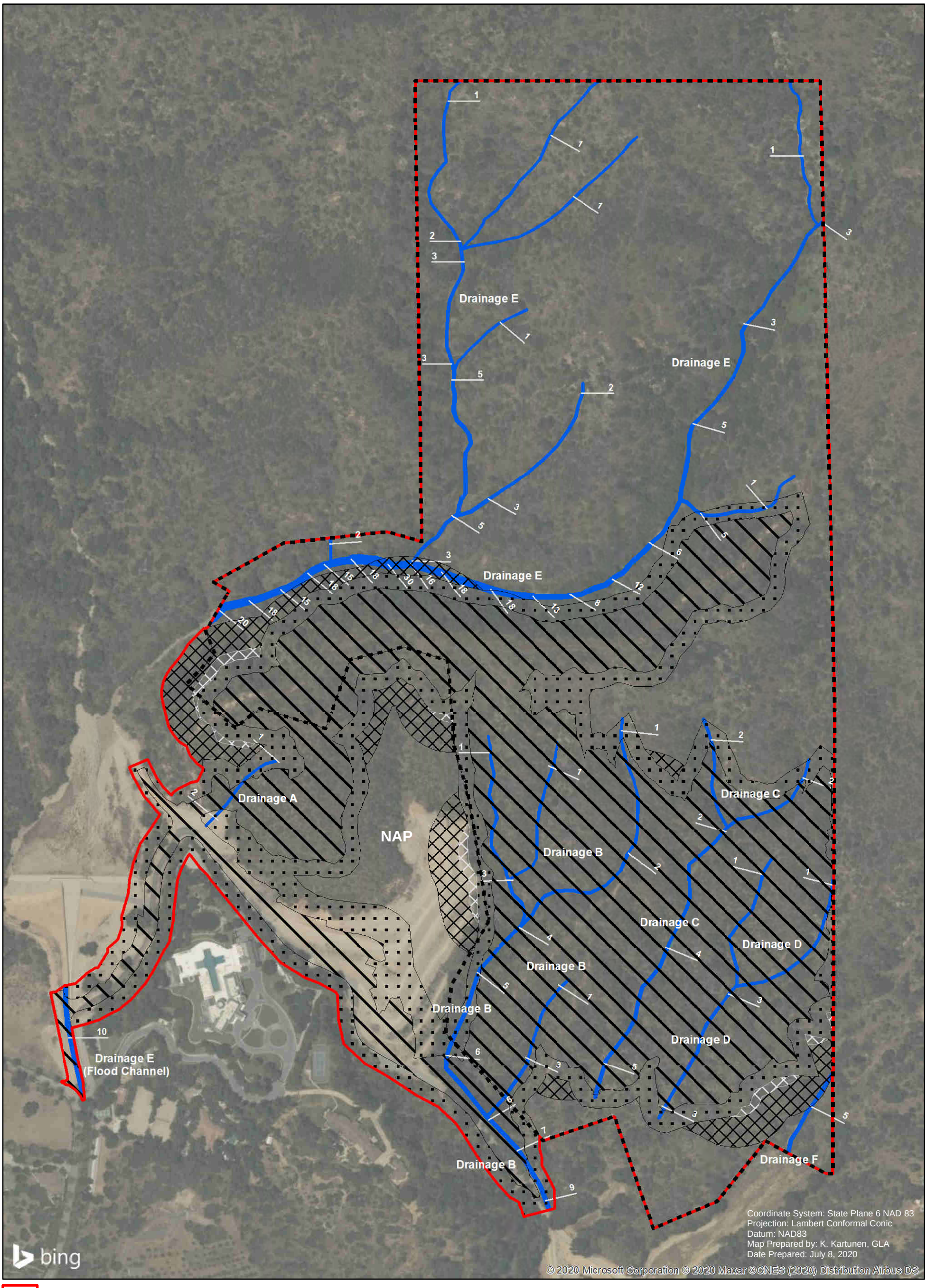

Study Area Boundary

Property Boundary

Permanent Impact Limits

Remedial Grading

Fuel Modification Zone B

Fuel Modification Zone C

Corps/RWQCB Non-Wetland Waters

3 Width in Feet

N

0 150 300 600

Feet

1 inch = 300 feet

CHADWICK RANCH ESTATES

Corps/RWQCB Jurisdictional Delineation/Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 8

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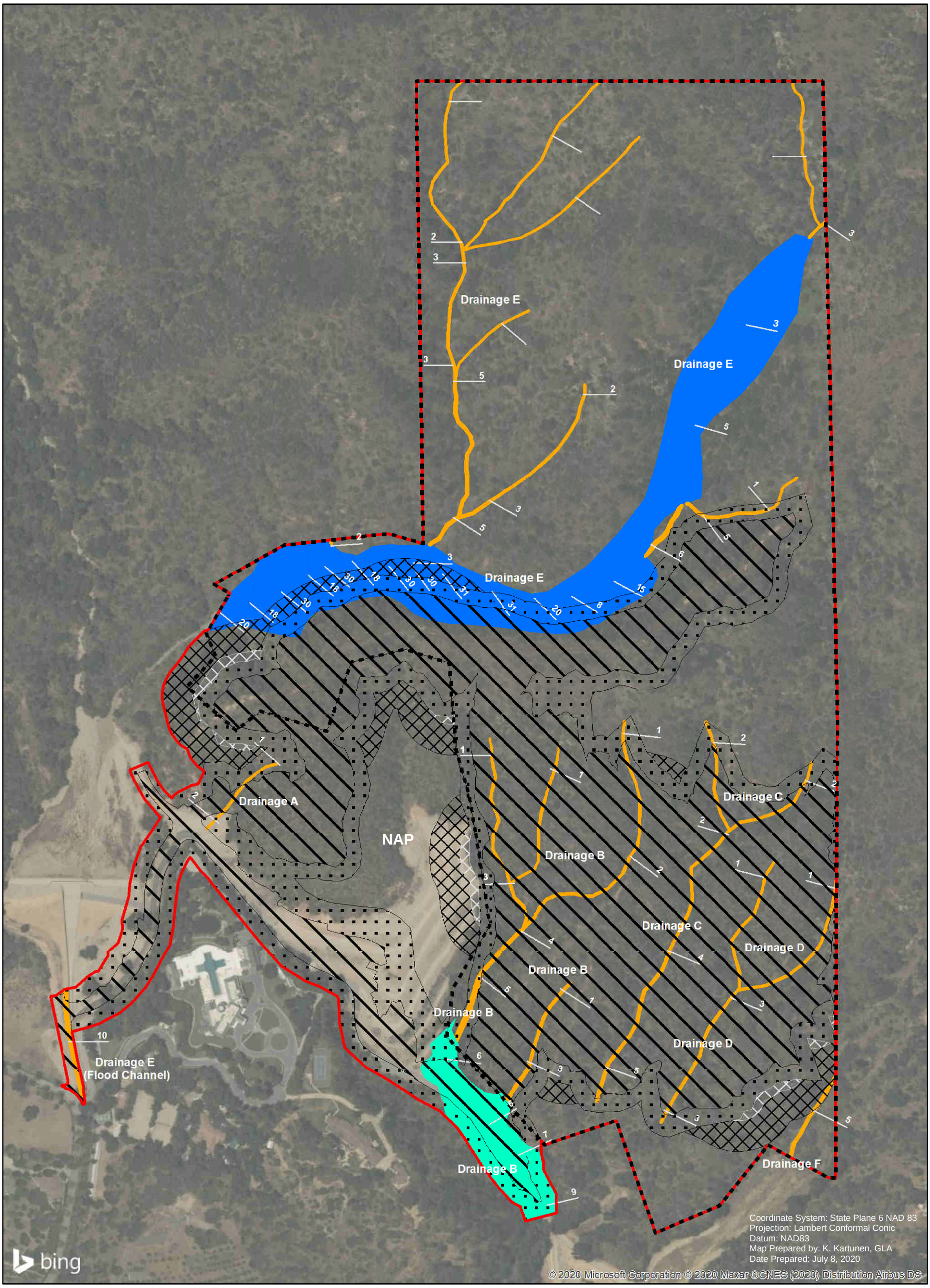

Study Area Boundary
Property Boundary
Permanent Impact Limits
Remedial Grading
Fuel Modification Zone B
Fuel Modification Zone C

Non-Riparian Streambed
Coast Live Oak Riparian Forest
Sycamore/Oak Riparian Forest
3 Width of Streambed in Feet

N

0 150 300 600
Feet

1 inch = 300 feet

CHADWICK RANCH ESTATES

CDFW Jurisdictional Delineation/Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 9

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Photograph 1. View of the Project site looking south from the northern edge of the development footprint.

Photograph 2. View of the Project site looking east along the ridge towards the location of the proposed water tank.

Photograph 3: View of the Project site looking west towards the offsite improvement area.

Photograph 4. View from the southern portion of the Project site looking east .

GLENN LUKOS ASSOCIATES

Exhibit 9A

CHADWICK RANCH ESTATES

Site Photographs

Photograph 5. View from the southern portion of the offsite improvement area looking at Drainage B.

Photograph 6. View from the southeastern portion of the Project site looking at Drainage C.

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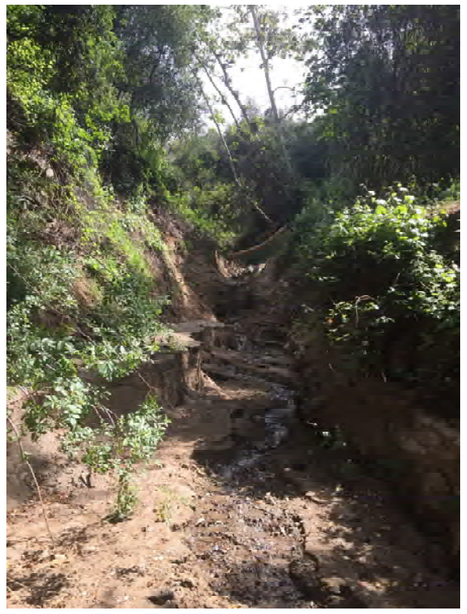
Exhibit 9B

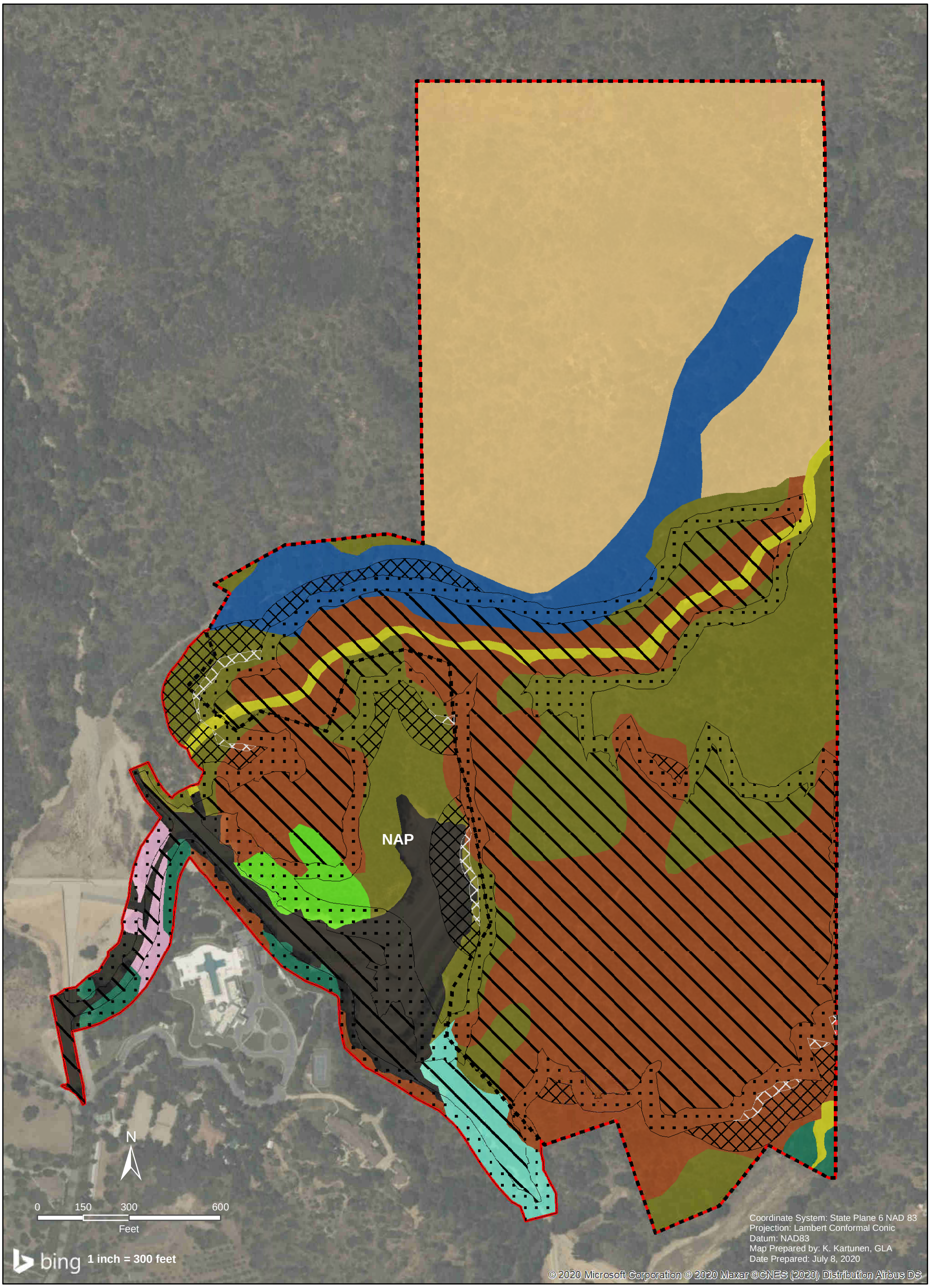
Photograph 7: View of Bradbury Canyon looking east.



Photograph 8. View of Bradbury Canyon looking east depicting the area where the flows terminated.

CHADWICK RANCH ESTATES

Site Photographs



- Study Area Boundary
- Property Boundary
- Permanent Impact Limits
- Remedial Grading
- Fuel Modification Zone B
- Fuel Modification Zone C
- Coast Live Oak Riparian Forest
- Coast Live Oak Woodland
- California Sagebrush Scrub-California Buckwheat Scrub
- Developed
- Disturbed
- Ornamental
- Scrub Oak Chaparral
- Scrub Oak Chaparral/Southern Mixed Chaparral
- Southern Mixed Chaparral
- Sycamore/Oak Riparian Forest

CHADWICK RANCH ESTATES

Vegetation Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 10

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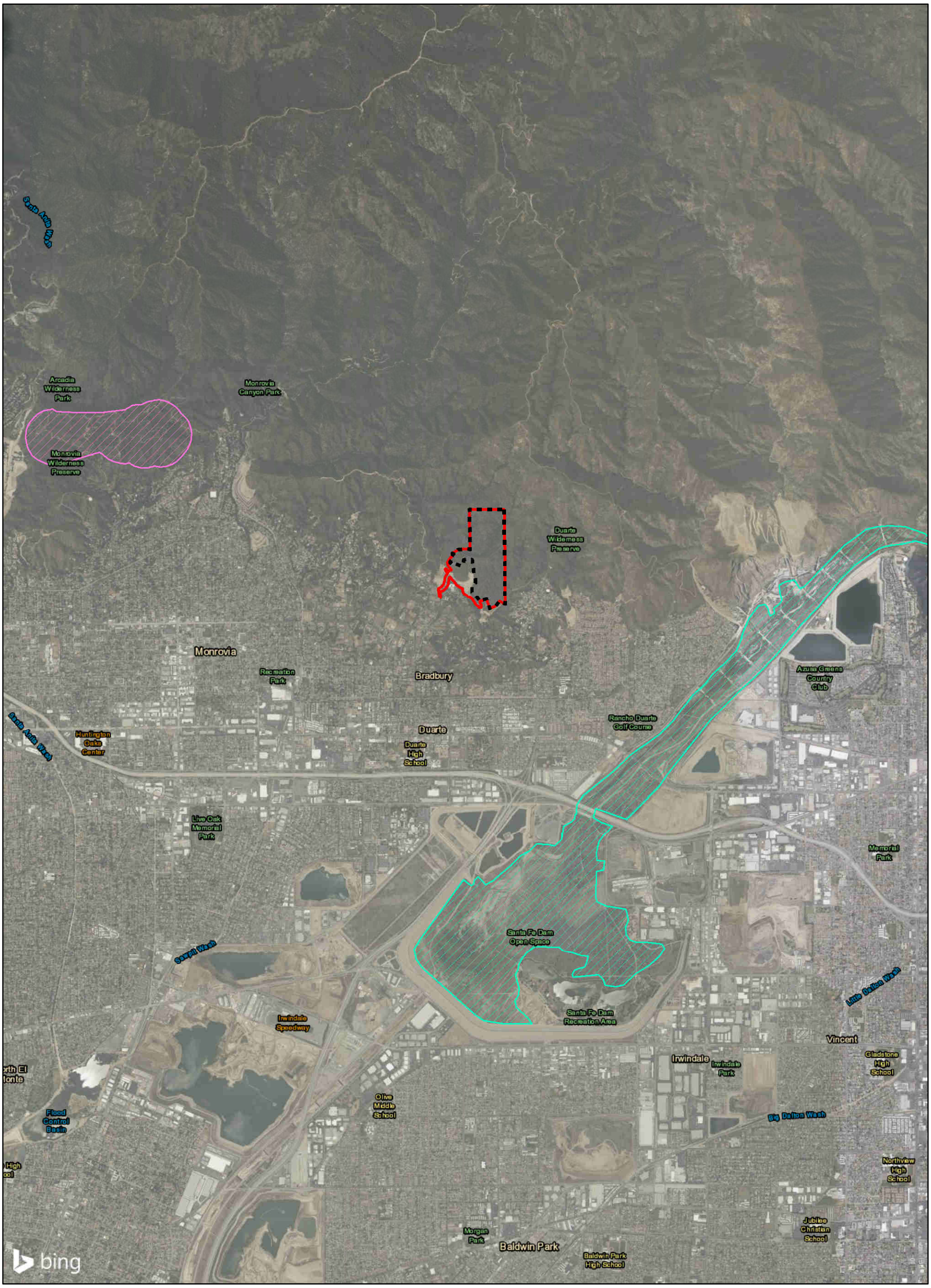

Property Boundary

Study Area Boundary

SWWF - 2013 Final Critical Habitat

BrauntonsMilkvetch - 2006 Final Critical Habitat

N

0 1,750 3,500 7,000

Feet

1 inch = 3,500 feet

CHADWICK RANCH ESTATES

USFWS Critical Habitat Overlay Map

GLENN LUKOS ASSOCIATES

Exhibit 11

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APPENDIX A

FLORAL COMPENDIUM

The floral compendium lists all species identified during floristic level/focused plant surveys conducted for the Project site. Taxonomy typically follows The Jepson Manual (Baldwin et al 2012). Common plant names are taken from Baldwin et al (2012), CNPS (2020), Calflora (2020), Munz (1974), and Roberts et al (2004) and Roberts (2008). + denotes special status

Scientific Name	Common Name	Native/Invasive	Growth Form
Family Adoxaceae			
Sambucus nigra ssp. *caerulea*	Blue elderberry	native	Shrub
Family Agavaceae			
Hesperoyucca whipplei	Chaparral yucca	native	Shrub
Family Anacardiaceae			
Malosma laurina	Laurel sumac	native	Tree, Shrub
Rhus aromatica	Fragrant sumac	native	Shrub
Rhus integrifolia	Lemonade berry	native	Shrub
Schinus molle	Peruvian pepper tree	invasive	Tree
Toxicodendron diversilobum	Poison oak	native	Vine, Shrub
Family Apiacaea			
Conium maculatum	Poison hemlock	invasive	Perennial herb
Family Arecaceae			
Washingtonia filifera	California fan palm	native	Tree
Family Asteraceae			
Acourtia microcephala	Sacapellote	native	Perennial herb
Artemisia californica	Coastal sage brush	native	Shrub
Artemisia douglasiana	California mugwort	native	Perennial herb
Baccharis pilularis	Coyote brush	native	Shrub
Baccharis salicifolia	Mule fat	native	Shrub
Carduus pycnocephalus	Italian thistle	invasive	Annual herb
Centaurea melitensis	Tocalote	invasive	Annual herb
Cirsium vulgare	Bullthistle	invasive	Perennial herb
Hazardia squarrosa	Saw toothed goldenbush	native	Shrub
Heterotheca grandiflora	Telegraph weed	native	Annual, Perennial herb

Scientific Name	Common Name	Native/Invasive	Growth Form
Pseudognaphalium biolettii	Two-color rabbit-tobacco	native	Perennial herb
Silybum marianum	Milk thistle	invasive	Annual, Perennial herb
Sonchus oleraceus	Common sow thistle	invasive	Annual herb
Family Boraginaceae			
Emmenanthe penduliflora	Whispering bells	native	Annual herb
Phacelia minor	Wild canterbury bells	native	Annual herb
Phacelia ramosissima	Branching phacelia	native	Perennial herb
Family Brassicaceae			
Brassica nigra	Black mustard	invasive	Annual herb
Hirschfeldia incana	Summer mustard	invasive	Perennial herb
Family Cactaceae			
Opuntia littoralis	Prickly pear	native	Shrub (stem succulent)
Family Caprifoliaceae			
Lonicera subspicata	Southern honeysuckle	native	Shrub
Family Caryophyllaceae			
Stellaria media	Chickweed	non-native	Annual herb
Family Chenopodiaceae			
Chenopodium album	Lambs quarters	non-native	Annual herb
Family Convolvulaceae			
Calystegia macrostegia	Island morning glory	native	Perennial herb, Vine
Cuscuta californica	California dodder	native	Annual herb, Vine (parasitic)
Family Cucurbitaceae			
Marah macrocarpa	Chilicothe, wild cucumber, man-root	native	Perennial herb, Vine
Family Cupressaceae			
Cupressus sempervirens	Italian cypress	non-native	Tree
Family Fabaceae			
Acmispon glaber	Deerweed	native	Perennial herb
Acmispon strigosus	Strigose lotus	native	Annual herb
Lupinus bicolor	Lupine	native	Annual, Perennial herb

Scientific Name	Common Name	Native/Invasive	Growth Form
Lupinus hirsutissimus	Stinging lupine	native	Annual herb
Lupinus truncatus	Blunt leaved lupine	native	Annual herb
Family Fagaceae			
Quercus agrifolia	Coast live oak	native	Tree
Quercus berberidifolia	Inland scrub oak	native	Tree
Quercus engelmannii+	Engelmann oak	native	Tree
Family Grossulariaceae			
Ribes indecorum	White flowering currant	native	Shrub
Ribes speciosum	Fuchsia flowered gooseberry	native	Shrub
Family Hamamelidaceae			
Liquidambar styraciflua	Sweetgum	non-native	Tree
Family Lamiaceae			
Marrubium vulgare	White horehound	invasive	Perennial herb
Salvia apiana	White sage	native	Shrub
Salvia columbariae	Chia sage	native	Annual herb
Salvia mellifera	Black sage	native	Shrub
Stachys bullata	Southern hedge nettle	native	Perennial herb
Family Montiaceae			
Claytonia pefoliata	miner's lettuce	native	Annual herb
Family Myrsinaceae			
Lysimachia arvensis	Scarlet pimpernel	non-native	Annual herb
Family Myrtaceae			
Eucalyptus camaldulensis	Red gum	invasive	Tree
Family Oleaceae			
Fraxinus sp.	Ash	invasive	Tree
Family Orobanchaceae			
Castilleja affinis	Indian paintbrush	native	Perennial herb
Family Pinaceae			
Pinus canariensis	Canary island pine	non-native	Tree

Scientific Name	Common Name	Native/Invasive	Growth Form
Pinus halepensis	Aleppo pine	non-native	Tree
Family Pittosporaceae			
Pittosporum sp.	Pittosporum	non-native	Tree, Shrub
Family Plantaginaceae			
Keckiella cordifolia	Heart leaved keckiella	native	Shrub
Penstemon centranthifolius	Scarlet bugler	native	Perennial herb
Penstemon spectabilis	Showy penstemon	native	Perennial herb
Family Platanaceae			
Platanus racemosa	California sycamore	native	Tree
Family Poaceae			
Avena fatua	Wildoats	invasive	Annual grass
Bromus diandrus	Ripgut brome	invasive	Annual grass
Bromus hordeaceus	Soft chess	invasive	Annual grass
Bromus madritensis ssp. rubens	red brome	invasive	Annual grass
Elymus condensatus	Giant wild rye	native	Perennial grass
Pennisetum setaceum	Fountaingrass	invasive	Perennial grass
Stipa miliacea	Smilo grass	non-native	Perennial grass
Family Polemoniaceae			
Gilia achilleifolia	California gilia	native	Annual herb
Family Polygonaceae			
Eriogonum fasciculatum	California buckwheat	native	Shrub
Family Phrymaceae			
Diplacus linearis	Chaparral bush monkeyflower	native	Shrub
Family Proteaceae			
Grevillea robusta	Silkoak	invasive	Tree
Family Ranunculaceae			
Clematis lasiantha	Pipestem	native	Perennial herb, Vine
Delphinium cardinale	Scarlet larkspur	native	Perennial herb

Scientific Name	Common Name	Native/Invasive	Growth Form
Family Rhamnaceae			
Ceanothus crassifolius	Hoary leaved ceanothus	native	Shrub
Rhamnus crocea	Redberry	native	Shrub
Rhamnus ilicifolia	Evergreen buckthorn	native	Shrub
Family Rosaceae			
Adenostoma fasciculatum	Chamise	native	Tree, Shrub
Heteromeles arbutifolia	Toyon	native	Shrub
Prunus salicina	Santa Rosa plum	non-native	Tree
Family Rubiaceae			
Galium aparine	Cleavers	native	Annual herb
Family Salicaceae			
Populus fremontii	Fremont cottonwood	native	Tree
Salix gooddingii	Gooding's willow, black willow	native	Tree
Salix lasiolepis	Arroyo willow	native	Tree, Shrub
Family Solanaceae			
Nicotiana glauca	Tree tobacco	invasive	Tree, Shrub
Solanum douglasii	Douglas' nightshade	native	Perennial herb
Solanum xanti	Nightshade	native	Perennial herb, Shrub
Family Themidaceae			
Bloomeria crocea	Golden stars	native	Perennial herb
Dichelostemma capitatum	Blue dicks	native	Perennial herb
Family Ulmaceae			
Ulmus parvifolia	Siberian elm	non-native	Tree

APPENDIX B

FAUNAL COMPENDIUM

The faunal compendium lists species identified within the Specific Plan. Scientific nomenclature and common names for vertebrate species referred to in this report follow Collins (2009) for amphibians and reptiles, Bradley, et al. (2014) for mammals, and AOU Checklist (1998) for birds. * denotes non-native species.

STYLOMMATOPHORA	**LAND SNAILS AND SLUGS**
MEGOMPHICIDAE	**Land Snails**
Glyptostoma gabrielense	San Gabriel chestnut
LEPIDOPTERA	**BUTTERFLIES**
HESPERIIDAE	**Skippers**
Erynnis funeralis	funereal duskywing
PAPILIONIDAE	**Swallowtails**
Papilio zelicaon	Anise swallowtail
PIERIDAE	**Whites and Sulphurs**
Eurema lisa	little sulphur
* *Pieris rapae*	cabbage white
RIODINIDAE	**Metalmarks**
Apodemia virgulti	Behr's metalmark
NYMPHALIDAE	**Brush-Footed Butterflies**
Chlosyne gabbii	Gabb's checkerspot
AMPHIBIA	**AMPHIBIANS**
SALAMANDRIDAE	**Newts**
Taricha torosa	Coast Range newt

REPTILIA

COLUBRIDAE
Lampropeltis zonata
Pituophis catenifer

TEIIDAE
Aspidoscelis tigris

AVES

CATHARTIDAE
Cathartes aura

ACCIPITRIDAE

Accipiter cooperii
Buteo lineatus

FALCONIDAE
Falco sparverius

COLUMBIDAE
* *Columba livia*
Patagioenas fasciata
Zenaida macroura

TYTONIDAE
Tyto alba

TROCHILIDAE
Calypte anna
Selasphorus sasin

PICIDAE
Melanerpes formicivorus
Picoides nuttallii

TYRANNIDAE
Empidonax difficilis
Myiarchus cinerascens
Sayornis nigricans
Sayornis saya
Tyrannus verticalis
Tyrannus vociferans

REPTILES

Colubrid Snakes
California mountain kingsnake
gopher snake

Whiptails And Relatives
western whiptail

BIRDS

New World Vultures
turkey vulture

Hawks And Old World Vultures

Cooper's hawk
red-shouldered hawk

Caracaras And Falcons
American kestrel

Pigeons And doves
rock pigeon
band-tailed pigeon
mourning dove

Barn Owls
barn owl

Hummingbirds
Anna's hummingbird
Allen's hummingbird

Woodpeckers And Allies
acorn woodpecker
Nuttall's woodpecker

Tyrant Flycatchers
Pacific-slope flycatcher
ash-throated flycatcher
black phoebe
Say's phoebe
western kingbird
Cassin's kingbird

CORVIDAE	**Crows And Jays**
Aphelocoma californica	western scrub-jay
Corvus brachyrhynchos	American crow
HIRUNDINIDAE	**Swallows**
Stelgidopteryx serripennis	northern rough-winged swallow
PARIDAE	**Chickadees And Titmice**
Baeolophus inoratus	oak titmouse
AEGITHALIDAE	**Long-Tailed Tits And Bushtits**
Psaltriparus minimus	bushtit
TROGLODYTIDAE	**Wrens**
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren
SYLVIIDAE	**Old World Warblers And Gnatcatchers**
Polioptila caerulea	blue-gray gnatcatcher
TIMALIIDAE	**Babblers**
Chamaea fasciata	wrentit
MIMIDAE	**Mockingbirds And Thrashers**
Mimus polyglottos	northern mockingbird
Toxostoma redivivum	California thrasher
PTILOGONATIDAE	**Silky-flycatchers**
Phainopepla nitens	phainopepla
PARULIDAE	**Wood Warblers And Relatives**
Dendroica petechia	yellow warbler
EMBERIZIDAE	**Emberizids**
Aimophila ruficeps	rufous-crowned sparrow
Melospiza melodia	song sparrow
Pipilo crissalis	California towhee
Pipilo maculatus	spotted towhee
CARDINALIDAE	**Cardinals, Grosbeaks And Allies**
Pheucticus melanocephalus	black-headed grosbeak
ICTERIDAE	**Blackbirds**
Icterus bullockii	Bullock's oriole
Icterus cucullatus	hooded oriole

FRINGILLIDAE	**Fringilline And Cardueline Finches and Allies**
Carpodacus mexicanus	house finch
Spinus psaltria	lesser goldfinch
Spinus tristis	American goldfinch
MAMMALIA	**MAMMALS**
LEPORIDAE	**Rabbits And Hares**
Sylvilagus audubonii	desert (Audubon's) cottontail
Sylvilagus bachmani	brush rabbit
GEOMYIDAE	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher
CANIDAE	**Foxes, Wolves And Allies**
* *Canis familiaris*	feral dog
Canis latrans	coyote
Urocyon cinereoargenteus	gray fox
URSIDAE	**Bears**
* *Ursus americanus*	black bear
PROCYONIDAE	**Raccoons And Allies**
Procyon lotor	raccoon
MEPHITIDAE	**Skunks**
Mephitis mephitis	striped skunk
FELIDAE	**Cats**
Lynx rufus	bobcat
Puma concolor	mountain lion
CERVIDAE	**Deer, Elk And Allies**
Odocoileus hemionus	mule deer

Chadwick Ranch
Tree Preservation and Protection Plan

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1 INTRODUCTION

Dudek evaluated and recorded information about regulated trees classified as native, prominent, significant, and orchard trees expected to exceed or exceeding 4 inches in diameter at 24 inches above finished grade and prepared this Tree Preservation and Protection Plan (TPPP) for the proposed Chadwick Ranch Project (project) in the City of Bradbury (City), California. Primary topics of this TPPP include evaluations of proposed project-related impacts and recommendations for tree protection, relocation, removal, and mitigation. The project site is located on private land within in the City, bordering just south of the Angeles National Forest.

This TPPP provides a summary of Dudek's site and tree evaluation within the proposed development and infrastructure improvement areas. There are eight native tree species that meet the City's definition of a native tree: western sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), California scrub oak (*Quercus berberidifolia*), Engelmann oak (*Quercus engelmannii*), western cottonwood (*Populus fremontii*), toyon (*Heteromeles arbutifolia*), arroyo willow (*Salix lasiolepis*), and Mexican elderberry (*Sambucus mexicana*). Of the eight native species found on site, coast live oak and California scrub oak are the most prominent. Non-native trees found on site include Italian cypress (*Cupressus sempervirens*), red river gum (*Eucalyptus camaldulensis*), ash tree (*Fraxinus* species), silkoak (*Grevillea robusta*), American sweetgum (*Liquidambar styraciflua*), Canary Island pine (*Pinus canariensis*), Afghan pine (*Pinus eldarica*), Aleppo pine (*Pinus halepensis*), pittosporum (*Pittosporum* spp.), Santa Rosa plum (*Prunus salicina*), southern live oak (*Quercus virginiana*), Peruvian pepper (*Schinus molle*), Chinese elm (*Ulmus parvifolia*), and California fan palm (*Washingtonia filifera*).

Dudek's International Society of Arboriculture (ISA)-certified arborists performed various tasks associated with surveying, inventorying, and evaluating the condition of the property's trees, as described in the following sections. The purpose of this TPPP is to present the physical characteristics, mapped locations, impact and preservation totals, and appropriate mitigation for impacts to native and other protected trees. The tree quantities and related project impacts have been analyzed and are reported in the following sections.

In summary, the Chadwick Ranch tree survey area (grading limits + fuel modification zones) exhibits a primarily native scrub oak woodland setting, with non-native trees and scattered large oaks on the canyon floor areas of the property. Of the 2,287 trees inventoried there are 928 protected trees located throughout the project site, 811 of which are native (35.46%) and 67 of which are non-native significant trees (2.93%). There were 50 (2.19%) dead or critical health hazard trees observed. Additionally, 1,359 (59.42%) undersized trees may have the potential to exceed the standards within the City's Municipal Code. Based on species type, site climatic conditions, and hydrology of the site, these undersized trees are not likely to exceed the standards

within the lifetime of this project. Of the 928 protected trees on site, 428 are expected to be impacted by the proposed project and associated infrastructure improvements.

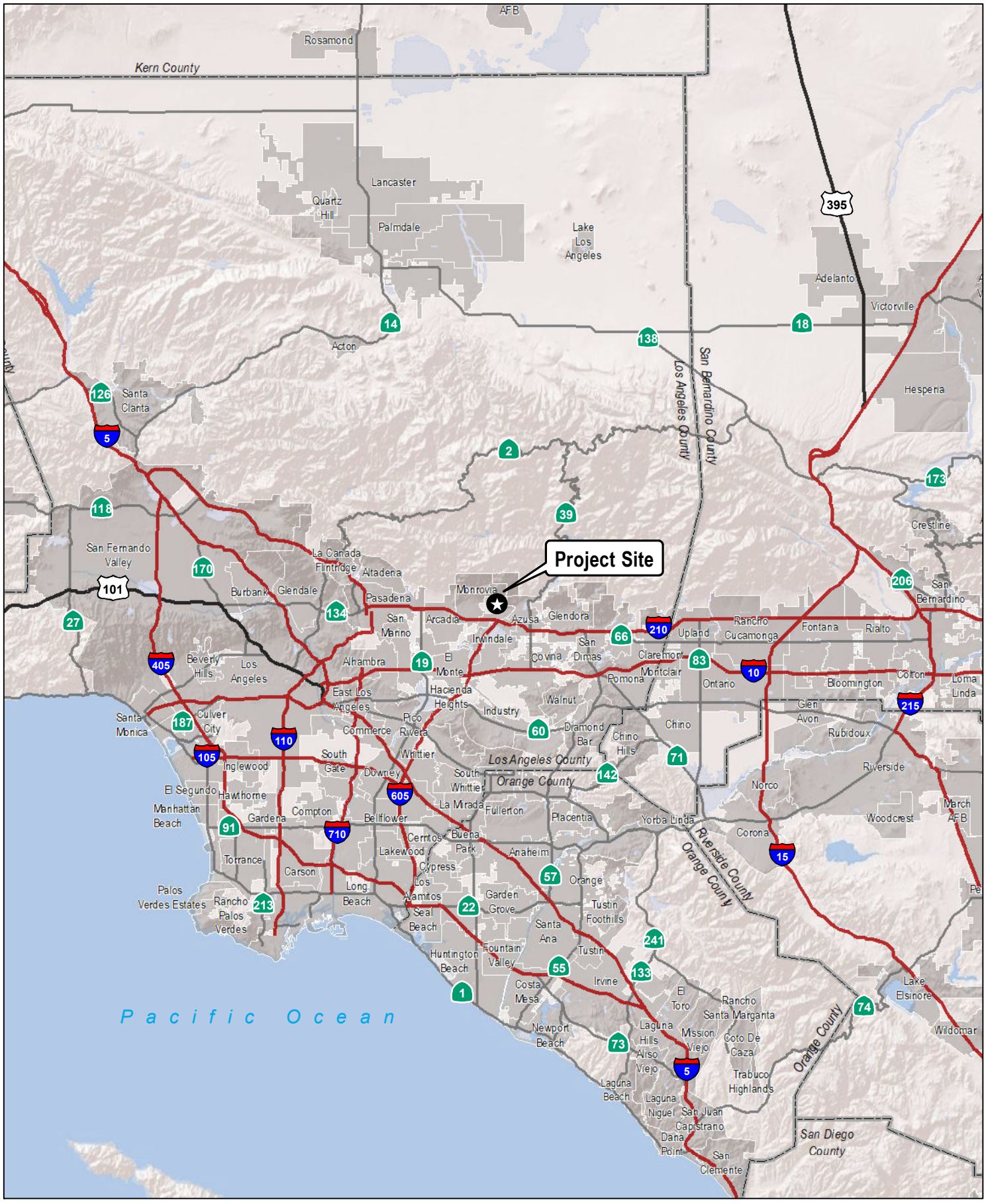
1.1 Site Description

The approximately 111.8-acre project site is located generally north of Flood Control Road, east of a flood control basin, west of Spinks Canyon Road, and immediately south of the Angeles National Forest, within the City of Bradbury, Los Angeles County, California (Figure 1). The site includes Assessor's Parcel Numbers (APNs) 8527-001-010, 8527-005-001, and 8527-005-004, situated in Section 19, Township 1 North, Range 10 West Azusa 7.5-minute U.S. Geological Survey quadrangle (Figure 2). The project site is located on private land just south of the Angeles National Forest.

The topography within the project site consists of primarily moderate to steep hillsides with native vegetated canyon floors. The project site is primarily undeveloped and composed of natural vegetation dominated by coast live oak woodlands along the canyons and scrub oak woodlands along the slopes and ridges. Non-native vegetation is primarily along the Flood Control Road and southern boundary of the project site.

1.2 Project Description

The project involves construction of 14 single-family estate homes on approximately 111.8 acres located near the northeastern edge of the incorporated City of Bradbury in the County of Los Angeles, California. The project site is currently undeveloped and is located along the northern fringe of the urbanized portion of the Los Angeles basin at the base of the San Gabriel Mountains in the Angeles National Forest. Bordering the southern boundary of the project site are the Spinks Debris Basin, Spinks Debris Disposal Area, and the Bradbury Debris Basin, all of which are flood control facilities owned and operated by the Los Angeles County Flood Control District. The western property boundary is adjacent to naturally vegetated open space areas and a proposed residential community; open space (Duarte Wilderness Preserve) and existing single-family residences border the eastern property boundary; and naturally vegetated open space lands within the Angeles National Forest border the northern property boundary. The proposed development will be situated on three parcels intended for the construction of residential estates comprised of APNs 8527-005-001, 8527-005-004, and 8527-001-010. Thirteen additional parcels would be committed to nonresidential uses, including open space, backbone circulation system, requisite infrastructure, a water tank, a booster station, and debris and water basins. Primary access to the site will be via the Bliss Canyon Road/Long Canyon Road intersection, located within the Bradbury Estates Community, requiring travel through the Los Angeles County Flood Control District property holdings to an entrance at the westernmost extension of the project site



SOURCE: ESRI

DUDEK

0 5 10 Miles

FIGURE 1

Regional Map

Chadwick Ranch Tree Preservation and Protection Plan

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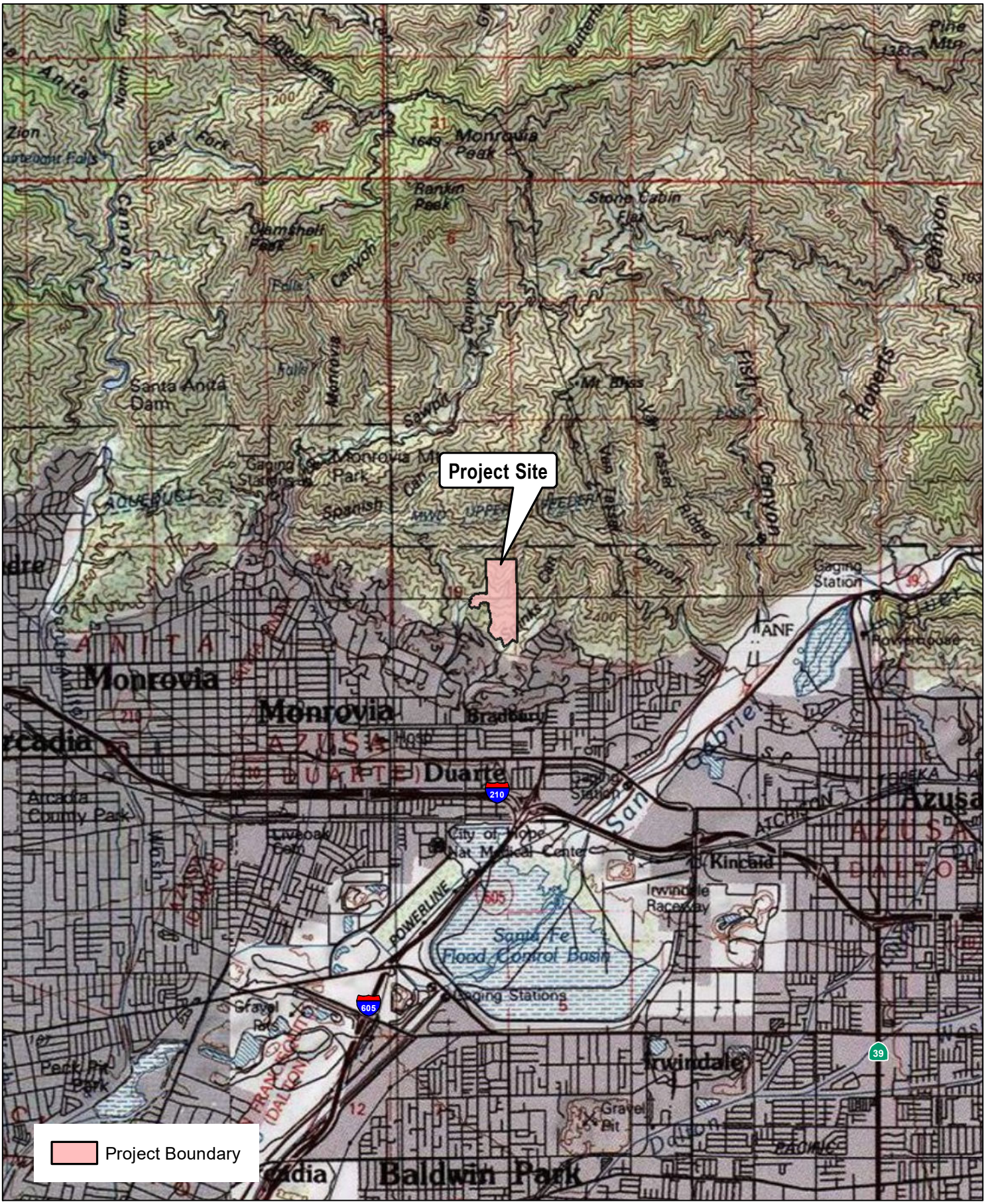

Document Path: Z:\Projects\11080101\MAPDOC\MAPS\Tree Protection Plan\Fig 2 Vicinity.mxd

SOURCE: USGS 7.5 Minute Series, Azusa Quadrangle

DUDEK

0 2,700 5,400 Feet

FIGURE 2

Vicinity Map

Chadwick Ranch Tree Preservation and Protection Plan

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1.3 Methods

1.3.1 Individual Tree Evaluation

Dudek mapped and collected tree attribute information for all trees within and immediately adjacent to the tree survey area (Figure 3 – Survey Area) meeting the City's definition of a "protected tree," which includes native, prominent, significant, and orchard trees that have a minimum or expected diameter of 4 inches at 24 inches above final grade. The location of each individual mature tree was mapped using a Trimble Pathfinder Pro XH Global Positioning System (GPS) receiver (Appendix A). The Pathfinder has a horizontal accuracy of 1 meter (1 sigma) using differential code positioning techniques. Since tree canopies can sometimes cause loss of satellite lock by blocking the line-of-sight to satellites, an electronic compass and reflectorless electronic distance measuring device was also used in mapping tree locations. The electronic distance measuring/compass combination operates in concert with the Pathfinder system to position offsets, and offset information is automatically attached to the GPS position data string. Protected trees were tagged in the field with an aluminum tree tag bearing a unique identification number. The tags were placed on the trunk of each inventoried tree, and tag numbers correspond with the individual tree data presented in Appendix B.

Concurrent with tree mapping efforts, Dudek arborists collected tree attribute data, including species, quantity of individual trunks, individual trunk diameters, overall height, canopy extent, and general health and structural conditions. Trunk diameter measurements were collected at 24 inches above the ground along the trunk axis as described in Section 9.06.090.030 of the City's Municipal Code, with a few common exceptions. In cases where a tree's trunk is located on a slope, the 2-foot distance was approximated as the average of the shortest and longest sides of the trunk (i.e., the uphill side and downhill side of a tree's trunk, respectively), and the measurement was made at the circumference of the trunk at this point. Tree height measurements were ocular estimates made by experienced field arborists. Tree canopy diameters were typically estimated by "pacing-off" the measurement based on the investigator's knowledge of his stride length or by visually estimating the canopy width. The tree crown diameter measurements were made along an imaginary line intersecting the tree trunk that best approximated the average canopy diameter.

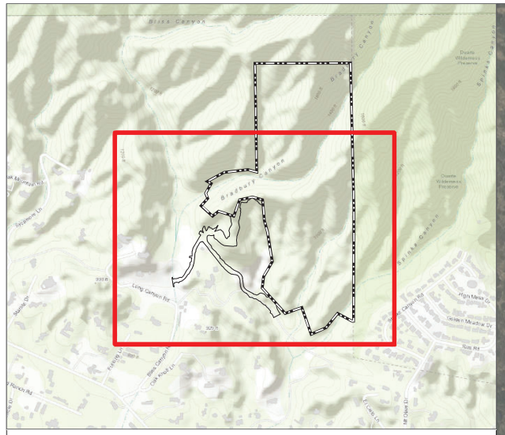
Pursuant to the *Guide for Plant Appraisal* (ISA 2000), tree health and structure were evaluated with respect to five distinct tree components: roots, trunk(s), scaffold branches, small branches, and foliage. Each component of the tree was assessed with regard to health factors such as insect, fungal, or pathogen damage; fire damage; mechanical damage; presence of decay; presence of wilted or dead leaves; and wound closure. Components were graded as *good*, *fair*, *poor*, and *dead,* with *good* representing no apparent problems, and *dead* representing a dying and/or dead tree. This method of tree condition rating is comprehensive and results in ratings

that are useful for determining the status of trees based on common standards. Trees in natural settings have important habitat value, as evidenced by numerous cavity nesters and insects that thrive on and within oak trees, even when they are considered in poor structural or health condition. However, this assessment focuses on tree condition with regard to health and structure for purposes of analyzing potential project impacts and where necessary, providing recommendations for mitigating potential tree hazards, such as trees with weak limb attachments, cavities and rot, or excessive lean.

Upon completion of field data collection and mapping, raw GPS data was post-processed using GPS Pathfinder Office (version 3.10), and individual tree location data was compiled and updated in a geographic information system (GIS). The digital tree locations were linked to individual tree identification numbers and associated tree attribute data. This dataset was then evaluated using ArcGIS (version 10.1) software to determine the position of individual trees related to the proposed project development areas. Data resulting from this analysis was used to evaluate the individual tree impact totals presented in this report.

1.3.2 Scope of Work Limitations

No root crown excavations or investigations, aerial evaluations, or internal probing was performed during the tree assessments. Therefore, the presence or absence of internal decay or other hidden inferiorities in individual trees could not be confirmed. It is recommended that any large tree proposed for preservation in an area that receives human use be thoroughly inspected for internal, or subterranean, decay by a qualified ISA-certified arborist before finalizing preservation plans.



Tree Survey Area

Change

- Preserve Addition (35)
- Impact to Preserve (134)
- Preserve to Impact (30)
- Impact Change (271)
- Impact Addition (132)
- No Change (1,685)

Impact

- Open Space
- Permanent
- Remedial
- Zone B
- Zone C
- Property Boundary

bing

SOURCE: AERIAL-BING MAPPING SERVICE 2019

DUDEK

0 60 120 240 Feet

FIGURE 3

Protected Tree Survey Area

Chadwick Ranch Tree Preservation and Protection Plan

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2 OBSERVATIONS

There are 2,287 trees located within and immediately adjacent to the Chadwick Ranch tree survey area (grading foot print + fuel modification zones) and include 21 different tree species. As Table 1 indicates, most of the inventoried trees (96.06% or 2,197 trees) are native to California, including coast live oak, California scrub oak, Engelmann oak, western sycamore, toyon, Southern California scrub oak, and Mexican elderberry. The coast live oak and Engelmann oak trees are considered the highest value trees on this site. Non-native tree species make up a small portion of the inventoried trees at 3.94% (90 trees). Table 1 provides a summary of the 21 species mapped and evaluated within the tree survey area. The Tree Location Exhibit in Appendix A presents the location of the individual trees mapped and assessed for the Chadwick Ranch project.

Overall, the trees exhibit growth and structural conditions that are typical of their locations as landscape and natural native trees. The trees include various trunk and branch maladies as well as varying health and structural conditions. As presented in the Tree Information Matrix in Appendix B, most of the individually mapped trees, a total of 67.86% (1,522 trees), exhibit fair health condition; 17.84% (408 trees) are in good health condition; 11.98% (274 trees) are in poor health; 0.31% (7 trees) are in critical health; and 2.01% (46 trees) are dead. Structurally, 10.63% (243 trees) of the individually mapped trees are considered to exhibit good structure; 76.04% (1,739 trees) exhibit fair structure; 11.02% (252 trees) exhibit poor structure; 0.31% (7 trees) exhibit critical structure; and 2.01% (46 trees) are dead. Good condition trees exhibit acceptable vigor, healthy foliage, adequate structure, and lack of any major maladies. Fair condition trees are typical, with few maladies, but declining vigor. Poor condition trees exhibit declining vigor, unhealthy foliage, poor branch structure, or excessive lean. Critical condition trees exhibit levels exceeding those of poor condition trees but are also likely to be dead within 3 to 6 months. Many native trees on the upper slopes of the property have died or declined as a result of the 2011–2017 statewide drought and secondary pests. The primary causal agent for tree decline and death, within the survey area, is drought. Secondary pests and pathogens attack only after a plant has been weakened by another stress, such as drought. Secondary pests are often a symptom of other problems with the health of the tree, but may contribute to its decline. Individual pests and pathogens observed on-site include, but are not limited to, western oak bark beetle (*Pseudopityophthorus pubipennis*), ambrosia beetle (*Monarthrum* spp.), flathead borers (*Chrysobothris* spp.), sulfur fungus (*Laetiporus* spp.), canker rots, and hypoxylon (*Hypoxylon thouarsianum*).

Table 1
Summary of Trees Chadwick Ranch Project Site

Scientific Name	Common Name	Number of Trees
Cupressus sempervirens	Italian cypress	19
Eucalyptus camaldulensis	Red River gum	9
Fraxinus spp.	ash species	1
Grevillea robusta	silkoak	1
Heteromeles arbutifolia	toyon	163
Liquidambar styraciflua	American sweetgum	1
Pinus canariensis	Canary Island pine	9
Pinus eldarica	Afghan pine	1
Pinus halepensis	Aleppo pine	28
Pittosporum spp.	pittosporum species	1
Platanus racemosa	western sycamore	49
Prunus salicina	Santa Rosa plum	3
Quercus agrifolia	coast live oak	501
Quercus berberidifolia	California scrub oak	1,382
Quercus engelmannii	Engelmann oak	1
Quercus virginiana	southern live oak	1
Salix lasiolepis	arroyo willow	3
Sambucus mexicana	blue elderberry	100
Schinus molle	Peruvian pepper	9
Ulmus parvifolia	Chinese elm	1
Washingtonia filifera	California fan palm	4
	Total	**2,287**

Trees within the tree survey area vary in size and stature according to species and available growing space. The site's coast live oak and Engelmann oak trees are primarily single-stemmed with trunk diameters (diameter at 24 inches above finished grade) ranging from 1 inch to 44 inches. Multistemmed oak trees with 2 to 8 stems have combined diameters up to 71 inches. Single and multistemmed non-native species have diameters between 1 and 44 inches. Tree heights vary from 1 foot to 75 feet. Tree canopy extents range from 1 foot to nearly 75 feet. Over 75% of the trees on site exhibit canopy spreads that are greater than 25 feet across at their widest points.

3 TREE PRESERVATION

3.1 Regulatory Definitions and Requirements

The following section summarizes the relevant policies regulating tree impact and removal associated with the Chadwick Ranch Project.

3.1.1 City of Bradbury

The City's Tree Preservation and Protection Ordinance (Chapter 9.06.090 of the City's Municipal Code; City of Bradbury 2012) requires a tree report be prepared for removal of protected trees species.

Section 9.118.030 (Definitions):

- **Tree:** Tree means a woody perennial plant which usually has, but is not limited to, a single dominant trunk and has a mature height of 15 feet or more, or has a trunk diameter of four inches or more measured at 24 inches above finished grade.
- **Native Tree:** Native tree means any woody plant species indigenous to the desert, foothills or canyons of southern California prior to the California Mission Period, provided that the plant has an expected mature trunk size of six inches DBH [diameter at breast height] and has an expected mature height of15 feet or higher. Giant sequoias, redwoods (*Sequoiadendron sempervirens*), and dawn redwoods (*Metasequoia glyptostroboides*), evergreen native oaks (such as *Quercus agrifolia, engelmannii*), deciduous oaks (such as *Quercus lobata*, and *kelloggii*) are to be regarded as important native trees even though they have been planted by man, introduced (or possibly reintroduced) into the Southern California foothill and canyon environments.
- **Prominent Tree:** means a woody perennial plant with a trunk DBH of six inches or more, and having an expected mature height of 15 feet or higher.
- **Significant Tree:** means any non-native or exotic tree with a trunk DBH of six inches or more, and having an expected mature height of 15 feet or higher, and known to survive in the southern California environment.

Section 9.118.060 - Regulations, controls and prohibitions:

- **Removal of Native Trees and/or Prominent Trees:** No prominent tree, native tree or any other tree defined in Section 9.118.030 and/or which is of a

desirable genus and species shall be removed without first obtaining a permit to do so. The City Manager shall issue such permits only after the presentation of photographs and/or drawings showing that the prominent tree is a significant health or fire hazard or has become an extremely severe detriment to the view of the mountains or valley from house sites. A 14-day waiting period is created hereby, during which time appeals to any decisions, restrictions or conditions made by the City Manager on the permit may be submitted in writing to the Planning Commission. Should an appeal be filed, the 14-day holding period is extended automatically until the next Planning Commission meeting for which the item can be placed on the agenda.

3.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (1918) requires tree removal and potentially disturbing construction activities to occur during certain times to avoid harassment of nesting birds. According to this act, no construction or other disturbing activities can occur within 500 feet of an active bird nest during the period beginning in January and ending in June each year. Biological surveys should be conducted to provide clearance for project initiation.

3.2 Impacts

Tree impacts were determined using GIS technology and spatial locations of trees relative to the project impact areas (limits of grading and fuel modification zones). Impacts were further determined based on Dudek's experience with native and non-native trees and their typical reactions to root disturbances from construction activities such as soil compaction, excavation, and remedial grading. The impact analysis results presented herein were utilized for developing appropriate mitigation measures for the project.

Impacts to trees can be classified as either direct or indirect. Direct impacts to trees related to site improvements are typically the result of physical injuries or changes caused by machinery involved with the development process. Direct impacts include tree removal, root damage, soil excavation and compaction, grade changes, loss of canopy, and trunk wounds, among others. Indirect impacts to trees are the result of changes to the site that may cause tree decline, even when the tree is not directly injured. Indirect impacts include alterations to stream flow rates, diversion of groundwater flow, introduction of exotic plant species, and alterations to disturbance regimes. Wider-scale alterations to the area near trees and specific changes that occur around the trees are important considerations.

In general, there is a great deal of variation in tolerance to construction impacts among tree species, ages, and conditions. It is important to know how a certain tree, based on its species, age, and condition, would respond to different types of disturbance. The trees in the proposed project area are of varying ages and conditions. Mature specimens are typically more sensitive to root disturbance and grade changes. In general, healthy trees will respond better to changes in their growing environment. Trees of poor health or stressed conditions may not be vigorous enough to cope with direct or indirect impacts from construction activities.

Impact totals presented herein are based on conceptual disturbance limits, fuel modification zones, and development plans as of the date of this TPPP. Therefore, the actual number of trees that are subject to direct and indirect impacts may change as the detailed site planning process proceeds.

3.2.1 Direct Tree Impacts

For the purposes of this report, direct impacts are those associated with tree removal or encroachment within the tree protection zone (canopy drip line plus 5 feet or 15 feet from trunk, whichever is greater). Tree removal is expected to be required when the trunk is located inside or within 2 feet of the proposed limits of grading. Encroachment is expected when soil and roots are disturbed within the tree protection zone. Table 2 summarizes the total number of trees, by species that are expected to be subject to direct construction-related impacts. The locations of impacted trees, by impact type, are presented in the map in Appendix C. Measures to minimize the extent of impact to preserved trees are provided in Appendix D.

Table 2
Summary of All Direct Tree Impacts – Chadwick Ranch

Scientific Name	Common Name	Removal – Protected	Removal – Not Protected	Encroachment – Protected	Encroachment – Not Protected	Total Trees
Cupressus sempervirens	Italian cypress	—	—	3	—	3
Fraxinus spp.	ash species	—	1	—	—	1
Grevillea robusta	silkoak	—	1	—	—	1
Heteromeles arbutifolia	toyon	20	60	2	2	84
Liquidambar styraciflua	American sweetgum	1	—	—	—	1
Pinus canariensis	Canary Island pine	1	—	—	—	1
Pinus eldarica	Afghan pine	1	—	—	—	1
Pinus halepensis	Aleppo pine	6	—	4	—	10
Platanus racemosa	western sycamore	26	2	2	—	30

Table 2
Summary of All Direct Tree Impacts – Chadwick Ranch

Scientific Name	Common Name	Removal – Protected	Removal – Not Protected	Encroachment – Protected	Encroachment – Not Protected	Total Trees
Quercus agrifolia	coast live oak	142	55	36	6	239
Quercus berberidifolia	California scrub oak	139	853	13	28	1,033
Quercus englemannii	Englemann oak	—	—	1	—	1
Salix lasiolepis	arroyo willow	1	—	—	—	1
Sambucus mexicana	blue elderberry	18	22	3	3	46
Schinus molle	Peruvian pepper	2	—	2	1	5
Ulmus parvifolia	Chinese elm	1	—	—	—	1
Washingtonia filifera	California fan palm	4	—	—	—	4
Totals		**362**	**994**	**66**	**40**	**1,462**

3.2.2 Indirect Tree Impacts

Indirect impacts to trees are the result of changes to the site that may cause tree decline, even when the tree is not directly injured. Site-wide changes affecting trees include diverting runoff and stormwater, creating retention and detention ponds, relocating streams or making improvements to streams, lowering or raising water tables, altering the capacity for soil moisture recharge, removing vegetation, or damming underground water flow (Matheny and Clark 1998). For the purposes of this report, indirect tree impacts are expected for trees within 25 feet of the project's limits of grading and not subject to removal or encroachment. Trees located in fuel modification zones are also typically considered indirectly impacted due to crown raising and ladder fuel management. Table 3 presents the number of trees expected to be indirectly impacted by the proposed project.

Table 3
Summary of Indirect Tree Impacts – Chadwick Ranch

Scientific Name	Common Name	Indirect Impact – Protected	Indirect Impact – Non-protected Size	Total Trees
Cupressus sempervirens	Italian cypress	6	6	12
Eucalyptus camaldulensis	Red River gum	9	—	9
Heteromeles arbutifolia	toyon	7	55	62
Pinus canariensis	Canary Island pine	7	1	8
Pinus halepensis	Aleppo pine	15	2	17

Table 3
Summary of Indirect Tree Impacts – Chadwick Ranch

Scientific Name	Common Name	Indirect Impact – Protected	Indirect Impact – Non-protected Size	Total Trees
Pittosporum spp.	pittosporum species	—	1	1
Platanus racemosa	western sycamore	14	—	14
Prunus salicina	Santa Rosa plum	—	3	3
Quercus agrifolia	coast live oak	181	22	203
Quercus berberidifolia	California scrub oak	105	123	228
Quercus engelmannii	Engelmann oak	—	—	0
Quercus virginiana	southern live oak	1	—	1
Salix lasiolepis	arroyo willow	2	—	2
Sambucus mexicana	Blue elderberry	17	15	32
Schinus molle	Peruvian pepper	3	1	4
Total		**367**	**229**	**596**

3.2.3 Tree Removals Due to Health

Tree removals due to health are the result of changes to the site prior to construction that may cause tree decline, even when the tree is not directly injured (e.g., drought stress). The project contains 50 trees classified as dead or in critical health. Of these 50 trees, 7 are protected trees in critical condition. Table 4 presents the number of trees recommended for removal due to health. These trees should be removed as nuisance trees per the classification in Section 9.118.060 of the City's Municipal Code. It should also be noted that these 50 trees present a significant fire hazard. However, as stated in Section 9.118.060 of the City's Municipal Code, no nuisance tree may be removed without first obtaining a permit to do so. Details regarding the health of each tree can be found in Appendix B.

Table 4
Summary of Health Related Removals – Chadwick Ranch

Scientific Name	Common Name	Critical	Dead	Total
Cupressus sempervirens	Italian cypress	1	3	4
Heteromeles arbutifolia	toyon	—	2	2
Pinus halepensis	Aleppo pine	—	1	1
Platanus racemosa	western sycamore	—	1	1
Sambucus mexicana	blue elderberry	—	15	15
Quercus agrifolia	coast live oak	1	12	13
Quercus berberidifolia	California scrub oak	5	9	14
Total		**7**	**43**	**50**

3.2.4 Overall Tree Impacts Summary

In total for protected trees, it is estimated that 362 (15.83%) will require removal due to direct impacts; 66 (2.89%) will experience encroachment into the tree protection zone; 367 (16.05%) will be indirectly impacted; 83 (3.62%) will be preserved in place with no direct impacts; and 50 (2.19%) trees will require removal due to health. Additionally, there are 1,359 (59.42%) non-protected-size trees within the project site. These 1,359 trees may have the potential to exceed the mature trunk size of 4 inches DBH and/or mature height of 15 feet or higher thresholds for protected trees as defined by the City. It should be reiterated that based on species type, site climatic conditions, and hydrology of the site, these undersized trees are not likely to exceed the standards within the lifetime of this project. Non-protected-size tree impacts are as follows: 994 (43.46%) will require removal due to direct impacts; 40 (1.75%) will experience encroachment into the tree protection zone; 229 (10.01%) will be indirectly impacted; and 96 (4.20%) will be preserved in place with no direct impacts.

4 MITIGATION

The City's Municipal Code does not identify specific tree replacement standards for projects affecting native and/or protected trees. Additionally, there is no defined mitigation rate for protected oak trees with the expected/potential mature trunk size of 6 inches DBH and expected/potential mature height of 15 feet or higher. There are 1,034 impacted undersized oak trees within the project site. The City does require the submission of a tree preservation and landscaping plan per Section 9.118.040 of the Municipal Code. Projects in the City typically require mitigation for native trees that exceed 6 inches DBH and 15 feet or higher in height at a 2-to-1 ratio with 24-inch box trees of like species. Non--native significant trees do not typically require mitigation. As such, this TPPP proposes a mitigation ratio of 2-to-1 with 24-inch box trees for all native trees impacted (direct and encroached) by the project. Coast live oak trees and western sycamore trees will be replaced with 24-inch box trees, except potentially on slope restoration areas where the use of larger boxes may be difficult. Shrubs such as California scrub oak, blue elderberry, and toyon will be replaced with 24-inch boxes as feasible but may be planted as 15-gallon or other size with the approval of the City Arborist. Furthermore, this TPPP does not include mitigation recommendations for trees that are recommended for removal due to health (i.e., dead or critical).

To mitigate for the direct impact to 346 protected native trees (20 Toyon, 26 western sycamore, 142 coast live oaks, 18 blue elderberry, 139 California scrub oaks, and one arroyo willow) and the encroachment of 66 protected oak trees (including 2 toyon, 2 western sycamore, 36 coast liveoaks, 13 California scrub oaks, 3 blue elderberry, and 1 Engelmann oak) this TPPP recommends that 2,676 trees or shrubs be planted within and/or adjacent to the project site.Based on information contained within GLA's Biological Technical Report, approximately 100 of the 346 protected native trees are considered riparian vegetation associated with jurisdictionaldrainage features to be impacted by the Project. Those riparian trees that are sufficientlymitigated through the regulatory permitting process would not require separate replacement perthe City's Municipal Code. However, this report assumes a worst-case scenario where all 346 trees would be mitigated per the Municipal Code. Based on the current Landscape Plan (Appendix E, Landscape Plan) a total of 472 trees (269 coast live oak, 197 scrub oak, and 6sycamore) can be accommodated within the Project site, including within developed and restoredportions of the Specific Plan and within portions of the off-site improvement areas. The majority of coast live oak trees would be planted along the entry road and the main loop road through theSpecific Plan; however, a number of oak trees will be planted around some of the housing padsin HOA maintained areas, which will provide more of a clustered appearance. The scrub oakindividuals will be planted in slope re-vegetation areas along the access roads but will also beplanted on revegetated slopes within HOA maintained areas. In addition to the specific tree/shrub

locations identified on the Landscape Plan, the Project will also restore approximately 7.3 acres, including 4.3 acres identified on the Landscape Plan as Habitat Restoration Area and 3.0 acres of remedial grading areas to be restored within Lot L (identified in GLA's biological report). It is likely that the balance of replacement trees/shrubs can be accommodated in these additional restoration areas. However, it should be noted that mitigation for the trees that cannot be replanted on site will be replaced through off-site mitigation (project proponent owned/deeded, mitigation bank, or other in-lieu fee with available lands), as determined by the City Arborist. Furthermore, it should be noted, that all mitigation requirements (species, location, ratio, and size) are at the discretion of the City Arborist, as such, mitigation for impacted non-native trees may be required. As such, it is recommended that Nevis Capital work with the City to identify off-site mitigation (project proponent owned/deeded, mitigation bank, or other in-lieu fee with available lands) in case the 346 trees cannot all be sufficiently replaced with the Project site or through the regulatory permitting process. Table 5 presents the number of trees impacted by type and recommended mitigation.

Table 5
Summary of Impacts and Recommended Mitigation for Protected Trees – Chadwick Ranch

Tree Type	Number of Impacts	Number of Replacement Trees (2 to 1)
Direct impact	1,356 (1,338 protected native trees)	2,676
Encroachment	106 (96 protected native trees)	192
Indirect impact	596 (540 protected native trees)	0
Health related	50 (45 protected native trees)	0
Preserved in place	179 (156 protected native trees)	0
Totals	**2,287 (2,175 protected native trees)**	**2,868**

4.1 Potential Relocation Candidates

Of the directly impacted protected trees, none are considered "candidates" for relocation given various observed maladies, structural issues, close proximity to other trees, and topographical changes. The relocation process is stressful for trees and often results in tree loss. Therefore, trees with the aforementioned issues will have a low probability of relocation success.

4.2 Tree Removal Permit

Consistent with Section 9.118.050 of the City's Municipal Code (City of Bradbury 2012), a tree removal permit will be required prior to all tree removals.

5 CONCLUSIONS

Dudek inventoried and evaluated 928 protected trees (811 native and 67 significant) at the Chadwick Ranch Project site. A total of 1,462 trees (428 protected trees, and 1,034 undersized trees) would be impacted by the proposed project. Of the 428 protected trees, 331 are oaks and 97 are significant per the City ordinance. Furthermore, an additional 50 trees (45 protected) classified as dead or critical health will require removal because they are considered a significant fire hazard. The City's Municipal Code does not identify specific tree replacement standards for projects affecting native and/or protected trees. Projects within the City typically mitigate for native trees (*Quercus* species only) at a 2-to-1 ratio with 24-inch box trees of like species or payment of in-lieu fees. Additionally, non-*Quercus* native trees and non-native significant trees do not typically require mitigation. However, the City may require mitigation of non-*Quercus* species impacted by the project.

To mitigate for the direct impact to 362 protected native trees (20 Toyon, 26 western sycamore, 142 coast live oaks, 18 blue elderberry, 139 California scrub oaks one arroyo willow) and the encroachment of 66 protected native trees (including 2 toyon, 2 western sycamore, 36 coastlive oaks, 13 California scrub oaks, 3 blue elderberry, and 1 Engelmann oak) this TPPP recommends that 2,676 trees or shrubs be planted. Based on the current Landscape Plan(Appendix E, Landscape Plan) a total of 472 trees (269 coast live oak, 197 scrub oak, and 6 sycamore) can be accommodated within the Project site, including within developed and restoredportions of the Specific Plan and within portions of the off-site improvement areas. The majority of coast live oak trees would be planted along the entry road and the main loop road through theSpecific Plan; however, a number of oak trees will be planted around some of the housing padsin HOA maintained areas, which will provide more of a clustered appearance. The scrub oakindividuals will be planted in slope re-vegetation areas along the access roads but will also beplanted on revegetated slopes within HOA maintained areas. In addition to the specific tree/shrublocations identified on the Landscape Plan, the Project will also restore approximately 7.3 acres,including 4.3 acres identified on the Landscape Plan as Habitat Restoration Area and 3.0 acres ofremedial grading areas to be restored within Lot L (identified in GLA's biological report). It islikely that the balance of replacement trees/shrubs can be accommodated in these additionalrestoration areas. These impact mitigation plantings should focus on container-sized oakplantings incorporated into the built landscape and hillside oak woodlands at a ratio of 2 to 1 (2 replacement oak trees for every 1 impacted native tree). It should be noted that mitigation for the trees that cannot be replanted on site will be replaced through off-site mitigation (project proponent owned/deeded, mitigation bank, or other in-lieu fee with available lands), as determined by the City Arborist. As such, it is recommended that Nevis Capital work with the City to identify off-site mitigation (project proponent owned/deeded, mitigation bank, or other

in-lieu fee with available lands) in case the 346 trees cannot all be sufficiently replaced with the Project site or through the regulatory permitting process.

Furthermore, it should be noted, that all mitigation requirements (species, location, ratio, and size) are at the discretion of the City Arborist, as such, mitigation for impacted non-native trees may be required. Note that any oaks planted in the hillside areas will require ongoing irrigation for at least 3 years following establishment and then a weaning off period over the course of 1 or 2 years. The development of an oak restoration plan is recommended prior to mitigation tree planting.

Arborist's Statement

This report provides conclusions and recommendations based on an examination of the trees and surrounding site by ISA-certified arborists. Arborists are tree specialists who use 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.

No root crown excavations, investigations, or internal probing was performed during the tree assessments. Therefore, the presence or absence of internal decay or other hidden inferiorities in individual trees could not be confirmed. It is recommended that any large tree proposed for preservation in an area that receives human use be thoroughly inspected for internal or subterranean decay by a qualified arborist before finalizing preservation plans.

Arborists cannot detect every condition that could possibly lead to the failure of a tree. Trees are living organisms that fail in ways not fully understood. Conditions are often hidden within trees and belowground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances or for a specified period. There are no guarantees that a tree's condition will not change over a short or long period due to weather or cultural or environmental conditions. Trees can be managed but not controlled.

6 REFERENCES

City of Bradbury. 2012. City of Bradbury Municipal Code. February 2012. Accessed October 9, 2015. http://www.cityofbradbury.org/city-services/municipal-code.

ISA (International Society of Arboriculture). 2000. *Guide for Plant Appraisal*. 9th ed. Council of Tree and Landscape Appraisers.

Matheny, N. and J.R. Clark. 1998. *Trees and Development. A Technical Guide to Preservation of Trees During Land Development*. International Society of Arboriculture.

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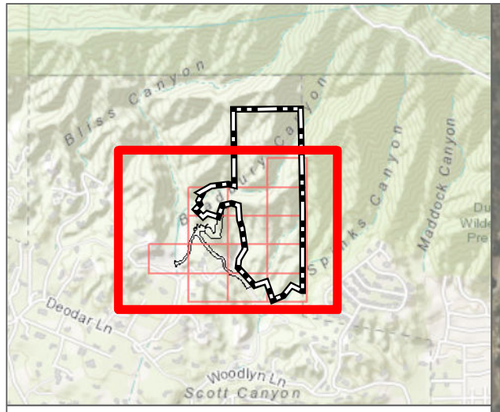
APPENDIX A

Tree Location Exhibit



Native Species

- Arroyo willow, (*Salix lasiolepis*) (3)
- Blue elderberry, (*Sambucus mexicana*) (100)
- California scrub oak, (*Quercus berberidifolia*) (1,382)
- California sycamore, (*Platanus racemosa*) (49)
- Coast live oak, (*Quercus agrifolia*) (501)
- Engelmann oak, (*Quercus engelmanni*) (1)
- Toyon, (*Heteromeles arbutifolia*) (163)
- Non-Native Species (88)
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

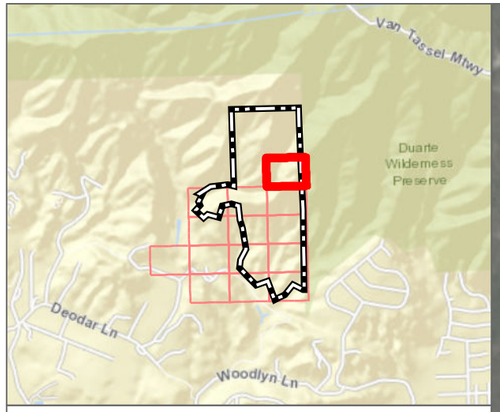
DUDEK

0 165 330 Feet

APPENDIX A

Tree Location Exhibit - Overview

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

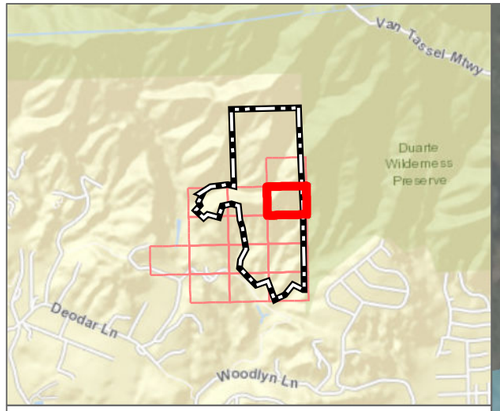
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 1

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

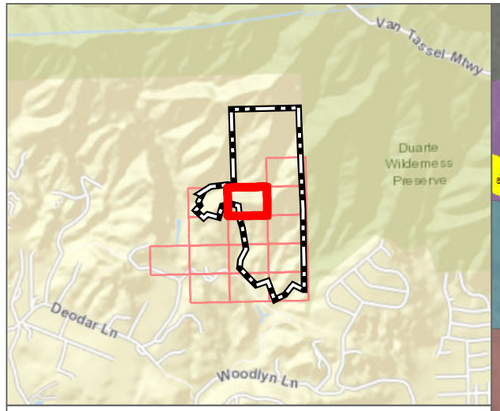
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 2

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

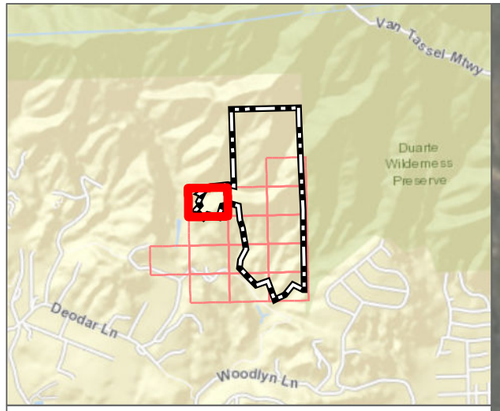
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 3

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

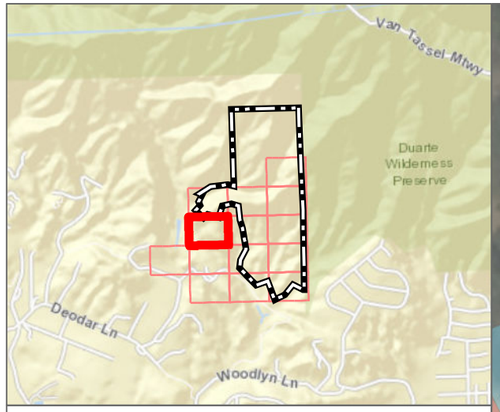
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 4

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

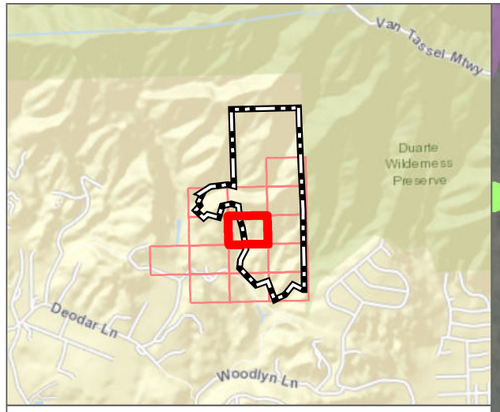
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 5

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

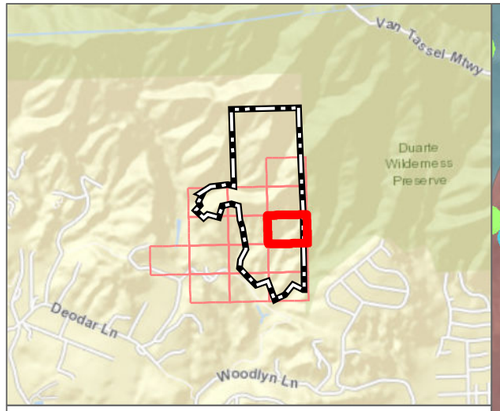
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 6

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

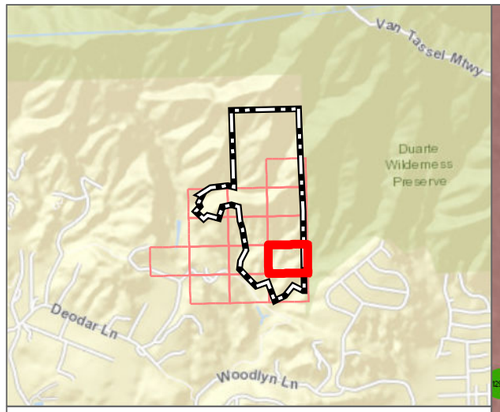
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 7

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

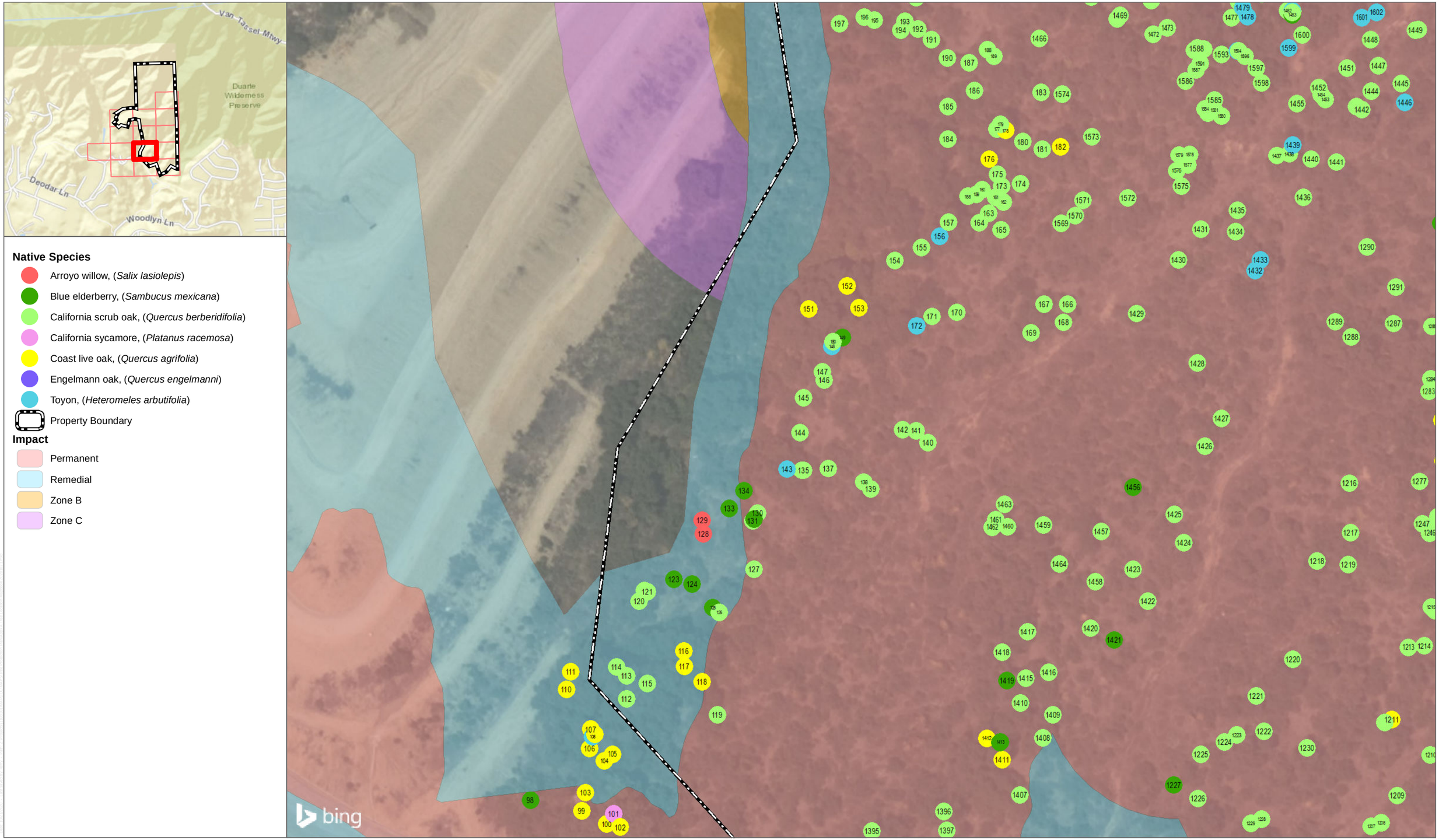
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 8

Chadwick Ranch Tree Preservation and Protection Plan



SOURCE: AERIAL-BING MAPPING SERVICE 2019

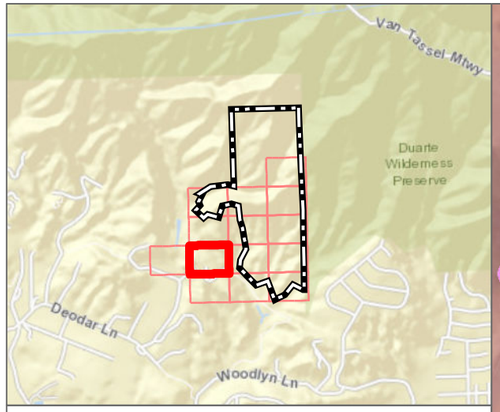
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 9

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

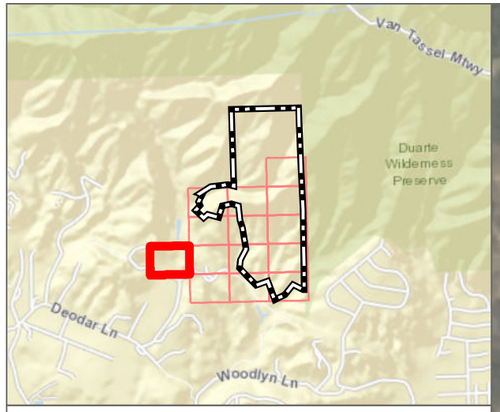
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 10

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

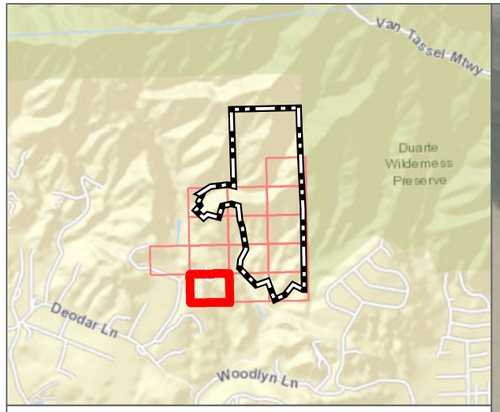
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 11

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

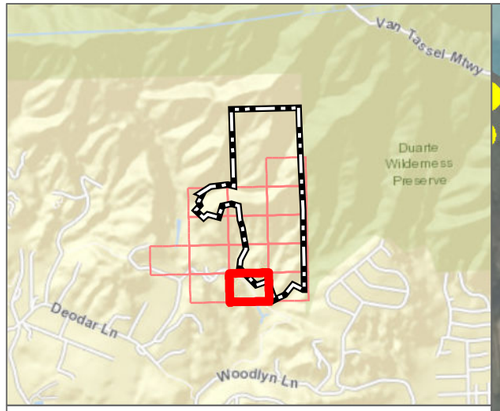
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 12

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

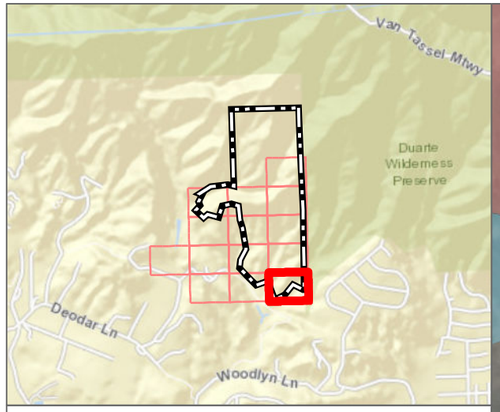
DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 13

Chadwick Ranch Tree Preservation and Protection Plan



Native Species

- Arroyo willow, (*Salix lasiolepis*)
- Blue elderberry, (*Sambucus mexicana*)
- California scrub oak, (*Quercus berberidifolia*)
- California sycamore, (*Platanus racemosa*)
- Coast live oak, (*Quercus agrifolia*)
- Engelmann oak, (*Quercus engelmanni*)
- Toyon, (*Heteromeles arbutifolia*)
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

DUDEK

0 30 60 Feet

APPENDIX A

Tree Location Exhibit - View 14

Chadwick Ranch Tree Preservation and Protection Plan

APPENDIX B

Tree Information Matrix

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1	*Quercus agrifolia*	Coast live oak	4	28	12	7	16	0	0	0	0	45	50	Fair	Fair	Native	Yes	Preserve in Place	
2	*Quercus agrifolia*	Coast live oak	5	20	24	20	6	6	0	0	0	30	35	Poor	Poor	Native	Yes	Indirect	
3	*Quercus agrifolia*	Coast live oak	2	9	6	0	0	0	0	0	0	25	25	Poor	Poor	Native	Yes	Indirect	
4	*Quercus agrifolia*	Coast live oak	1	32	0	0	0	0	0	0	0	35	55	Fair	Fair	Native	Yes	Indirect	
5	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	25	15	Fair	Fair	Native	Yes	Indirect	
6	*Quercus agrifolia*	Coast live oak	1	26	0	0	0	0	0	0	0	35	45	Fair	Fair	Native	Yes	Indirect	
7	*Quercus agrifolia*	Coast live oak	2	8	7	0	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Preserve in Place	
8	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Preserve in Place	
9	*Quercus berberidifolia*	California scrub oak	2	5	4	0	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Preserve in Place	
10	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Preserve in Place	
11	*Quercus berberidifolia*	California scrub oak	12	4	3	3	3	2	2	2	2	15	15	Fair	Fair	Undersized	Yes	Preserve in Place	DBH 2in,2in,2in,2in
12	*Quercus berberidifolia*	California scrub oak	5	4	3	3	1	2	0	0	0	10	15	Fair	Fair	Undersized	Yes	Preserve in Place	
13	*Quercus berberidifolia*	California scrub oak	8	5	4	2	2	2	2	2	2	10	10	Fair	Fair	Undersized	Yes	Preserve in Place	
14	*Quercus berberidifolia*	California scrub oak	3	5	4	5	0	0	0	0	0	15	20	Fair	Fair	Undersized	Yes	Preserve in Place	
15	*Quercus agrifolia*	Coast live oak	3	7	7	6	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Preserve in Place	
16	*Quercus agrifolia*	Coast live oak	1	30	0	0	0	0	0	0	0	45	55	Fair	Fair	Native	Yes	Indirect	
17	*Platanus racemosa*	California sycamore	3	18	17	18	0	0	0	0	0	45	55	Fair	Fair	Native	Yes	Encroachment	
18	*Platanus racemosa*	California sycamore	3	32	14	14	0	0	0	0	0	45	65	Poor	Poor	Native	Yes	Direct	Invasive shot hole borer
19	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	10	10	Good	Good	Undersized	Yes	Direct	
20	*Platanus racemosa*	California sycamore	5	24	19	17	13	7	0	0	0	35	65	Fair	Fair	Native	Yes	Direct	
21	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	15	10	Good	Good	Undersized	Yes	Direct	
22	*Platanus racemosa*	California sycamore	3	12	13	13	0	0	0	0	0	50	60	Fair	Fair	Native	Yes	Direct	
23	*Quercus agrifolia*	Coast live oak	1	27	0	0	0	0	0	0	0	45	35	Dead	Dead	Hazard	Yes	Hazard	Fallen over
24	*Platanus racemosa*	California sycamore	2	26	9	0	0	0	0	0	0	50	60	Fair	Fair	Native	Yes	Direct	
25	*Platanus racemosa*	California sycamore	1	7	0	0	0	0	0	0	0	30	30	Fair	Fair	Native	Yes	Direct	
26	*Platanus racemosa*	California sycamore	3	15	16	9	0	0	0	0	0	50	55	Poor	Poor	Native	Yes	Direct	
27	*Platanus racemosa*	California sycamore	1	11	0	0	0	0	0	0	0	35	40	Poor	Poor	Native	Yes	Direct	
28	*Platanus racemosa*	California sycamore	3	12	9	7	0	0	0	0	0	45	40	Poor	Poor	Native	Yes	Direct	
29	*Platanus racemosa*	California sycamore	2	17	24	0	0	0	0	0	0	60	50	Fair	Fair	Native	Yes	Direct	
30	*Platanus racemosa*	California sycamore	2	4	1	0	0	0	0	0	0	30	10	Poor	Poor	Undersized	Yes	Direct	
31	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	15	15	Good	Good	Native	Yes	Direct	
32	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	15	15	Good	Good	Native	Yes	Direct	
33	*Platanus racemosa*	California sycamore	4	18	18	9	2	0	0	0	0	60	40	Fair	Fair	Native	Yes	Direct	
34	*Platanus racemosa*	California sycamore	1	6	0	0	0	0	0	0	0	25	10	Fair	Fair	Native	Yes	Direct	
35	*Platanus racemosa*	California sycamore	2	13	12	0	0	0	0	0	0	50	35	Fair	Fair	Native	Yes	Direct	
36	*Quercus agrifolia*	Coast live oak	3	4	1	2	0	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
37	*Platanus racemosa*	California sycamore	1	7	0	0	0	0	0	0	0	35	10	Fair	Fair	Native	Yes	Direct	
38	*Platanus racemosa*	California sycamore	1	4	0	0	0	0	0	0	0	20	5	Dead	Dead	Hazard	Yes	Hazard	
39	*Platanus racemosa*	California sycamore	5	15	9	7	8	15	0	0	0	70	40	Fair	Fair	Native	Yes	Direct	
40	*Platanus racemosa*	California sycamore	2	16	12	0	0	0	0	0	0	40	35	Poor	Poor	Native	Yes	Direct	
41	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	10	5	Fair	Fair	Undersized	Yes	Direct	
42	*Pinus eldarica*	Afghan Pine	1	20	0	0	0	0	0	0	0	70	35	Fair	Fair	Significant	No	Direct	
43	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	40	40	Fair	Fair	Native	Yes	Direct	
44	*Quercus agrifolia*	Coast live oak	1	16	0	0	0	0	0	0	0	40	40	Good	Good	Native	Yes	Direct	
45	*Sambucus mexicana*	Blue elderberry	3	4	2	4	0	0	0	0	0	15	15	Poor	Poor	Undersized	Yes	Direct	
46	*Quercus berberidifolia*	California scrub oak	3	5	7	6	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
47	*Quercus berberidifolia*	California scrub oak	2	5	4	0	0	0	0	0	0	10	15	Poor	Poor	Undersized	Yes	Direct	
48	*Quercus berberidifolia*	California scrub oak	4	9	7	6	6	0	0	0	0	30	30	Fair	Fair	Native	Yes	Direct	
49	*Quercus agrifolia*	Coast live oak	1	17	0	0	0	0	0	0	0	35	35	Fair	Fair	Native	Yes	Direct	
50	*Quercus berberidifolia*	California scrub oak	4	6	5	3	2	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
51	*Sambucus mexicana*	Blue elderberry	1	7	0	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
52	*Quercus berberidifolia*	California scrub oak	3	7	7	6	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Direct	
53	*Quercus agrifolia*	Coast live oak	1	20	0	0	0	0	0	0	0	35	40	Good	Good	Native	Yes	Direct	
54	*Platanus racemosa*	California sycamore	2	10	15	0	0	0	0	0	0	70	30	Fair	Fair	Native	Yes	Direct	
55	*Quercus agrifolia*	Coast live oak	1	7	0	0	0	0	0	0	0	20	10	Good	Good	Native	Yes	Direct	
56	*Washingtonia filifera*	┬áCalifornia fan palm	1	20	0	0	0	0	0	0	0	35	15	Good	Good	Significant	No	Direct	
57	*Washingtonia filifera*	┬áCalifornia fan palm	1	20	0	0	0	0	0	0	0	50	15	Good	Good	Significant	No	Direct	
58	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
59	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
60	*Quercus agrifolia*	Coast live oak	1	5	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
61	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
62	*Quercus agrifolia*	Coast live oak	2	11	2	0	0	0	0	0	0	20	30	Fair	Fair	Native	Yes	Direct	
63	*Sambucus mexicana*	Blue elderberry	1	7	0	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Direct	
64	*Quercus agrifolia*	Coast live oak	2	40	6	0	0	0	0	0	0	45	65	Fair	Fair	Native	Yes	Direct	
65	*Quercus agrifolia*	Coast live oak	2	16	20	0	0	0	0	0	0	30	50	Fair	Fair	Native	Yes	Direct	
66	*Washingtonia filifera*	┬áCalifornia fan palm	1	17	0	0	0	0	0	0	0	20	15	Fair	Fair	Significant	No	Direct	
67	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
68	*Salix lasiolepis*	Arroyo Willow	1	27	0	0	0	0	0	0	0	40	55	Fair	Fair	Native	Yes	Direct	
69	*Washingtonia filifera*	┬áCalifornia fan palm	1	6	0	0	0	0	0	0	0	15	10	Fair	Fair	Significant	No	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
70	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	20	5	Good	Good	Undersized	Yes	Direct	
71	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	25	10	Good	Good	Native	Yes	Direct	
72	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	25	10	Good	Good	Undersized	Yes	Direct	
73	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	25	10	Good	Good	Native	Yes	Direct	
74	*Quercus agrifolia*	Coast live oak	2	7	5	0	0	0	0	0	0	35	20	Good	Good	Native	Yes	Direct	
75	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	15	10	Good	Good	Undersized	Yes	Direct	
76	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	30	15	Good	Good	Native	Yes	Direct	
77	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	15	15	Poor	Poor	Undersized	Yes	Direct	
78	*Quercus agrifolia*	Coast live oak	3	11	3	6	0	0	0	0	0	30	25	Good	Good	Native	Yes	Direct	
79	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	15	5	Fair	Fair	Undersized	Yes	Direct	
80	*Quercus agrifolia*	Coast live oak	3	10	4	1	0	0	0	0	0	25	25	Fair	Fair	Native	Yes	Direct	
81	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	20	5	Fair	Fair	Undersized	Yes	Direct	
82	*Quercus agrifolia*	Coast live oak	3	6	7	7	0	0	0	0	0	20	20	Good	Good	Native	Yes	Direct	
83	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	25	10	Good	Good	Undersized	Yes	Direct	
84	*Quercus agrifolia*	Coast live oak	1	5	0	0	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
85	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	20	5	Fair	Fair	Undersized	Yes	Direct	
86	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	15	5	Fair	Fair	Undersized	Yes	Direct	
87	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
88	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	40	15	Good	Good	Native	Yes	Direct	
89	*Platanus racemosa*	California sycamore	1	27	0	0	0	0	0	0	0	35	45	Poor	Poor	Native	Yes	Direct	Invasive shot hole borer
90	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	35	15	Good	Good	Native	Yes	Direct	
91	*Quercus agrifolia*	Coast live oak	1	10	0	0	0	0	0	0	0	30	15	Good	Good	Native	Yes	Direct	
92	*Quercus agrifolia*	Coast live oak	1	7	0	0	0	0	0	0	0	30	15	Good	Good	Native	Yes	Direct	
93	*Quercus agrifolia*	Coast live oak	1	8	0	0	0	0	0	0	0	30	15	Good	Good	Native	Yes	Direct	
94	*Platanus racemosa*	California sycamore	7	26	12	28	20	6	0	20	0	65	75	Good	Good	Native	Yes	Direct	
95	*Quercus agrifolia*	Coast live oak	1	8	0	0	0	0	0	0	0	15	10	Good	Good	Native	Yes	Direct	
96	*Quercus agrifolia*	Coast live oak	1	8	0	0	0	0	0	0	0	15	10	Good	Good	Native	Yes	Direct	
97	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	35	25	Good	Good	Native	Yes	Direct	
98	*Sambucus mexicana*	Blue elderberry	1	9	0	0	0	0	0	0	0	20	15	Good	Good	Native	Yes	Direct	
99	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	20	15	Good	Good	Native	Yes	Direct	
100	*Quercus agrifolia*	Coast live oak	2	6	9	0	0	0	0	0	0	25	15	Good	Good	Native	Yes	Direct	
101	*Platanus racemosa*	California sycamore	4	35	4	14	4	0	0	0	0	60	60	Fair	Fair	Native	Yes	Direct	
102	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	35	45	Good	Good	Native	Yes	Direct	
103	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	40	15	Good	Good	Native	Yes	Direct	
104	*Quercus agrifolia*	Coast live oak	1	16	0	0	0	0	0	0	0	40	45	Fair	Fair	Native	Yes	Encroachment	
105	*Quercus agrifolia*	Coast live oak	2	17	12	0	0	0	0	0	0	40	40	Fair	Fair	Native	Yes	Indirect	
106	*Quercus agrifolia*	Coast live oak	1	17	0	0	0	0	0	0	0	40	35	Fair	Fair	Native	Yes	Indirect	
107	*Quercus agrifolia*	Coast live oak	1	17	0	0	0	0	0	0	0	45	35	Fair	Fair	Native	Yes	Indirect	
108	*Heteromeles arbutifolia*	Toyon	1	8	0	0	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Indirect	
109	*Quercus agrifolia*	Coast live oak	1	30	0	0	0	0	0	0	0	25	25	Poor	Poor	Native	Yes	Indirect	
110	*Quercus agrifolia*	Coast live oak	1	20	0	0	0	0	0	0	0	35	35	Good	Good	Native	Yes	Indirect	
111	*Quercus agrifolia*	Coast live oak	1	25	0	0	0	0	0	0	0	35	35	Good	Good	Native	Yes	Indirect	
112	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Indirect	
113	*Quercus berberidifolia*	California scrub oak	1	26	0	0	0	0	0	0	0	45	45	Fair	Fair	Native	Yes	Indirect	
114	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Indirect	
115	*Quercus berberidifolia*	California scrub oak	3	24	25	17	0	0	0	0	0	40	50	Good	Good	Native	Yes	Indirect	
116	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	30	15	Good	Good	Native	Yes	Indirect	
117	*Quercus agrifolia*	Coast live oak	1	25	0	0	0	0	0	0	0	45	50	Good	Good	Native	Yes	Encroachment	
118	*Quercus agrifolia*	Coast live oak	1	10	0	0	0	0	0	0	0	40	15	Good	Good	Native	Yes	Direct	
119	*Quercus berberidifolia*	California scrub oak	5	6	5	5	6	5	0	0	0	20	20	Fair	Fair	Native	Yes	Direct	
120	*Quercus berberidifolia*	California scrub oak	2	5	5	0	0	0	0	0	0	20	20	Fair	Fair	Undersized	Yes	Indirect	
121	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Indirect	
122	*Quercus berberidifolia*	California scrub oak	2	4	6	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Indirect	
123	*Sambucus mexicana*	Blue elderberry	1	7	0	0	0	0	0	0	0	15	20	Dead	Dead	Hazard	Yes	Hazard	
124	*Sambucus mexicana*	Blue elderberry	2	10	6	0	0	0	0	0	0	10	10	Dead	Dead	Hazard	Yes	Hazard	
125	*Sambucus mexicana*	Blue elderberry	1	4	0	0	0	0	0	0	0	15	5	Dead	Dead	Hazard	Yes	Hazard	
126	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	10	Poor	Poor	Undersized	Yes	Encroachment	
127	*Quercus berberidifolia*	California scrub oak	4	4	4	3	7	0	0	0	0	35	20	Fair	Fair	Native	Yes	Direct	
128	*Salix lasiolepis*	Arroyo Willow	1	9	0	0	0	0	0	0	0	15	15	Poor	Poor	Native	Yes	Indirect	
129	*Salix lasiolepis*	Arroyo Willow	1	14	0	0	0	0	0	0	0	25	10	Poor	Poor	Native	Yes	Indirect	
130	*Quercus berberidifolia*	California scrub oak	3	4	4	5	0	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
131	*Quercus berberidifolia*	California scrub oak	4	4	5	6	3	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
132	*Sambucus mexicana*	Blue elderberry	1	4	0	0	0	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
133	*Sambucus mexicana*	Blue elderberry	1	4	0	0	0	0	0	0	0	15	5	Poor	Poor	Undersized	Yes	Encroachment	
134	*Sambucus mexicana*	Blue elderberry	1	6	0	0	0	0	0	0	0	40	15	Poor	Poor	Native	Yes	Direct	
135	*Quercus berberidifolia*	California scrub oak	6	3	4	3	5	5	0	0	0	25	25	Fair	Fair	Undersized	Yes	Direct	
136	*Quercus berberidifolia*	California scrub oak	9	3	3	2	3	3	2	3	2	15	15	Fair	Fair	Undersized	Yes	Direct	DBH 1in
137	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	15	15	Poor	Poor	Undersized	Yes	Direct	
138	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	15	10	Poor	Poor	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
139	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	15	5	Fair	Fair	Undersized	Yes	Direct	
140	*Quercus berberidifolia*	California scrub oak	4	6	4	4	4	0	0	0	0	10	20	Poor	Poor	Undersized	Yes	Direct	Mechanical damaged
141	*Quercus berberidifolia*	California scrub oak	3	4	4	4	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
142	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
143	*Heteromeles arbutifolia*	Toyon	13	6	4	8	8	4	3	4	3	15	10	Fair	Fair	Native	Yes	Direct	DBH 4in, 3in, 1in, 3in, 5in
144	*Quercus berberidifolia*	California scrub oak	6	3	3	2	3	3	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
145	*Quercus berberidifolia*	California scrub oak	6	4	5	2	3	4	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
146	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
147	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
148	*Heteromeles arbutifolia*	Toyon	1	3	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
149	*Sambucus mexicana*	Blue elderberry	1	7	0	0	0	0	0	0	0	20	10	Poor	Poor	Native	Yes	Direct	
150	*Quercus berberidifolia*	California scrub oak	2	5	6	0	0	0	0	0	0	25	20	Fair	Fair	Native	Yes	Direct	
151	*Quercus agrifolia*	Coast live oak	2	36	12	0	0	0	0	0	0	55	60	Good	Good	Native	Yes	Direct	
152	*Quercus agrifolia*	Coast live oak	2	16	16	0	0	0	0	0	0	35	35	Fair	Fair	Native	Yes	Direct	
153	*Quercus agrifolia*	Coast live oak	1	5	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
154	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
155	*Quercus berberidifolia*	California scrub oak	5	4	3	4	4	2	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
156	*Heteromeles arbutifolia*	Toyon	4	5	5	3	3	0	0	0	0	15	15	Good	Good	Undersized	Yes	Direct	
157	*Quercus berberidifolia*	California scrub oak	9	6	7	7	3	6	3	9	8	15	15	Good	Good	Native	Yes	Direct	DBH 9in
158	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	5	Fair	Fair	Undersized	Yes	Direct	
159	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	15	5	Fair	Fair	Undersized	Yes	Direct	
160	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
161	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	5	Fair	Fair	Undersized	Yes	Direct	
162	*Quercus berberidifolia*	California scrub oak	3	3	2	2	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
163	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
164	*Quercus berberidifolia*	California scrub oak	3	3	2	2	0	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
165	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
166	*Quercus berberidifolia*	California scrub oak	6	3	4	3	3	2	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
167	*Quercus berberidifolia*	California scrub oak	6	6	8	5	3	4	0	0	0	25	20	Fair	Fair	Native	Yes	Direct	
168	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	5	10	Dead	Dead	Hazard	Yes	Hazard	Mechanical damaged
169	*Quercus berberidifolia*	California scrub oak	6	2	4	3	1	3	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
170	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	15	10	Poor	Poor	Native	Yes	Direct	
171	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
172	*Heteromeles arbutifolia*	Toyon	5	4	4	12	4	3	0	0	0	15	20	Good	Good	Undersized	Yes	Direct	
173	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	15	5	Fair	Fair	Undersized	Yes	Direct	
174	*Quercus berberidifolia*	California scrub oak	4	3	4	3	2	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
175	*Quercus berberidifolia*	California scrub oak	3	6	4	3	0	0	0	0	0	25	20	Fair	Fair	Native	Yes	Direct	
176	*Quercus agrifolia*	Coast live oak	2	14	13	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Direct	
177	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
178	*Quercus agrifolia*	Coast live oak	2	10	12	0	0	0	0	0	0	35	20	Fair	Fair	Native	Yes	Direct	
179	*Quercus berberidifolia*	California scrub oak	5	1	2	1	3	3	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
180	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
181	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	15	5	Fair	Fair	Undersized	Yes	Direct	
182	*Quercus agrifolia*	Coast live oak	2	8	10	0	0	0	0	0	0	25	15	Poor	Poor	Native	Yes	Direct	
183	*Quercus berberidifolia*	California scrub oak	4	5	2	3	4	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
184	*Quercus berberidifolia*	California scrub oak	2	7	8	0	0	0	0	0	0	30	15	Fair	Fair	Native	Yes	Direct	
185	*Quercus berberidifolia*	California scrub oak	5	2	3	3	3	3	0	0	0	25	15	Fair	Fair	Undersized	Yes	Direct	
186	*Quercus berberidifolia*	California scrub oak	5	3	3	3	4	3	0	0	0	25	15	Fair	Fair	Undersized	Yes	Direct	
187	*Quercus berberidifolia*	California scrub oak	2	4	5	0	0	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
188	*Quercus berberidifolia*	California scrub oak	2	4	2	0	0	0	0	0	0	15	5	Fair	Fair	Undersized	Yes	Direct	
189	*Quercus berberidifolia*	California scrub oak	5	4	4	3	2	2	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
190	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	25	15	Fair	Fair	Undersized	Yes	Direct	
191	*Quercus berberidifolia*	California scrub oak	3	4	2	2	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
192	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	20	10	Poor	Poor	Undersized	Yes	Direct	
193	*Quercus berberidifolia*	California scrub oak	3	3	3	6	0	0	0	0	0	15	20	Fair	Fair	Native	Yes	Direct	
194	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	20	10	Poor	Poor	Undersized	Yes	Direct	
195	*Quercus berberidifolia*	California scrub oak	5	3	4	4	4	3	0	0	0	25	15	Fair	Fair	Undersized	Yes	Direct	
196	*Quercus berberidifolia*	California scrub oak	5	3	3	3	4	2	0	0	0	25	15	Fair	Fair	Undersized	Yes	Direct	
197	*Quercus berberidifolia*	California scrub oak	5	5	4	3	4	4	0	0	0	25	15	Fair	Fair	Undersized	Yes	Direct	
198	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
199	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
200	*Quercus berberidifolia*	California scrub oak	3	6	6	5	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Direct	
201	*Quercus berberidifolia*	California scrub oak	2	6	6	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Direct	
202	*Heteromeles arbutifolia*	Toyon	6	3	1	1	4	3	0	0	0	20	15	Good	Good	Undersized	Yes	Direct	
203	*Quercus berberidifolia*	California scrub oak	3	2	4	2	0	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
204	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	25	15	Fair	Fair	Undersized	Yes	Direct	
205	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	15	Poor	Poor	Undersized	Yes	Direct	
206	*Quercus berberidifolia*	California scrub oak	2	4	5	0	0	0	0	0	0	20	20	Fair	Fair	Undersized	Yes	Direct	
207	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
208	*Quercus berberidifolia*	California scrub oak	4	4	3	2	1	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
209	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
210	*Quercus berberidifolia*	California scrub oak	3	4	3	2	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
211	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
212	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
213	*Quercus berberidifolia*	California scrub oak	4	7	10	7	7	0	0	0	0	35	30	Fair	Fair	Native	Yes	Direct	
214	*Quercus agrifolia*	Coast live oak	1	16	0	0	0	0	0	0	0	35	45	Poor	Poor	Native	Yes	Preserve in Place	
215	*Quercus agrifolia*	Coast live oak	2	18	5	0	0	0	0	0	0	45	40	Fair	Fair	Native	Yes	Preserve in Place	
216	*Quercus agrifolia*	Coast live oak	1	11	0	0	0	0	0	0	0	35	15	Fair	Fair	Native	Yes	Preserve in Place	
217	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	35	35	Fair	Fair	Native	Yes	Preserve in Place	
218	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Indirect	
219	*Quercus agrifolia*	Coast live oak	1	25	0	0	0	0	0	0	0	50	30	Fair	Fair	Native	Yes	Indirect	
220	*Quercus agrifolia*	Coast live oak	2	3	3	0	0	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Indirect	
221	*Quercus agrifolia*	Coast live oak	1	16	0	0	0	0	0	0	0	40	20	Fair	Fair	Native	Yes	Indirect	
222	*Quercus agrifolia*	Coast live oak	2	3	5	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Indirect	
223	*Quercus agrifolia*	Coast live oak	1	44	0	0	0	0	0	0	0	45	50	Fair	Fair	Native	Yes	Indirect	
224	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	20	10	Good	Good	Undersized	Yes	Indirect	
225	*Quercus agrifolia*	Coast live oak	2	3	4	0	0	0	0	0	0	20	15	Good	Good	Undersized	Yes	Indirect	
226	*Quercus agrifolia*	Coast live oak	1	16	0	0	0	0	0	0	0	40	30	Fair	Fair	Native	Yes	Indirect	
227	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	25	15	Fair	Fair	Native	Yes	Indirect	
228	*Quercus agrifolia*	Coast live oak	2	5	4	0	0	0	0	0	0	20	15	Good	Good	Undersized	Yes	Indirect	
229	*Quercus agrifolia*	Coast live oak	1	24	0	0	0	0	0	0	0	50	25	Critical	Critical	Hazard	Yes	Hazard	
230	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	25	10	Good	Good	Native	Yes	Indirect	
231	*Quercus agrifolia*	Coast live oak	2	3	6	0	0	0	0	0	0	25	10	Good	Good	Native	Yes	Indirect	
232	*Sambucus mexicana*	Blue elderberry	1	10	0	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Indirect	
233	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	15	10	Fair	Fair	Native	Yes	Indirect	
234	*Quercus agrifolia*	Coast live oak	2	6	10	0	0	0	0	0	0	25	15	Fair	Fair	Native	Yes	Direct	
235	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	25	10	Fair	Fair	Native	Yes	Indirect	
236	*Sambucus mexicana*	Blue elderberry	1	9	0	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
237	*Quercus agrifolia*	Coast live oak	2	5	11	0	0	0	0	0	0	25	15	Good	Good	Native	Yes	Indirect	
238	*Sambucus mexicana*	Blue elderberry	5	6	2	3	1	1	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
239	*Sambucus mexicana*	Blue elderberry	1	6	0	0	0	0	0	0	0	15	10	Fair	Fair	Native	Yes	Indirect	
240	*Quercus agrifolia*	Coast live oak	1	17	0	0	0	0	0	0	0	40	20	Fair	Fair	Native	Yes	Indirect	
241	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	25	10	Fair	Fair	Native	Yes	Direct	
242	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	40	20	Fair	Fair	Native	Yes	Direct	
243	*Quercus agrifolia*	Coast live oak	3	3	7	7	0	0	0	0	0	30	15	Fair	Fair	Native	Yes	Direct	
244	*Quercus berberidifolia*	California scrub oak	3	3	4	3	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Indirect	
245	*Quercus berberidifolia*	California scrub oak	2	10	10	0	0	0	0	0	0	35	30	Fair	Fair	Native	Yes	Direct	
246	*Quercus agrifolia*	Coast live oak	1	16	0	0	0	0	0	0	0	35	30	Fair	Fair	Native	Yes	Direct	
247	*Quercus agrifolia*	Coast live oak	4	10	15	11	10	0	0	0	0	30	30	Fair	Fair	Native	Yes	Encroachment	
248	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	15	10	Good	Good	Undersized	Yes	Direct	
249	*Sambucus mexicana*	Blue elderberry	1	9	0	0	0	0	0	0	0	25	15	Fair	Fair	Native	Yes	Encroachment	
250	*Quercus agrifolia*	Coast live oak	1	23	0	0	0	0	0	0	0	30	35	Fair	Fair	Native	Yes	Encroachment	
251	*Quercus agrifolia*	Coast live oak	2	15	20	0	0	0	0	0	0	30	25	Fair	Fair	Native	Yes	Indirect	
252	*Quercus berberidifolia*	California scrub oak	4	2	4	4	5	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Indirect	
253	*Quercus berberidifolia*	California scrub oak	2	6	3	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Indirect	
254	*Quercus agrifolia*	Coast live oak	3	9	10	10	0	0	0	0	0	40	15	Fair	Fair	Native	Yes	Encroachment	
255	*Quercus agrifolia*	Coast live oak	3	3	10	16	0	0	0	0	0	40	20	Fair	Fair	Native	Yes	Encroachment	
256	*Quercus agrifolia*	Coast live oak	3	4	5	7	0	0	0	0	0	40	25	Fair	Fair	Native	Yes	Encroachment	
257	*Quercus agrifolia*	Coast live oak	1	16	0	0	0	0	0	0	0	40	30	Fair	Fair	Native	Yes	Encroachment	
258	*Quercus agrifolia*	Coast live oak	3	20	24	20	0	0	0	0	0	40	45	Fair	Fair	Native	Yes	Encroachment	
259	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Preserve in Place	
260	*Quercus agrifolia*	Coast live oak	2	17	16	0	0	0	0	0	0	35	30	Fair	Fair	Native	Yes	Preserve in Place	
261	*Ulmus parvifolia*	Chinese elm	2	12	10	0	0	0	0	0	0	35	30	Good	Good	Significant	No	Direct	
262	*Quercus agrifolia*	Coast live oak	1	16	0	0	0	0	0	0	0	35	35	Fair	Fair	Native	Yes	Direct	
263	*Platanus racemosa*	California sycamore	1	4	0	0	0	0	0	0	0	15	5	Fair	Fair	Undersized	Yes	Direct	
264	*Pinus halepensis*	┬áAleppo pine	2	18	8	0	0	0	0	0	0	45	15	Poor	Poor	Significant	No	Direct	
265	*Pinus halepensis*	┬áAleppo pine	1	16	0	0	0	0	0	0	0	70	15	Fair	Fair	Significant	No	Direct	
266	*Pinus halepensis*	┬áAleppo pine	1	9	0	0	0	0	0	0	0	40	15	Fair	Fair	Significant	No	Direct	
267	*Pinus halepensis*	┬áAleppo pine	1	16	0	0	0	0	0	0	0	30	15	Fair	Fair	Significant	No	Direct	
268	*Pinus halepensis*	┬áAleppo pine	1	9	0	0	0	0	0	0	0	30	10	Fair	Fair	Significant	No	Direct	
269	*Pinus halepensis*	┬áAleppo pine	1	14	0	0	0	0	0	0	0	55	15	Fair	Fair	Significant	No	Direct	
270	*Pinus halepensis*	┬áAleppo pine	1	6	0	0	0	0	0	0	0	15	10	Fair	Fair	Significant	No	Encroachment	
271	*Pinus halepensis*	┬áAleppo pine	1	15	0	0	0	0	0	0	0	25	15	Fair	Fair	Significant	No	Encroachment	
272	*Pinus halepensis*	┬áAleppo pine	3	15	11	15	0	0	0	0	0	40	20	Fair	Fair	Significant	No	Encroachment	
273	*Pinus halepensis*	┬áAleppo pine	1	9	0	0	0	0	0	0	0	25	15	Fair	Fair	Significant	No	Encroachment	
274	*Liquidambar styraciflua*	American sweetgum	1	9	0	0	0	0	0	0	0	25	15	Fair	Fair	Significant	No	Direct	
275	*Pinus canariensis*	Canary Island pine	1	7	0	0	0	0	0	0	0	20	10	Fair	Fair	Significant	No	Direct	
276	*Heteromeles arbutifolia*	Toyon	8	4	6	2	2	2	2	2	2	11	15	Dead	Dead	Hazard	Yes	Hazard	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
277	*Quercus berberidifolia*	California scrub oak	4	2	1	1	1	0	0	0	0	12	15	Poor	Poor	Undersized	Yes	Direct	
278	*Heteromeles arbutifolia*	Toyon	3	2	5	3	0	0	0	0	0	12	15	Fair	Poor	Undersized	Yes	Direct	
279	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	35	18	Poor	Fair	Native	Yes	Direct	
280	*Quercus agrifolia*	Coast live oak	1	13	0	0	0	0	0	0	0	40	15	Poor	Poor	Native	Yes	Direct	
281	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	12	10	Poor	Poor	Undersized	Yes	Direct	Mechanical damaged
282	*Heteromeles arbutifolia*	Toyon	5	2	1	1	1	2	0	0	0	13	15	Poor	Poor	Undersized	Yes	Direct	
283	*Quercus agrifolia*	Coast live oak	2	2	2	0	0	0	0	0	0	15	10	Poor	Poor	Undersized	Yes	Direct	
284	*Quercus agrifolia*	Coast live oak	3	2	2	1	0	0	0	0	0	15	6	Poor	Poor	Undersized	Yes	Direct	
285	*Heteromeles arbutifolia*	Toyon	12	6	5	4	4	4	3	3	3	15	18	Fair	Poor	Native	Yes	Direct	DBH 3in,3in,3in,3in
286	*Quercus agrifolia*	Coast live oak	2	4	5	0	0	0	0	0	0	20	15	Fair	Poor	Undersized	Yes	Direct	
287	*Heteromeles arbutifolia*	Toyon	9	2	1	1	1	2	1	1	1	10	18	Good	Fair	Undersized	Yes	Direct	DBH 1in
288	*Quercus agrifolia*	Coast live oak	3	5	1	1	0	0	0	0	0	15	10	Fair	Poor	Undersized	Yes	Direct	
289	*Quercus berberidifolia*	California scrub oak	2	2	1	0	0	0	0	0	0	10	10	Poor	Fair	Undersized	Yes	Direct	
290	*Quercus berberidifolia*	California scrub oak	10	3	2	3	2	2	2	2	2	10	15	Poor	Poor	Undersized	Yes	Direct	DBH 2in,2in
291	*Quercus berberidifolia*	California scrub oak	4	2	2	1	1	0	0	0	0	12	15	Fair	Poor	Undersized	Yes	Direct	
292	*Quercus berberidifolia*	California scrub oak	7	1	1	3	1	1	1	1	0	10	6	Fair	Poor	Undersized	Yes	Direct	
293	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	12	15	Fair	Fair	Undersized	Yes	Direct	
294	*Quercus berberidifolia*	California scrub oak	2	7	4	0	0	0	0	0	0	17	15	Fair	Fair	Native	Yes	Direct	
295	*Quercus berberidifolia*	California scrub oak	5	2	1	1	1	1	0	0	0	9	10	Fair	Fair	Undersized	Yes	Direct	
296	*Heteromeles arbutifolia*	Toyon	12	4	3	1	1	1	1	1	1	8	11	Poor	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in
297	*Quercus berberidifolia*	California scrub oak	3	5	3	4	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
298	*Quercus berberidifolia*	California scrub oak	9	3	2	1	1	1	1	1	1	12	15	Fair	Poor	Undersized	Yes	Direct	DBH 1in
299	*Heteromeles arbutifolia*	Toyon	10	4	3	3	2	2	1	1	1	10	15	Poor	Fair	Undersized	Yes	Direct	DBH 1in,1in
300	*Quercus agrifolia*	Coast live oak	2	3	1	0	0	0	0	0	0	13	10	Good	Fair	Undersized	Yes	Direct	
301	*Quercus agrifolia*	Coast live oak	2	7	4	0	0	0	0	0	0	10	25	Good	Poor	Undersized	Yes	Direct	
302	*Sambucus mexicana*	Blue elderberry	2	8	9	0	0	0	0	0	0	12	15	Good	Fair	Undersized	Yes	Direct	
303	*Heteromeles arbutifolia*	Toyon	6	2	2	1	1	1	1	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
304	*Heteromeles arbutifolia*	Toyon	10	2	3	2	2	2	2	2	2	10	8	Poor	Fair	Undersized	Yes	Direct	DBH 1in,1in
305	*Heteromeles arbutifolia*	Toyon	5	1	1	1	1	1	0	0	0	12	10	Poor	Poor	Undersized	Yes	Direct	
306	*Heteromeles arbutifolia*	Toyon	12	2	3	2	2	1	1	1	1	12	12	Fair	Poor	Undersized	Yes	Indirect	DBH 1in,1in,1in,1in
307	*Heteromeles arbutifolia*	Toyon	7	5	3	2	2	1	1	1	0	18	15	Poor	Poor	Undersized	Yes	Indirect	
308	*Heteromeles arbutifolia*	Toyon	9	5	5	4	4	3	3	2	1	15	20	Fair	Fair	Undersized	Yes	Indirect	DBH 1in
309	*Heteromeles arbutifolia*	Toyon	3	2	1	2	0	0	0	0	0	12	8	Fair	Fair	Undersized	Yes	Indirect	
310	*Heteromeles arbutifolia*	Toyon	10	3	2	2	2	2	1	1	1	7	13	Fair	Poor	Undersized	Yes	Indirect	DBH 1in,1in
311	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	15	10	Good	Poor	Undersized	Yes	Indirect	
312	*Quercus agrifolia*	Coast live oak	2	16	17	0	0	0	0	0	0	28	30	Fair	Fair	Native	Yes	Indirect	
313	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	17	8	Fair	Fair	Undersized	Yes	Indirect	
314	*Quercus agrifolia*	Coast live oak	1	28	0	0	0	0	0	0	0	50	50	Fair	Poor	Native	Yes	Indirect	Uprooted growing on ground
315	*Sambucus mexicana*	Blue elderberry	6	3	3	4	1	1	1	0	0	15	15	Fair	Poor	Undersized	Yes	Indirect	
316	*Heteromeles arbutifolia*	Toyon	10	3	2	2	2	2	1	1	1	15	15	Fair	Fair	Undersized	Yes	Indirect	DBH 1in,1in
317	*Quercus berberidifolia*	California scrub oak	1	1	0	0	0	0	0	0	0	10	7	Good	Fair	Undersized	Yes	Indirect	
318	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	10	10	Good	Fair	Undersized	Yes	Indirect	
319	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	40	38	Poor	Fair	Native	Yes	Indirect	
320	*Heteromeles arbutifolia*	Toyon	4	3	2	1	1	0	0	0	0	10	18	Good	Fair	Undersized	Yes	Indirect	
321	*Heteromeles arbutifolia*	Toyon	1	16	0	0	0	0	0	0	0	50	50	Fair	Fair	Native	Yes	Indirect	
322	*Sambucus mexicana*	Blue elderberry	4	4	2	1	2	2	0	0	0	13	11	Fair	Poor	Undersized	Yes	Indirect	
323	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	40	40	Fair	Fair	Native	Yes	Indirect	
324	*Heteromeles arbutifolia*	Toyon	3	3	1	1	0	0	0	0	0	13	8	Good	Poor	Undersized	Yes	Indirect	
325	*Heteromeles arbutifolia*	Toyon	8	4	1	2	1	1	1	1	1	15	8	Good	Fair	Undersized	Yes	Indirect	
326	*Sambucus mexicana*	Blue elderberry	2	1	2	0	0	0	0	0	0	15	15	Good	Fair	Undersized	Yes	Indirect	
327	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	45	30	Poor	Poor	Native	Yes	Indirect	
328	*Quercus agrifolia*	Coast live oak	1	19	0	0	0	0	0	0	0	35	30	Poor	Fair	Native	Yes	Encroachment	
329	*Heteromeles arbutifolia*	Toyon	1	4	0	0	0	0	0	0	0	15	8	Fair	Fair	Undersized	Yes	Indirect	
330	*Sambucus mexicana*	Blue elderberry	5	5	1	1	1	1	0	0	0	8	8	Good	Fair	Undersized	Yes	Indirect	
331	*Sambucus mexicana*	Blue elderberry	2	3	3	0	0	0	0	0	0	8	12	Good	Poor	Undersized	Yes	Encroachment	
332	*Heteromeles arbutifolia*	Toyon	10	2	2	2	3	2	2	2	2	12	10	Good	Fair	Undersized	Yes	Encroachment	DBH 2in,2in
333	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	25	12	Good	Fair	Undersized	Yes	Indirect	
334	*Quercus agrifolia*	Coast live oak	2	9	6	0	0	0	0	0	0	25	15	Fair	Fair	Native	Yes	Indirect	
335	*Quercus agrifolia*	Coast live oak	2	5	4	0	0	0	0	0	0	27	15	Fair	Fair	Undersized	Yes	Indirect	
336	*Heteromeles arbutifolia*	Toyon	10	3	2	2	1	1	1	1	1	14	16	Fair	Fair	Undersized	Yes	Indirect	DBH 2in,2in
337	*Sambucus mexicana*	Blue elderberry	1	6	0	0	0	0	0	0	0	15	12	Fair	Fair	Native	Yes	Indirect	
338	*Sambucus mexicana*	Blue elderberry	1	9	0	0	0	0	0	0	0	18	20	Fair	Poor	Native	Yes	Indirect	
339	*Quercus agrifolia*	Coast live oak	1	28	0	0	0	0	0	0	0	45	40	Poor	Fair	Native	Yes	Indirect	
340	*Quercus agrifolia*	Coast live oak	2	10	7	0	0	0	0	0	0	40	35	Poor	Fair	Native	Yes	Indirect	
341	*Sambucus mexicana*	Blue elderberry	2	4	3	0	0	0	0	0	0	15	10	Poor	Fair	Undersized	Yes	Indirect	
342	*Sambucus mexicana*	Blue elderberry	1	4	0	0	0	0	0	0	0	10	4	Fair	Poor	Undersized	Yes	Direct	
343	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	15	9	Fair	Fair	Undersized	Yes	Direct	
344	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	15	12	Fair	Fair	Undersized	Yes	Direct	
345	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	15	6	Fair	Fair	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
346	*Quercus berberidifolia*	California scrub oak	3	2	2	2	0	0	0	0	0	15	6	Fair	Fair	Undersized	Yes	Direct	
347	*Quercus berberidifolia*	California scrub oak	3	2	2	2	0	0	0	0	0	15	7	Fair	Fair	Undersized	Yes	Direct	
348	*Quercus berberidifolia*	California scrub oak	2	2	1	0	0	0	0	0	0	13	7	Fair	Fair	Undersized	Yes	Direct	
349	*Quercus agrifolia*	Coast live oak	1	13	0	0	0	0	0	0	0	25	30	Fair	Fair	Native	Yes	Direct	
350	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	20	27	Fair	Fair	Native	Yes	Direct	
351	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	10	10	Poor	Poor	Undersized	Yes	Direct	
352	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	12	12	Fair	Poor	Undersized	Yes	Direct	
353	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
354	*Quercus berberidifolia*	California scrub oak	9	2	2	2	2	2	1	1	1	14	10	Fair	Fair	Undersized	Yes	Direct	DBH 1in
355	*Quercus agrifolia*	Coast live oak	1	8	0	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Direct	
356	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	17	10	Fair	Fair	Undersized	Yes	Direct	
357	*Quercus agrifolia*	Coast live oak	2	4	3	0	0	0	0	0	0	14	8	Fair	Fair	Undersized	Yes	Direct	
358	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	15	20	Fair	Fair	Undersized	Yes	Direct	
359	*Heteromeles arbutifolia*	Toyon	12	5	4	3	3	3	3	3	3	15	15	Fair	Fair	Undersized	Yes	Direct	DBH 3in,3in,3in,3in
360	*Heteromeles arbutifolia*	Toyon	5	3	4	2	3	1	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
361	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	1	0	0	0	15	13	Fair	Fair	Undersized	Yes	Direct	
362	*Quercus berberidifolia*	California scrub oak	4	3	2	1	1	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
363	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	13	8	Fair	Fair	Undersized	Yes	Direct	
364	*Quercus berberidifolia*	California scrub oak	3	2	1	1	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	
365	*Quercus berberidifolia*	California scrub oak	5	1	1	1	1	1	0	0	0	7	8	Fair	Poor	Undersized	Yes	Direct	
366	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	15	9	Fair	Poor	Undersized	Yes	Direct	
367	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
368	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	5	Fair	Fair	Undersized	Yes	Direct	
369	*Quercus berberidifolia*	California scrub oak	1	1	0	0	0	0	0	0	0	10	5	Fair	Fair	Undersized	Yes	Direct	
370	*Heteromeles arbutifolia*	Toyon	8	1	1	1	1	1	1	1	1	14	9	Fair	Fair	Undersized	Yes	Direct	
371	*Quercus berberidifolia*	California scrub oak	9	3	2	2	2	2	1	1	1	18	15	Fair	Fair	Undersized	Yes	Direct	DBH 1in
372	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	11	12	Fair	Fair	Undersized	Yes	Direct	
373	*Quercus berberidifolia*	California scrub oak	12	1	2	1	2	1	1	1	1	10	15	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in
374	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	10	7	Fair	Fair	Undersized	Yes	Direct	
375	*Quercus berberidifolia*	California scrub oak	6	3	2	2	2	2	2	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
376	*Quercus berberidifolia*	California scrub oak	9	3	3	2	2	2	2	2	2	10	15	Fair	Fair	Undersized	Yes	Direct	DBH 1in
377	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
378	*Quercus berberidifolia*	California scrub oak	3	4	3	2	0	0	0	0	0	10	12	Fair	Fair	Undersized	Yes	Direct	
379	*Quercus berberidifolia*	California scrub oak	6	4	3	3	2	2	2	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
380	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	13	8	Fair	Fair	Undersized	Yes	Direct	
381	*Quercus berberidifolia*	California scrub oak	10	2	2	2	2	2	2	2	2	13	13	Fair	Fair	Undersized	Yes	Direct	DBH 2in,2in
382	*Quercus berberidifolia*	California scrub oak	12	2	1	2	1	2	1	1	1	8	10	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in
383	*Quercus agrifolia*	Coast live oak	3	8	10	6	0	0	0	0	0	27	22	Fair	Fair	Native	Yes	Direct	
384	*Quercus agrifolia*	Coast live oak	5	16	18	16	9	6	0	0	0	35	45	Fair	Poor	Native	Yes	Direct	
385	*Heteromeles arbutifolia*	Toyon	10	1	1	1	1	1	1	1	1	13	15	Good	Fair	Undersized	Yes	Indirect	DBH 1in,1in
386	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	15	13	Good	Fair	Undersized	Yes	Indirect	
387	*Heteromeles arbutifolia*	Toyon	10	1	1	1	1	1	1	1	1	15	15	Good	Fair	Undersized	Yes	Preserve in Place	DBH 1in,1in
388	*Heteromeles arbutifolia*	Toyon	10	1	1	1	1	1	1	1	1	15	15	Good	Fair	Undersized	Yes	Preserve in Place	DBH 1in,1in
389	*Sambucus mexicana*	Blue elderberry	1	1	0	0	0	0	0	0	0	12	3	Fair	Fair	Undersized	Yes	Preserve in Place	
390	*Heteromeles arbutifolia*	Toyon	6	2	2	2	2	2	1	0	0	13	20	Good	Fair	Undersized	Yes	Preserve in Place	
391	*Heteromeles arbutifolia*	Toyon	10	2	2	1	1	1	1	1	1	14	13	Good	Fair	Undersized	Yes	Preserve in Place	DBH 1in,1in
392	*Heteromeles arbutifolia*	Toyon	7	3	1	1	1	1	1	1	0	15	10	Good	Fair	Undersized	Yes	Preserve in Place	
393	*Sambucus mexicana*	Blue elderberry	1	6	0	0	0	0	0	0	0	15	10	Fair	Poor	Native	Yes	Preserve in Place	
394	*Quercus berberidifolia*	California scrub oak	4	6	5	3	4	0	0	0	0	15	13	Fair	Fair	Native	Yes	Preserve in Place	
395	*Heteromeles arbutifolia*	Toyon	4	3	4	2	1	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Preserve in Place	
396	*Heteromeles arbutifolia*	Toyon	12	3	3	3	3	3	3	3	3	11	12	Good	Fair	Undersized	Yes	Indirect	DBH 3in,3in,3in,3in
397	*Heteromeles arbutifolia*	Toyon	5	3	2	2	1	1	0	0	0	14	12	Good	Fair	Undersized	Yes	Indirect	
398	*Heteromeles arbutifolia*	Toyon	4	4	2	2	2	0	0	0	0	11	15	Good	Fair	Undersized	Yes	Indirect	
399	*Heteromeles arbutifolia*	Toyon	8	1	1	1	1	1	1	1	1	12	10	Good	Fair	Undersized	Yes	Indirect	
400	*Heteromeles arbutifolia*	Toyon	8	2	2	2	1	1	1	1	1	8	10	Good	Fair	Undersized	Yes	Indirect	
401	*Quercus berberidifolia*	California scrub oak	6	1	1	1	1	1	1	0	0	13	8	Fair	Fair	Undersized	Yes	Indirect	
402	*Heteromeles arbutifolia*	Toyon	12	3	3	3	3	3	2	2	2	15	18	Fair	Fair	Undersized	Yes	Indirect	DBH 1in,1in,1in,1in
403	*Heteromeles arbutifolia*	Toyon	12	3	3	3	3	3	2	2	2	15	18	Fair	Fair	Undersized	Yes	Indirect	DBH 2in,2in,2in,2in
404	*Heteromeles arbutifolia*	Toyon	12	2	2	1	1	1	1	1	1	15	12	Fair	Fair	Undersized	Yes	Indirect	DBH 1in,1in,1in,1in
405	*Heteromeles arbutifolia*	Toyon	12	1	1	1	1	1	1	1	1	10	12	Fair	Fair	Undersized	Yes	Indirect	DBH 1in,1in,1in,1in
406	*Heteromeles arbutifolia*	Toyon	12	2	1	1	1	1	1	1	1	14	12	Fair	Fair	Undersized	Yes	Encroachment	DBH 1in,1in,1in,1in
407	*Quercus berberidifolia*	California scrub oak	5	4	4	6	1	3	0	0	0	18	14	Fair	Fair	Native	Yes	Indirect	
408	*Quercus berberidifolia*	California scrub oak	5	3	4	3	4	3	0	0	0	15	15	Fair	Fair	Undersized	Yes	Indirect	
409	*Quercus berberidifolia*	California scrub oak	4	4	1	3	3	0	0	0	0	15	11	Fair	Fair	Undersized	Yes	Indirect	
410	*Heteromeles arbutifolia*	Toyon	7	4	2	4	2	2	2	2	0	15	15	Fair	Fair	Undersized	Yes	Indirect	
411	*Quercus berberidifolia*	California scrub oak	4	1	1	1	2	0	0	0	0	15	8	Fair	Fair	Undersized	Yes	Indirect	
412	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	18	6	Fair	Fair	Undersized	Yes	Indirect	
413	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	15	8	Fair	Fair	Undersized	Yes	Indirect	
414	*Quercus berberidifolia*	California scrub oak	3	1	1	1	0	0	0	0	0	15	8	Fair	Fair	Undersized	Yes	Indirect	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
415	*Heteromeles arbutifolia*	Toyon	3	2	1	1	0	0	0	0	0	18	8	Good	Fair	Undersized	Yes	Indirect	
416	*Quercus berberidifolia*	California scrub oak	3	1	1	1	0	0	0	0	0	14	6	Fair	Fair	Undersized	Yes	Preserve in Place	
417	*Quercus agrifolia*	Coast live oak	2	16	5	0	0	0	0	0	0	45	25	Good	Fair	Native	Yes	Preserve in Place	
418	*Quercus berberidifolia*	California scrub oak	5	2	2	4	3	3	0	0	0	16	15	Good	Fair	Undersized	Yes	Preserve in Place	
419	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Preserve in Place	
420	*Heteromeles arbutifolia*	Toyon	10	1	1	1	1	1	1	1	1	14	8	Fair	Fair	Undersized	Yes	Preserve in Place	DBH 1in,1in
421	*Heteromeles arbutifolia*	Toyon	4	2	2	1	1	0	0	0	0	14	8	Fair	Fair	Undersized	Yes	Preserve in Place	
422	*Heteromeles arbutifolia*	Toyon	12	1	3	2	2	1	1	1	1	11	12	Fair	Fair	Undersized	Yes	Preserve in Place	DBH 1in,1in,1in,1in
423	*Heteromeles arbutifolia*	Toyon	6	1	1	1	1	1	1	0	0	13	10	Fair	Fair	Undersized	Yes	Preserve in Place	
424	*Heteromeles arbutifolia*	Toyon	10	1	1	1	1	1	1	1	1	13	6	Fair	Fair	Undersized	Yes	Preserve in Place	DBH 1in,1in
425	*Heteromeles arbutifolia*	Toyon	4	1	1	1	1	0	0	0	0	14	8	Fair	Fair	Undersized	Yes	Indirect	
425.1	*Heteromeles arbutifolia*	Toyon	12	1	1	1	1	1	1	1	1	13	6	Fair	Fair	Undersized	Yes	Preserve in Place	DBH 1in,1in,1in,1in
426	*Quercus agrifolia*	Coast live oak	1	11	0	0	0	0	0	0	0	11	6	Fair	Poor	Undersized	Yes	Indirect	
427	*Quercus berberidifolia*	California scrub oak	4	2	3	4	3	0	0	0	0	15	10	Fair	Poor	Undersized	Yes	Indirect	
428	*Heteromeles arbutifolia*	Toyon	12	2	3	1	1	1	1	1	1	19	18	Fair	Poor	Undersized	Yes	Indirect	DBH 1in,1in,1in,1in
429	*Heteromeles arbutifolia*	Toyon	10	2	3	3	2	2	1	1	1	13	15	Good	Fair	Undersized	Yes	Indirect	DBH 1in,1in
430	*Sambucus mexicana*	Blue elderberry	2	2	1	0	0	0	0	0	0	13	10	Good	Poor	Undersized	Yes	Indirect	
431	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	17	11	Good	Fair	Native	Yes	Indirect	
432	*Heteromeles arbutifolia*	Toyon	8	2	2	1	1	1	1	1	1	13	13	Good	Poor	Undersized	Yes	Indirect	
433	*Sambucus mexicana*	Blue elderberry	1	3	0	0	0	0	0	0	0	13	12	Good	Fair	Undersized	Yes	Indirect	
434	*Heteromeles arbutifolia*	Toyon	4	4	1	1	1	0	0	0	0	15	12	Good	Fair	Undersized	Yes	Indirect	
435	*Heteromeles arbutifolia*	Toyon	1	1	0	0	0	0	0	0	0	12	10	Good	Fair	Undersized	Yes	Indirect	
436	*Sambucus mexicana*	Blue elderberry	1	11	0	0	0	0	0	0	0	22	10	Good	Fair	Native	Yes	Indirect	
437	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	22	10	Good	Fair	Native	Yes	Indirect	
438	*Quercus agrifolia*	Coast live oak	4	6	10	3	3	0	0	0	0	22	16	Good	Fair	Native	Yes	Preserve in Place	
439	*Quercus agrifolia*	Coast live oak	1	2	0	0	0	0	0	0	0	18	6	Good	Fair	Undersized	Yes	Indirect	
440	*Quercus berberidifolia*	California scrub oak	4	1	1	1	1	0	0	0	0	9	12	Poor	Poor	Undersized	Yes	Direct	
441	*Quercus berberidifolia*	California scrub oak	8	1	1	1	1	1	1	1	1	8	8	Fair	Poor	Undersized	Yes	Direct	
442	*Quercus berberidifolia*	California scrub oak	12	3	2	2	2	2	1	1	1	11	13	Fair	Poor	Undersized	Yes	Direct	DBH 1in,1in,1in,1in
443	*Quercus berberidifolia*	California scrub oak	4	3	2	1	1	0	0	0	0	11	8	Fair	Fair	Undersized	Yes	Direct	
444	*Quercus berberidifolia*	California scrub oak	7	3	2	2	2	1	1	1	0	13	13	Fair	Fair	Undersized	Yes	Direct	
445	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	11	6	Fair	Fair	Undersized	Yes	Direct	
446	*Quercus berberidifolia*	California scrub oak	3	2	1	1	0	0	0	0	0	11	8	Fair	Fair	Undersized	Yes	Direct	
447	*Quercus berberidifolia*	California scrub oak	5	1	1	1	2	2	0	0	0	8	13	Fair	Fair	Undersized	Yes	Direct	
448	*Quercus berberidifolia*	California scrub oak	3	2	2	2	0	0	0	0	0	11	10	Fair	Fair	Undersized	Yes	Direct	
449	*Quercus berberidifolia*	California scrub oak	3	2	3	4	0	0	0	0	0	12	15	Fair	Fair	Undersized	Yes	Direct	
450	*Quercus berberidifolia*	California scrub oak	2	2	5	0	0	0	0	0	0	16	9	Fair	Fair	Undersized	Yes	Direct	
451	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	8	4	Poor	Poor	Undersized	Yes	Direct	
452	*Quercus berberidifolia*	California scrub oak	3	2	2	1	0	0	0	0	0	8	4	Poor	Poor	Undersized	Yes	Direct	
453	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	13	10	Fair	Fair	Undersized	Yes	Direct	
454	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
455	*Quercus berberidifolia*	California scrub oak	4	2	2	1	2	0	0	0	0	14	12	Fair	Fair	Undersized	Yes	Direct	
456	*Quercus agrifolia*	Coast live oak	2	3	4	0	0	0	0	0	0	16	9	Fair	Fair	Undersized	Yes	Direct	
457	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	18	14	Fair	Fair	Native	Yes	Direct	
458	*Quercus berberidifolia*	California scrub oak	2	2	1	0	0	0	0	0	0	12	6	Fair	Fair	Undersized	Yes	Direct	
459	*Quercus berberidifolia*	California scrub oak	12	2	2	2	2	2	2	2	2	11	10	Fair	Fair	Undersized	Yes	Direct	DBH 2in,2in,2in,2in
460	*Quercus agrifolia*	Coast live oak	1	13	0	0	0	0	0	0	0	17	18	Good	Fair	Native	Yes	Direct	
461	*Quercus berberidifolia*	California scrub oak	3	2	1	1	0	0	0	0	0	7	6	Fair	Fair	Undersized	Yes	Direct	
462	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	10	6	Fair	Fair	Undersized	Yes	Direct	
463	*Quercus agrifolia*	Coast live oak	2	3	3	0	0	0	0	0	0	13	10	Good	Fair	Undersized	Yes	Direct	
464	*Quercus agrifolia*	Coast live oak	2	2	2	0	0	0	0	0	0	10	6	Fair	Fair	Undersized	Yes	Direct	
465	*Quercus berberidifolia*	California scrub oak	5	2	2	1	1	1	0	0	0	12	8	Fair	Fair	Undersized	Yes	Direct	
466	*Heteromeles arbutifolia*	Toyon	12	2	2	2	2	2	2	2	2	13	17	Fair	Poor	Undersized	Yes	Direct	DBH 2in,2in,2in,2in
467	*Quercus berberidifolia*	California scrub oak	7	3	2	2	2	2	2	2	0	12	10	Fair	Poor	Undersized	Yes	Direct	
468	*Quercus berberidifolia*	California scrub oak	3	3	2	2	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
469	*Quercus berberidifolia*	California scrub oak	4	3	3	5	3	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
470	*Heteromeles arbutifolia*	Toyon	8	3	2	1	1	1	1	1	1	8	10	Poor	Poor	Undersized	Yes	Direct	
471	*Quercus berberidifolia*	California scrub oak	3	2	3	2	0	0	0	0	0	12	8	Fair	Fair	Undersized	Yes	Direct	
472	*Quercus berberidifolia*	California scrub oak	3	2	1	1	0	0	0	0	0	12	10	Poor	Fair	Undersized	Yes	Direct	
473	*Quercus berberidifolia*	California scrub oak	5	2	3	4	3	2	0	0	0	12	10	Poor	Poor	Undersized	Yes	Direct	
475	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	10	5	Fair	Poor	Undersized	Yes	Direct	
476	*Quercus agrifolia*	Coast live oak	1	7	0	0	0	0	0	0	0	18	10	Fair	Fair	Native	Yes	Direct	
477	*Quercus berberidifolia*	California scrub oak	3	2	3	1	0	0	0	0	0	14	9	Fair	Fair	Undersized	Yes	Direct	
478	*Quercus berberidifolia*	California scrub oak	3	2	4	2	0	0	0	0	0	14	15	Fair	Fair	Undersized	Yes	Direct	
479	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	
480	*Quercus berberidifolia*	California scrub oak	3	2	2	2	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	
481	*Heteromeles arbutifolia*	Toyon	1	3	0	0	0	0	0	0	0	10	12	Fair	Fair	Undersized	Yes	Direct	
482	*Quercus agrifolia*	Coast live oak	3	9	4	3	0	0	0	0	0	23	14	Good	Fair	Native	Yes	Direct	
483	*Quercus berberidifolia*	California scrub oak	3	1	1	1	0	0	0	0	0	11	8	Good	Fair	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
484	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	17	8	Good	Fair	Undersized	Yes	Direct	
485	*Quercus berberidifolia*	California scrub oak	3	2	1	1	0	0	0	0	0	11	8	Good	Fair	Undersized	Yes	Direct	
486	*Quercus berberidifolia*	California scrub oak	2	4	6	0	0	0	0	0	0	14	15	Fair	Fair	Undersized	Yes	Direct	
487	*Quercus agrifolia*	Coast live oak	2	12	6	0	0	0	0	0	0	20	16	Poor	Fair	Native	Yes	Direct	
488	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	11	8	Fair	Fair	Undersized	Yes	Direct	
489	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	13	10	Good	Fair	Undersized	Yes	Direct	
490	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
491	*Heteromeles arbutifolia*	Toyon	8	5	6	3	3	2	1	1	1	18	15	Good	Fair	Native	Yes	Direct	
492	*Quercus berberidifolia*	California scrub oak	3	4	3	2	0	0	0	0	0	15	16	Fair	Fair	Undersized	Yes	Direct	
493	*Quercus berberidifolia*	California scrub oak	4	2	2	2	2	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
494	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	6	Good	Fair	Undersized	Yes	Direct	
495	*Quercus berberidifolia*	California scrub oak	2	3	1	0	0	0	0	0	0	15	9	Fair	Fair	Undersized	Yes	Direct	
496	*Quercus berberidifolia*	California scrub oak	2	2	1	0	0	0	0	0	0	11	9	Fair	Fair	Undersized	Yes	Direct	
497	*Quercus berberidifolia*	California scrub oak	4	2	3	2	3	0	0	0	0	12	12	Fair	Fair	Undersized	Yes	Direct	
498	*Quercus berberidifolia*	California scrub oak	4	3	2	1	1	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
499	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	
500	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	8	Dead	Dead	Hazard	Yes	Hazard	
501	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	12	8	Poor	Fair	Undersized	Yes	Direct	
502	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	6	Poor	Fair	Undersized	Yes	Direct	
503	*Quercus berberidifolia*	California scrub oak	3	3	2	2	0	0	0	0	0	12	10	Poor	Poor	Undersized	Yes	Direct	
504	*Quercus berberidifolia*	California scrub oak	6	3	2	2	1	2	2	0	0	12	10	Poor	Poor	Undersized	Yes	Direct	
505	*Quercus berberidifolia*	California scrub oak	10	2	2	2	2	2	2	2	2	14	10	Poor	Poor	Undersized	Yes	Direct	DBH 2in,2in
506	*Quercus berberidifolia*	California scrub oak	4	3	3	3	3	0	0	0	0	9	13	Dead	Dead	Hazard	Yes	Hazard	
507	*Quercus berberidifolia*	California scrub oak	2	2	4	0	0	0	0	0	0	9	10	Dead	Dead	Hazard	Yes	Hazard	
508	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	5	Poor	Poor	Undersized	Yes	Direct	
509	*Quercus berberidifolia*	California scrub oak	4	1	1	1	1	0	0	0	0	10	7	Poor	Poor	Undersized	Yes	Direct	
510	*Quercus berberidifolia*	California scrub oak	8	3	2	1	1	1	1	1	1	12	10	Poor	Poor	Undersized	Yes	Direct	
511	*Sambucus mexicana*	Blue elderberry	2	7	6	0	0	0	0	0	0	6	12	Fair	Poor	Undersized	Yes	Direct	
512	*Quercus berberidifolia*	California scrub oak	5	2	2	2	2	2	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
513	*Quercus berberidifolia*	California scrub oak	4	2	2	1	1	0	0	0	0	6	10	Poor	Poor	Undersized	Yes	Direct	
514	*Quercus berberidifolia*	California scrub oak	5	2	3	2	2	1	0	0	0	11	13	Poor	Poor	Undersized	Yes	Direct	
515	*Heteromeles arbutifolia*	Toyon	3	2	2	1	0	0	0	0	0	11	8	Good	Poor	Undersized	Yes	Direct	
516	*Quercus berberidifolia*	California scrub oak	5	9	3	4	7	2	0	0	0	17	18	Poor	Poor	Native	Yes	Direct	
517	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	17	15	Good	Fair	Undersized	Yes	Direct	
518	*Quercus berberidifolia*	California scrub oak	4	2	2	2	2	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
519	*Quercus berberidifolia*	California scrub oak	3	2	2	2	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
520	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	7	6	Poor	Fair	Undersized	Yes	Direct	
521	*Quercus berberidifolia*	California scrub oak	3	2	2	3	0	0	0	0	0	10	7	Poor	Poor	Undersized	Yes	Direct	
522	*Quercus agrifolia*	Coast live oak	1	7	0	0	0	0	0	0	0	28	15	Dead	Dead	Hazard	Yes	Hazard	
523	*Quercus agrifolia*	Coast live oak	3	10	3	2	0	0	0	0	0	28	18	Fair	Poor	Native	Yes	Direct	
524	*Quercus berberidifolia*	California scrub oak	5	3	2	2	1	1	0	0	0	15	18	Fair	Poor	Undersized	Yes	Direct	
525	*Quercus berberidifolia*	California scrub oak	4	3	2	1	1	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
526	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	28	12	Fair	Fair	Native	Yes	Direct	
527	*Quercus agrifolia*	Coast live oak	1	7	0	0	0	0	0	0	0	28	12	Fair	Fair	Native	Yes	Direct	
528	*Quercus agrifolia*	Coast live oak	2	11	3	0	0	0	0	0	0	30	15	Fair	Fair	Native	Yes	Direct	
529	*Quercus berberidifolia*	California scrub oak	7	4	3	3	2	2	2	2	0	15	15	Fair	Fair	Undersized	Yes	Direct	
530	*Quercus berberidifolia*	California scrub oak	2	2	3	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
531	*Quercus agrifolia*	Coast live oak	2	8	9	0	0	0	0	0	0	40	20	Poor	Fair	Native	Yes	Direct	
532	*Quercus berberidifolia*	California scrub oak	3	6	2	1	0	0	0	0	0	15	10	Fair	Fair	Native	Yes	Direct	
533	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
534	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	20	6	Poor	Poor	Undersized	Yes	Direct	
535	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	20	10	Fair	Fair	Native	Yes	Direct	
536	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	20	8	Poor	Fair	Native	Yes	Direct	
537	*Quercus agrifolia*	Coast live oak	2	8	10	0	0	0	0	0	0	40	16	Poor	Fair	Native	Yes	Direct	
538	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	40	16	Poor	Fair	Native	Yes	Direct	
539	*Heteromeles arbutifolia*	Toyon	4	1	3	3	4	0	0	0	0	15	18	Good	Poor	Undersized	Yes	Direct	
540	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	30	18	Good	Fair	Native	Yes	Direct	
541	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	18	6	Good	Fair	Undersized	Yes	Direct	
542	*Quercus agrifolia*	Coast live oak	2	6	8	0	0	0	0	0	0	18	18	Good	Fair	Native	Yes	Direct	
543	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	30	16	Poor	Fair	Native	Yes	Direct	
544	*Quercus agrifolia*	Coast live oak	1	17	0	0	0	0	0	0	0	40	30	Fair	Fair	Native	Yes	Direct	
545	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	30	18	Fair	Fair	Native	Yes	Direct	
546	*Heteromeles arbutifolia*	Toyon	2	3	4	0	0	0	0	0	0	20	16	Fair	Fair	Undersized	Yes	Direct	
547	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	25	10	Fair	Fair	Undersized	Yes	Direct	
548	*Quercus agrifolia*	Coast live oak	3	10	9	15	0	0	0	0	0	27	25	Fair	Poor	Native	Yes	Encroachment	
549	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	15	6	Fair	Fair	Undersized	Yes	Encroachment	
550	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	27	14	Fair	Fair	Native	Yes	Encroachment	
551	*Quercus agrifolia*	Coast live oak	1	7	0	0	0	0	0	0	0	13	4	Dead	Dead	Hazard	Yes	Hazard	
552	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	10	1	Dead	Dead	Hazard	Yes	Hazard	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
553	*Quercus agrifolia*	Coast live oak	1	22	0	0	0	0	0	0	0	30	25	Poor	Fair	Native	Yes	Encroachment	
554	*Quercus agrifolia*	Coast live oak	2	7	8	0	0	0	0	0	0	18	19	Fair	Poor	Native	Yes	Indirect	
555	*Quercus agrifolia*	Coast live oak	1	5	0	0	0	0	0	0	0	21	7	Fair	Fair	Undersized	Yes	Direct	
556	*Quercus agrifolia*	Coast live oak	2	12	14	0	0	0	0	0	0	40	30	Dead	Dead	Hazard	Yes	Hazard	
557	*Quercus agrifolia*	Coast live oak	1	7	0	0	0	0	0	0	0	22	11	Fair	Fair	Native	Yes	Direct	
558	*Quercus agrifolia*	Coast live oak	1	7	0	0	0	0	0	0	0	4	4	Dead	Dead	Hazard	Yes	Hazard	On ground
559	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	13	4	Poor	Fair	Undersized	Yes	Direct	
560	*Quercus agrifolia*	Coast live oak	1	8	0	0	0	0	0	0	0	20	7	Fair	Fair	Native	Yes	Direct	
561	*Quercus berberidifolia*	California scrub oak	5	3	2	2	1	2	0	0	0	11	9	Poor	Poor	Undersized	Yes	Direct	Mechanical damaged
562	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	13	11	Poor	Fair	Undersized	Yes	Direct	
563	*Quercus berberidifolia*	California scrub oak	10	3	3	3	3	3	2	2	2	10	15	Dead	Dead	Hazard	Yes	Hazard	Mechanical damaged, DBH 2in,2in
564	*Heteromeles arbutifolia*	Toyon	4	2	2	2	3	0	0	0	0	14	13	Fair	Fair	Undersized	Yes	Direct	Mechanical damaged
565	*Quercus berberidifolia*	California scrub oak	4	2	2	3	2	0	0	0	0	10	9	Poor	Poor	Undersized	Yes	Direct	Mechanical damaged
566	*Heteromeles arbutifolia*	Toyon	10	2	2	2	2	2	1	1	1	8	12	Poor	Poor	Undersized	Yes	Direct	DBH 1in,1in
567	*Quercus berberidifolia*	California scrub oak	2	1	2	0	0	0	0	0	0	9	8	Poor	Poor	Undersized	Yes	Direct	
568	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	16	11	Poor	Fair	Undersized	Yes	Direct	
569	*Heteromeles arbutifolia*	Toyon	4	3	4	2	2	0	0	0	0	16	11	Poor	Poor	Undersized	Yes	Direct	Mechanical damaged
570	*Quercus berberidifolia*	California scrub oak	4	3	4	3	3	0	0	0	0	25	13	Fair	Fair	Undersized	Yes	Direct	
571	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	16	11	Fair	Fair	Undersized	Yes	Direct	
572	*Heteromeles arbutifolia*	Toyon	9	4	3	2	4	4	3	3	3	17	13	Poor	Fair	Undersized	Yes	Direct	DBH 3in
573	*Heteromeles arbutifolia*	Toyon	6	2	3	2	2	2	2	0	0	15	13	Fair	Poor	Undersized	Yes	Direct	
574	*Heteromeles arbutifolia*	Toyon	2	2	3	0	0	0	0	0	0	15	7	Fair	Poor	Undersized	Yes	Direct	
575	*Heteromeles arbutifolia*	Toyon	3	2	2	2	0	0	0	0	0	15	7	Poor	Fair	Undersized	Yes	Direct	
576	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	15	6	Fair	Fair	Undersized	Yes	Direct	
577	*Quercus berberidifolia*	California scrub oak	3	2	2	2	0	0	0	0	0	15	6	Fair	Fair	Undersized	Yes	Direct	
578	*Heteromeles arbutifolia*	Toyon	10	2	2	2	2	2	1	1	1	15	12	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in
579	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	3	0	0	0	12	13	Poor	Fair	Undersized	Yes	Direct	
580	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	12	8	Poor	Fair	Undersized	Yes	Direct	
581	*Quercus berberidifolia*	California scrub oak	2	1	2	0	0	0	0	0	0	12	8	Poor	Fair	Undersized	Yes	Direct	
582	*Quercus berberidifolia*	California scrub oak	3	2	3	2	0	0	0	0	0	16	10	Poor	Fair	Undersized	Yes	Direct	
583	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	14	8	Poor	Fair	Undersized	Yes	Direct	
584	*Quercus berberidifolia*	California scrub oak	4	4	2	2	1	0	0	0	0	17	10	Poor	Fair	Undersized	Yes	Direct	
585	*Heteromeles arbutifolia*	Toyon	10	2	2	2	2	2	2	2	2	15	12	Good	Poor	Undersized	Yes	Direct	DBH 2in,2in
586	*Heteromeles arbutifolia*	Toyon	12	4	5	4	2	3	2	2	2	17	18	Fair	Poor	Undersized	Yes	Direct	DBH 2in,2in,2in,2in
587	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
588	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
589	*Quercus berberidifolia*	California scrub oak	5	4	4	3	5	3	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
590	*Quercus berberidifolia*	California scrub oak	1	7	0	0	0	0	0	0	0	20	10	Good	Fair	Native	Yes	Preserve in Place	
591	*Sambucus mexicana*	Blue elderberry	1	2	0	0	0	0	0	0	0	15	15	Good	Fair	Undersized	Yes	Preserve in Place	
592	*Quercus berberidifolia*	California scrub oak	3	2	1	5	0	0	0	0	0	18	15	Fair	Fair	Undersized	Yes	Indirect	
593	*Quercus berberidifolia*	California scrub oak	3	2	4	5	0	0	0	0	0	18	15	Fair	Fair	Undersized	Yes	Indirect	
594	*Quercus agrifolia*	Coast live oak	1	2	0	0	0	0	0	0	0	15	6	Fair	Fair	Undersized	Yes	Preserve in Place	
595	*Heteromeles arbutifolia*	Toyon	4	2	2	2	2	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Preserve in Place	
596	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	15	6	Fair	Fair	Undersized	Yes	Preserve in Place	
597	*Quercus berberidifolia*	California scrub oak	2	2	4	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Preserve in Place	
598	*Heteromeles arbutifolia*	Toyon	8	6	8	4	5	3	2	2	2	15	15	Fair	Fair	Native	Yes	Encroachment	
599	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	25	10	Good	Fair	Undersized	Yes	Indirect	
600	*Quercus berberidifolia*	California scrub oak	3	6	7	8	0	0	0	0	0	40	18	Good	Fair	Native	Yes	Indirect	
601	*Heteromeles arbutifolia*	Toyon	4	6	2	1	1	0	0	0	0	12	10	Good	Fair	Native	Yes	Encroachment	
602	*Sambucus mexicana*	Blue elderberry	1	5	0	0	0	0	0	0	0	20	10	Good	Fair	Undersized	Yes	Indirect	
603	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	20	10	Good	Fair	Undersized	Yes	Indirect	
604	*Quercus agrifolia*	Coast live oak	1	11	0	0	0	0	0	0	0	25	13	Good	Good	Native	Yes	Indirect	
605	*Quercus agrifolia*	Coast live oak	1	1	0	0	0	0	0	0	0	12	5	Good	Good	Undersized	Yes	Indirect	
606	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	10	5	Fair	Fair	Undersized	Yes	Indirect	
607	*Quercus berberidifolia*	California scrub oak	2	2	3	0	0	0	0	0	0	10	10	Poor	Fair	Undersized	Yes	Indirect	
608	*Quercus agrifolia*	Coast live oak	5	6	4	4	5	2	0	0	0	20	20	Fair	Fair	Native	Yes	Indirect	
609	*Pinus halepensis*	┬áAleppo pine	1	34	0	0	0	0	0	0	0	50	20	Fair	Fair	Significant	No	Indirect	
610	*Heteromeles arbutifolia*	Toyon	4	3	3	4	2	0	0	0	0	16	11	Dead	Dead	Hazard	Yes	Hazard	
611	*Pinus halepensis*	┬áAleppo pine	1	4	0	0	0	0	0	0	0	20	11	Good	Fair	Undersized	No	Indirect	
612	*Quercus agrifolia*	Coast live oak	3	14	9	8	0	0	0	0	0	27	18	Good	Fair	Native	Yes	Indirect	
613	*Quercus agrifolia*	Coast live oak	2	10	9	0	0	0	0	0	0	23	18	Good	Fair	Native	Yes	Indirect	
614	*Pinus halepensis*	┬áAleppo pine	1	17	0	0	0	0	0	0	0	45	30	Good	Fair	Significant	No	Indirect	
615	*Quercus agrifolia*	Coast live oak	2	8	6	0	0	0	0	0	0	19	20	Good	Fair	Native	Yes	Indirect	
616	*Quercus agrifolia*	Coast live oak	2	6	2	0	0	0	0	0	0	16	14	Good	Fair	Native	Yes	Indirect	
617	*Prunus salicina*	┬áSanta Rosa plum	2	1	2	0	0	0	0	0	0	17	9	Good	Fair	Undersized	No	Indirect	
618	*Prunus salicina*	┬áSanta Rosa plum	1	2	0	0	0	0	0	0	0	12	8	Fair	Fair	Undersized	No	Indirect	
619	*Prunus salicina*	┬áSanta Rosa plum	1	3	0	0	0	0	0	0	0	13	8	Fair	Fair	Undersized	No	Indirect	
620	*Pinus canariensis*	Canary Island pine	1	7	0	0	0	0	0	0	0	35	10	Fair	Fair	Significant	No	Indirect	
621	*Pinus halepensis*	┬áAleppo pine	1	18	0	0	0	0	0	0	0	45	25	Fair	Fair	Significant	No	Indirect	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
622	*Pinus halepensis*	┬áAleppo pine	1	26	0	0	0	0	0	0	0	70	30	Fair	Fair	Significant	No	Indirect	
623	*Pinus canariensis*	Canary Island pine	2	4	3	0	0	0	0	0	0	26	6	Fair	Fair	Undersized	No	Indirect	
624	*Pinus canariensis*	Canary Island pine	1	16	0	0	0	0	0	0	0	70	15	Fair	Fair	Significant	No	Indirect	
625	*Pinus canariensis*	Canary Island pine	1	16	0	0	0	0	0	0	0	70	15	Fair	Fair	Significant	No	Indirect	
626	*Pinus canariensis*	Canary Island pine	1	16	0	0	0	0	0	0	0	70	25	Fair	Fair	Significant	No	Indirect	
627	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Indirect	
628	*Quercus agrifolia*	Coast live oak	2	12	20	0	0	0	0	0	0	30	19	Poor	Poor	Native	Yes	Indirect	
629	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	14	9	Good	Fair	Undersized	Yes	Indirect	
630	*Quercus agrifolia*	Coast live oak	4	1	3	1	2	0	0	0	0	16	11	Good	Fair	Undersized	Yes	Indirect	
631	*Heteromeles arbutifolia*	Toyon	8	4	3	3	2	2	1	1	1	14	15	Good	Fair	Undersized	Yes	Indirect	
632	*Quercus agrifolia*	Coast live oak	5	4	1	2	2	1	0	0	0	14	10	Good	Fair	Undersized	Yes	Encroachment	
633	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	12	10	Good	Fair	Undersized	Yes	Encroachment	
634	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	15	20	Good	Fair	Native	Yes	Encroachment	
635	*Cupressus sempervirens*	Italian cypress	1	6	0	0	0	0	0	0	0	23	10	Dead	Dead	Hazard	No	Hazard	
636	*Cupressus sempervirens*	Italian cypress	1	6	0	0	0	0	0	0	0	40	5	Good	Good	Significant	No	Indirect	
637	*Cupressus sempervirens*	Italian cypress	1	6	0	0	0	0	0	0	0	35	5	Good	Good	Significant	No	Indirect	
638	*Cupressus sempervirens*	Italian cypress	1	6	0	0	0	0	0	0	0	40	5	Good	Good	Significant	No	Indirect	
639	*Cupressus sempervirens*	Italian cypress	1	6	0	0	0	0	0	0	0	30	15	Poor	Poor	Significant	No	Indirect	
640	*Cupressus sempervirens*	Italian cypress	1	6	0	0	0	0	0	0	0	30	15	Poor	Poor	Significant	No	Indirect	
641	*Heteromeles arbutifolia*	Toyon	5	5	3	3	2	2	0	0	0	15	18	Good	Poor	Undersized	Yes	Indirect	
642	*Cupressus sempervirens*	Italian cypress	1	4	0	0	0	0	0	0	0	18	12	Good	Fair	Undersized	No	Indirect	
643	*Cupressus sempervirens*	Italian cypress	1	4	0	0	0	0	0	0	0	18	12	Good	Fair	Undersized	No	Indirect	
644	*Quercus berberidifolia*	California scrub oak	4	2	2	2	2	0	0	0	0	11	10	Good	Fair	Undersized	Yes	Encroachment	
645	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	16	10	Good	Fair	Undersized	Yes	Encroachment	
646	*Pinus halepensis*	┬áAleppo pine	1	18	0	0	0	0	0	0	0	55	25	Good	Fair	Significant	No	Indirect	
647	*Pinus halepensis*	┬áAleppo pine	1	15	0	0	0	0	0	0	0	65	30	Good	Fair	Significant	No	Indirect	
648	*Pinus halepensis*	┬áAleppo pine	1	17	0	0	0	0	0	0	0	45	25	Good	Fair	Significant	No	Indirect	
649	*Quercus agrifolia*	Coast live oak	1	1	0	0	0	0	0	0	0	9	5	Good	Fair	Undersized	Yes	Encroachment	
650	*Quercus berberidifolia*	California scrub oak	5	1	6	5	4	3	0	0	0	17	15	Good	Fair	Native	Yes	Encroachment	
651	*Quercus berberidifolia*	California scrub oak	4	1	1	2	2	0	0	0	0	13	10	Fair	Fair	Undersized	Yes	Indirect	
652	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Indirect	
653	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	16	12	Fair	Fair	Undersized	Yes	Indirect	
654	*Quercus berberidifolia*	California scrub oak	3	4	4	1	0	0	0	0	0	16	12	Fair	Fair	Undersized	Yes	Indirect	
655	*Heteromeles arbutifolia*	Toyon	5	1	3	3	2	1	0	0	0	15	20	Fair	Fair	Undersized	Yes	Indirect	
656	*Pinus canariensis*	Canary Island pine	1	17	0	0	0	0	0	0	0	40	30	Fair	Fair	Significant	No	Indirect	
657	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	17	14	Good	Good	Native	Yes	Encroachment	
658	*Pinus halepensis*	┬áAleppo pine	1	16	0	0	0	0	0	0	0	35	20	Good	Good	Significant	No	Indirect	
659	*Pinus halepensis*	┬áAleppo pine	1	2	0	0	0	0	0	0	0	15	5	Good	Good	Undersized	No	Indirect	
660	*Quercus berberidifolia*	California scrub oak	5	2	3	4	1	3	0	0	0	15	12	Good	Fair	Undersized	Yes	Indirect	
661	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	15	12	Good	Fair	Undersized	Yes	Encroachment	
662	*Cupressus sempervirens*	Italian cypress	1	4	0	0	0	0	0	0	0	40	5	Good	Fair	Undersized	No	Indirect	
663	*Cupressus sempervirens*	Italian cypress	1	4	0	0	0	0	0	0	0	40	5	Good	Fair	Undersized	No	Indirect	
664	*Cupressus sempervirens*	Italian cypress	1	4	0	0	0	0	0	0	0	40	5	Good	Fair	Undersized	No	Indirect	
665	*Heteromeles arbutifolia*	Toyon	5	2	2	2	2	2	0	0	0	17	13	Good	Fair	Undersized	Yes	Indirect	
666	*Pinus canariensis*	Canary Island pine	1	14	0	0	0	0	0	0	0	45	30	Good	Fair	Significant	No	Indirect	
667	*Heteromeles arbutifolia*	Toyon	3	2	1	1	0	0	0	0	0	15	10	Good	Fair	Undersized	Yes	Indirect	
668	*Quercus berberidifolia*	California scrub oak	4	2	2	3	3	0	0	0	0	18	12	Good	Fair	Undersized	Yes	Indirect	
669	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	16	10	Fair	Fair	Undersized	Yes	Indirect	
670	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	18	10	Fair	Fair	Undersized	Yes	Encroachment	
671	*Quercus berberidifolia*	California scrub oak	4	3	3	6	2	0	0	0	0	18	15	Fair	Fair	Native	Yes	Indirect	
672	*Quercus berberidifolia*	California scrub oak	2	4	11	0	0	0	0	0	0	16	19	Fair	Fair	Native	Yes	Encroachment	
673	*Heteromeles arbutifolia*	Toyon	3	1	1	1	0	0	0	0	0	12	10	Good	Fair	Undersized	Yes	Indirect	
674	*Heteromeles arbutifolia*	Toyon	5	1	1	1	1	1	0	0	0	14	10	Good	Fair	Undersized	Yes	Indirect	
675	*Heteromeles arbutifolia*	Toyon	5	4	2	1	1	1	0	0	0	14	10	Good	Fair	Undersized	Yes	Indirect	
676	*Pittosporum spp.*	Pittosporum spp.	4	2	2	1	1	0	0	0	0	14	10	Good	Fair	Undersized	No	Indirect	
677	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	18	15	Good	Fair	Undersized	Yes	Indirect	
678	*Quercus agrifolia*	Coast live oak	2	1	1	0	0	0	0	0	0	14	8	Good	Fair	Undersized	Yes	Indirect	
679	*Pinus canariensis*	Canary Island pine	1	15	0	0	0	0	0	0	0	40	27	Good	Fair	Significant	No	Indirect	
680	*Heteromeles arbutifolia*	Toyon	5	1	1	1	1	1	0	0	0	14	9	Good	Fair	Undersized	Yes	Indirect	
681	*Heteromeles arbutifolia*	Toyon	5	1	1	1	1	1	0	0	0	16	11	Good	Fair	Undersized	Yes	Indirect	
682	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	20	16	Good	Fair	Native	Yes	Encroachment	
683	*Quercus agrifolia*	Coast live oak	5	3	6	6	8	3	0	0	0	20	17	Good	Fair	Native	Yes	Encroachment	
684	*Heteromeles arbutifolia*	Toyon	5	1	1	1	1	1	0	0	0	9	9	Good	Fair	Undersized	Yes	Indirect	
685	*Heteromeles arbutifolia*	Toyon	5	2	2	2	1	1	0	0	0	13	10	Good	Fair	Undersized	Yes	Indirect	
686	*Heteromeles arbutifolia*	Toyon	4	1	1	1	1	0	0	0	0	10	7	Good	Fair	Undersized	Yes	Indirect	
687	*Heteromeles arbutifolia*	Toyon	5	1	1	1	1	1	0	0	0	10	7	Good	Fair	Undersized	Yes	Indirect	
688	*Quercus berberidifolia*	California scrub oak	4	4	4	3	3	0	0	0	0	15	12	Fair	Fair	Undersized	Yes	Indirect	
689	*Sambucus mexicana*	Blue elderberry	1	7	0	0	0	0	0	0	0	18	12	Poor	Fair	Native	Yes	Indirect	
690	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	3	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
691	*Quercus berberidifolia*	California scrub oak	5	4	3	3	2	2	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
692	*Quercus berberidifolia*	California scrub oak	2	5	3	0	0	0	0	0	0	15	8	Poor	Fair	Undersized	Yes	Direct	
694	*Quercus berberidifolia*	California scrub oak	5	5	5	4	4	4	0	0	0	15	20	Fair	Fair	Undersized	Yes	Direct	
695	*Quercus berberidifolia*	California scrub oak	4	5	4	5	4	0	0	0	0	15	20	Fair	Fair	Undersized	Yes	Direct	
697	*Quercus agrifolia*	Coast live oak	2	8	8	0	0	0	0	0	0	15	20	Dead	Dead	Hazard	Yes	Hazard	
700	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	15	10	Poor	Fair	Native	Yes	Direct	
701	*Quercus berberidifolia*	California scrub oak	2	4	2	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
702	*Quercus berberidifolia*	California scrub oak	5	4	2	2	2	2	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
703	*Heteromeles arbutifolia*	Toyon	5	4	4	4	2	2	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
704	*Quercus berberidifolia*	California scrub oak	5	4	4	4	2	2	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
705	*Quercus berberidifolia*	California scrub oak	2	4	2	0	0	0	0	0	0	10	15	Fair	Poor	Undersized	Yes	Direct	
706	*Sambucus mexicana*	Blue elderberry	3	6	4	4	0	0	0	0	0	15	15	Fair	Poor	Native	Yes	Direct	
707	*Quercus berberidifolia*	California scrub oak	8	4	4	3	3	3	3	3	3	15	15	Fair	Fair	Undersized	Yes	Direct	
708	*Quercus berberidifolia*	California scrub oak	4	4	4	3	3	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
709	*Quercus berberidifolia*	California scrub oak	7	4	4	3	3	3	2	2	0	10	15	Poor	Fair	Undersized	Yes	Direct	
710	*Heteromeles arbutifolia*	Toyon	5	6	6	5	5	5	0	0	0	18	20	Fair	Fair	Native	Yes	Direct	
713	*Quercus berberidifolia*	California scrub oak	5	4	4	3	3	3	0	0	0	12	16	Fair	Fair	Undersized	Yes	Direct	
714	*Quercus berberidifolia*	California scrub oak	5	4	4	4	4	3	0	0	0	12	16	Fair	Fair	Undersized	Yes	Direct	
715	*Sambucus mexicana*	Blue elderberry	3	6	5	4	0	0	0	0	0	12	16	Fair	Poor	Undersized	Yes	Direct	
719	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	12	8	Fair	Fair	Undersized	Yes	Direct	
720	*Quercus berberidifolia*	California scrub oak	5	4	4	5	4	4	0	0	0	15	18	Fair	Fair	Undersized	Yes	Direct	
722	*Quercus berberidifolia*	California scrub oak	8	4	4	3	3	3	3	3	3	15	18	Fair	Fair	Undersized	Yes	Direct	
723	*Quercus berberidifolia*	California scrub oak	3	5	4	4	0	0	0	0	0	20	14	Fair	Fair	Undersized	Yes	Direct	
724	*Heteromeles arbutifolia*	Toyon	8	6	6	6	5	5	4	4	4	20	25	Fair	Fair	Native	Yes	Direct	
725	*Quercus berberidifolia*	California scrub oak	5	4	2	2	2	2	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
726	*Quercus berberidifolia*	California scrub oak	8	4	2	2	2	2	2	2	2	15	15	Fair	Fair	Undersized	Yes	Direct	
727	*Quercus berberidifolia*	California scrub oak	6	5	2	2	2	2	2	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
728	*Quercus berberidifolia*	California scrub oak	4	5	4	4	2	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
729	*Quercus berberidifolia*	California scrub oak	5	5	4	4	2	3	0	0	0	12	15	Fair	Fair	Undersized	Yes	Direct	
730	*Quercus berberidifolia*	California scrub oak	4	4	4	4	3	0	0	0	0	12	15	Fair	Fair	Undersized	Yes	Direct	
731	*Quercus berberidifolia*	California scrub oak	4	4	4	2	3	0	0	0	0	12	15	Fair	Fair	Undersized	Yes	Direct	
732	*Heteromeles arbutifolia*	Toyon	7	6	5	4	4	4	4	4	0	12	20	Fair	Fair	Undersized	Yes	Direct	
733	*Quercus agrifolia*	Coast live oak	1	5	0	0	0	0	0	0	0	17	8	Fair	Fair	Undersized	Yes	Direct	
734	*Heteromeles arbutifolia*	Toyon	5	6	6	5	4	4	0	0	0	15	20	Fair	Fair	Native	Yes	Direct	
735	*Quercus agrifolia*	Coast live oak	2	7	9	0	0	0	0	0	0	25	20	Poor	Fair	Native	Yes	Direct	
736	*Quercus agrifolia*	Coast live oak	2	8	9	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Direct	
737	*Quercus agrifolia*	Coast live oak	2	4	3	0	0	0	0	0	0	20	15	Fair	Fair	Undersized	Yes	Direct	
738	*Quercus agrifolia*	Coast live oak	2	12	9	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Direct	
739	*Quercus agrifolia*	Coast live oak	1	8	0	0	0	0	0	0	0	35	18	Fair	Fair	Native	Yes	Direct	
740	*Quercus berberidifolia*	California scrub oak	4	6	6	6	3	0	0	0	0	20	20	Fair	Fair	Native	Yes	Direct	
741	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	25	16	Fair	Fair	Native	Yes	Encroachment	
742	*Quercus agrifolia*	Coast live oak	2	7	7	0	0	0	0	0	0	25	16	Fair	Fair	Native	Yes	Direct	
743	*Quercus agrifolia*	Coast live oak	1	7	0	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
744	*Quercus agrifolia*	Coast live oak	4	10	7	5	3	0	0	0	0	25	20	Fair	Fair	Native	Yes	Direct	
745	*Quercus engelmannii*	Engelmann oak	2	6	2	0	0	0	0	0	0	25	20	Fair	Poor	Native	Yes	Encroachment	
746	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	30	15	Fair	Fair	Native	Yes	Encroachment	
747	*Quercus agrifolia*	Coast live oak	2	7	7	0	0	0	0	0	0	30	15	Fair	Fair	Native	Yes	Encroachment	
748	*Sambucus mexicana*	Blue elderberry	1	7	0	0	0	0	0	0	0	10	10	Fair	Poor	Undersized	Yes	Indirect	
749	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Encroachment	
750	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	15	10	Fair	Fair	Native	Yes	Indirect	
751	*Quercus agrifolia*	Coast live oak	2	8	8	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Indirect	
752	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	25	15	Fair	Fair	Native	Yes	Indirect	
753	*Quercus agrifolia*	Coast live oak	2	9	8	0	0	0	0	0	0	30	25	Fair	Fair	Native	Yes	Direct	
754	*Heteromeles arbutifolia*	Toyon	4	6	4	4	4	0	0	0	0	20	25	Fair	Fair	Native	Yes	Direct	
755	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	30	15	Fair	Fair	Native	Yes	Direct	
756	*Quercus agrifolia*	Coast live oak	1	5	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
757	*Quercus agrifolia*	Coast live oak	2	8	4	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Direct	
758	*Sambucus mexicana*	Blue elderberry	1	8	0	0	0	0	0	0	0	15	15	Poor	Poor	Native	Yes	Indirect	
759	*Quercus agrifolia*	Coast live oak	1	36	0	0	0	0	0	0	0	60	50	Fair	Fair	Native	Yes	Indirect	Dripline on edge
777	*Platanus racemosa*	California sycamore	1	20	0	0	0	0	0	0	0	70	50	Poor	Poor	Native	Yes	Indirect	
778	*Platanus racemosa*	California sycamore	1	20	0	0	0	0	0	0	0	70	50	Poor	Poor	Native	Yes	Indirect	
779	*Platanus racemosa*	California sycamore	7	14	14	10	10	8	8	8	0	40	50	Poor	Poor	Native	Yes	Encroachment	
780	*Sambucus mexicana*	Blue elderberry	1	7	0	0	0	0	0	0	0	14	15	Poor	Poor	Undersized	Yes	Indirect	
781	*Quercus agrifolia*	Coast live oak	2	22	10	0	0	0	0	0	0	55	50	Fair	Fair	Native	Yes	Encroachment	
782	*Quercus agrifolia*	Coast live oak	2	9	4	0	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Direct	
791	*Platanus racemosa*	California sycamore	1	16	0	0	0	0	0	0	0	40	40	Fair	Fair	Native	Yes	Indirect	
792	*Sambucus mexicana*	Blue elderberry	1	9	0	0	0	0	0	0	0	10	15	Fair	Fair	Undersized	Yes	Indirect	
800	*Platanus racemosa*	California sycamore	1	18	0	0	0	0	0	0	0	65	35	Poor	Poor	Native	Yes	Indirect	
805	*Platanus racemosa*	California sycamore	1	12	0	0	0	0	0	0	0	35	25	Poor	Poor	Native	Yes	Indirect	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
806	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	45	40	Fair	Fair	Native	Yes	Indirect	
807	*Platanus racemosa*	California sycamore	2	20	9	0	0	0	0	0	0	65	40	Fair	Fair	Native	Yes	Indirect	
808	*Quercus berberidifolia*	California scrub oak	3	6	4	4	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Indirect	
809	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	35	35	Fair	Fair	Native	Yes	Indirect	
810	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	35	35	Fair	Fair	Native	Yes	Indirect	
811	*Quercus agrifolia*	Coast live oak	3	18	18	10	0	0	0	0	0	45	50	Poor	Poor	Native	Yes	Indirect	
819	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	35	30	Fair	Fair	Native	Yes	Indirect	
820	*Sambucus mexicana*	Blue elderberry	1	9	0	0	0	0	0	0	0	15	20	Fair	Fair	Native	Yes	Indirect	
821	*Platanus racemosa*	California sycamore	1	22	0	0	0	0	0	0	0	50	50	Fair	Fair	Native	Yes	Indirect	
822	*Quercus agrifolia*	Coast live oak	2	9	9	0	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Indirect	
836	*Platanus racemosa*	California sycamore	2	30	18	0	0	0	0	0	0	70	60	Fair	Fair	Native	Yes	Indirect	
837	*Platanus racemosa*	California sycamore	1	8	0	0	0	0	0	0	0	35	20	Fair	Fair	Native	Yes	Indirect	
838	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	25	25	Fair	Fair	Native	Yes	Indirect	
839	*Platanus racemosa*	California sycamore	2	15	5	0	0	0	0	0	0	25	25	Fair	Fair	Native	Yes	Indirect	
840	*Platanus racemosa*	California sycamore	2	30	26	0	0	0	0	0	0	65	65	Fair	Fair	Native	Yes	Indirect	
841	*Quercus agrifolia*	Coast live oak	4	18	16	14	14	0	0	0	0	35	35	Fair	Fair	Native	Yes	Indirect	
842	*Quercus agrifolia*	Coast live oak	2	18	16	0		0	0	0	0	45	35	Fair	Fair	Native	Yes	Indirect	
856	*Sambucus mexicana*	Blue elderberry	3	9	9	9	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Indirect	
860	*Sambucus mexicana*	Blue elderberry	1	1	0	0	0	0	0	0	0	5	5	Fair	Fair	Undersized	Yes	Direct	
879	*Sambucus mexicana*	Blue elderberry	1	6	0	0	0	0	0	0	0	15	15	Poor	Poor	Native	Yes	Preserve in Place	
880	*Quercus berberidifolia*	California scrub oak	2	7	8	0	0	0	0	0	0	20	25	Fair	Fair	Native	Yes	Preserve in Place	
881	*Quercus agrifolia*	Coast live oak	2	6	18	0	0	0	0	0	0	25	25	Fair	Fair	Native	Yes	Indirect	
882	*Quercus agrifolia*	Coast live oak	2	8	10	0	0	0	0	0	0	25	25	Fair	Fair	Native	Yes	Indirect	
883	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Indirect	
884	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Preserve in Place	
885	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Preserve in Place	
886	*Quercus agrifolia*	Coast live oak	2	9	4	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Preserve in Place	
887	*Quercus agrifolia*	Coast live oak	7	9	6	6	7	4	4	4	0	25	20	Poor	Poor	Native	Yes	Preserve in Place	
888	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
889	*Quercus agrifolia*	Coast live oak	1	7	0	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
890	*Quercus agrifolia*	Coast live oak	1	13	0	0	0	0	0	0	0	10	8	Poor	Poor	Undersized	Yes	Preserve in Place	
891	*Quercus berberidifolia*	California scrub oak	4	4	4	2	2	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Indirect	
911	*Sambucus mexicana*	Blue elderberry	4	11	3	2	2	0	0	0	0	20	25	Fair	Fair	Native	Yes	Direct	
912	*Quercus berberidifolia*	California scrub oak	3	5	4	4	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
913	*Quercus berberidifolia*	California scrub oak	2	7	4	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
914	*Grevillea robusta*	Silk oak	1	9	0	0	0	0	0	0	0	30	15	Fair	Fair	Significant	No	Direct	
915	*Quercus berberidifolia*	California scrub oak	3	4	2	3	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
916	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	5	Fair	Fair	Undersized	Yes	Direct	
917	*Quercus berberidifolia*	California scrub oak	1	8	0	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
918	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Indirect	
919	*Quercus berberidifolia*	California scrub oak	8	4	4	4	5	5	0	5	5	15	20	Fair	Fair	Undersized	Yes	Indirect	
920	*Quercus agrifolia*	Coast live oak	4	8	8	10	7	0	0	0	0	15	25	Poor	Poor	Native	Yes	Indirect	
921	*Quercus berberidifolia*	California scrub oak	3	7	6	4	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Indirect	
922	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	5	5	Fair	Fair	Undersized	Yes	Indirect	
923	*Quercus berberidifolia*	California scrub oak	3	6	6	5	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Indirect	
924	*Quercus berberidifolia*	California scrub oak	3	6	5	3	0	0	0	0	0	10	15	Fair	Fair	Undersized	Yes	Indirect	
925	*Quercus berberidifolia*	California scrub oak	3	5	5	4	0	0	0	0	0	10	20	Fair	Fair	Undersized	Yes	Indirect	
926	*Quercus berberidifolia*	California scrub oak	6	6	5	4	4	4	0	0	0	10	20	Fair	Fair	Undersized	Yes	Direct	
927	*Quercus berberidifolia*	California scrub oak	6	6	5	5	4	5	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
928	*Quercus berberidifolia*	California scrub oak	4	6	5	5	3	0	0	0	0	15	15	Poor	Poor	Native	Yes	Direct	
929	*Quercus berberidifolia*	California scrub oak	3	6	5	5	0	0	0	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
930	*Heteromeles arbutifolia*	Toyon	12	8	6	6	6	6	0	6	6	15	25	Poor	Poor	Native	Yes	Direct	DBH 6in,6in,6in,6in
931	*Quercus berberidifolia*	California scrub oak	6	6	4	4	3	3	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
932	*Quercus berberidifolia*	California scrub oak	6	5	4	4	3	3	0	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
933	*Quercus berberidifolia*	California scrub oak	5	4	4	2	2	2	0	0	0	5	10	Poor	Poor	Undersized	Yes	Direct	
934	*Quercus berberidifolia*	California scrub oak	5	4	4	2	2	2	0	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
935	*Quercus berberidifolia*	California scrub oak	5	4	4	3	2	2	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
936	*Quercus berberidifolia*	California scrub oak	6	4	3	3	3	2	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
937	*Quercus berberidifolia*	California scrub oak	5	4	4	2	2	2	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
938	*Quercus berberidifolia*	California scrub oak	5	4	3	2	2	2	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
939	*Quercus berberidifolia*	California scrub oak	5	6	5	4	4	4	0	0	0	10	15	Poor	Poor	Undersized	Yes	Direct	
940	*Quercus berberidifolia*	California scrub oak	4	4	5	2	2	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
941	*Quercus berberidifolia*	California scrub oak	5	5	5	4	4	4	0	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
942	*Quercus berberidifolia*	California scrub oak	8	5	4	4	4	4	0	3	3	10	15	Fair	Fair	Undersized	Yes	Direct	
943	*Quercus berberidifolia*	California scrub oak	4	4	3	3	3	0	0	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
944	*Quercus berberidifolia*	California scrub oak	5	4	4	4	4	4	0	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
945	*Quercus berberidifolia*	California scrub oak	5	4	4	3	3	3	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
950	*Quercus berberidifolia*	California scrub oak	7	4	4	3	3	3	0	3	0	15	15	Fair	Fair	Undersized	Yes	Direct	
951	*Quercus berberidifolia*	California scrub oak	9	6	4	4	4	4	0	3	3	20	20	Fair	Fair	Native	Yes	Direct	DBH 3in

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
952	*Quercus berberidifolia*	California scrub oak	4	5	5	4	3	0	0	0	0	15	20	Fair	Fair	Undersized	Yes	Direct	
953	*Quercus berberidifolia*	California scrub oak	3	4	3	3	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
954	*Quercus berberidifolia*	California scrub oak	3	6	4	4	0	0	0	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
955	*Quercus berberidifolia*	California scrub oak	4	4	4	3	2	0	0	0	0	10	10	Poor	Poor	Undersized	Yes	Direct	
956	*Quercus berberidifolia*	California scrub oak	4	4	2	2	2	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
957	*Quercus berberidifolia*	California scrub oak	4	5	4	4	4	0	0	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
958	*Quercus berberidifolia*	California scrub oak	5	6	4	4	3	3	0	0	0	10	15	Fair	Fair	Undersized	Yes	Encroachment	
959	*Quercus berberidifolia*	California scrub oak	2	8	4	0	0	0	0	0	0	10	10	Poor	Poor	Undersized	Yes	Indirect	
960	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Indirect	
961	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Indirect	
962	*Quercus berberidifolia*	California scrub oak	2	5	4	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Indirect	
963	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	15	5	Fair	Fair	Undersized	Yes	Indirect	
964	*Quercus berberidifolia*	California scrub oak	2	5	4	0	0	0	0	0	0	10	15	Fair	Fair	Undersized	Yes	Indirect	
965	*Quercus berberidifolia*	California scrub oak	2	2	4	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Encroachment	
966	*Quercus berberidifolia*	California scrub oak	6	6	4	4	4	3	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
967	*Quercus berberidifolia*	California scrub oak	4	4	3	2	3	0	0	0	0	10	15	Poor	Poor	Undersized	Yes	Direct	
968	*Quercus berberidifolia*	California scrub oak	3	6	4	3	0	0	0	0	0	10	10	Critical	Critical	Hazard	Yes	Hazard	
969	*Quercus berberidifolia*	California scrub oak	2	5	3	0	0	0	0	0	0	10	10	Critical	Critical	Hazard	Yes	Hazard	
970	*Quercus berberidifolia*	California scrub oak	4	5	4	3	4	0	0	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
971	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	15	10	Fair	Fair	Native	Yes	Direct	
972	*Quercus berberidifolia*	California scrub oak	2	6	4	0	0	0	0	0	0	15	10	Fair	Fair	Native	Yes	Direct	
973	*Quercus berberidifolia*	California scrub oak	3	6	4	3	0	0	0	0	0	15	10	Fair	Fair	Native	Yes	Direct	
974	*Quercus berberidifolia*	California scrub oak	3	5	4	3	0	0	0	0	0	15	15	Critical	Critical	Hazard	Yes	Hazard	
975	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	15	10	Critical	Critical	Hazard	Yes	Hazard	
976	*Quercus berberidifolia*	California scrub oak	4	5	4	3	3	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Encroachment	
977	*Quercus berberidifolia*	California scrub oak	2	6	2	0	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Indirect	
978	*Quercus berberidifolia*	California scrub oak	3	5	2	2	0	0	0	0	0	10	10	Poor	Poor	Undersized	Yes	Direct	
979	*Quercus berberidifolia*	California scrub oak	5	4	2	2	2	2	0	0	0	10	10	Poor	Poor	Undersized	Yes	Direct	
980	*Quercus berberidifolia*	California scrub oak	3	6	5	4	0	0	0	0	0	15	15	Poor	Poor	Native	Yes	Direct	
981	*Quercus berberidifolia*	California scrub oak	2	5	3	0	0	0	0	0	0	10	15	Poor	Poor	Undersized	Yes	Encroachment	
982	*Quercus berberidifolia*	California scrub oak	2	5	6	0	0	0	0	0	0	15	15	Poor	Poor	Native	Yes	Indirect	
983	*Quercus berberidifolia*	California scrub oak	2	4	6	0	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Indirect	
984	*Quercus berberidifolia*	California scrub oak	5	4	3	3	3	3	0	0	0	10	15	Fair	Fair	Undersized	Yes	Preserve in Place	
985	*Quercus berberidifolia*	California scrub oak	5	6	4	4	5	4	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
986	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Indirect	
987	*Quercus berberidifolia*	California scrub oak	7	5	4	4	4	4	0	3	0	15	15	Fair	Fair	Undersized	Yes	Indirect	
988	*Quercus berberidifolia*	California scrub oak	5	5	4	3	3	2	0	0	0	10	15	Fair	Fair	Undersized	Yes	Indirect	
989	*Quercus berberidifolia*	California scrub oak	4	2	2	3	3	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
990	*Quercus berberidifolia*	California scrub oak	3	5	4	3	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
991	*Quercus berberidifolia*	California scrub oak	3	6	6	4	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
992	*Quercus berberidifolia*	California scrub oak	2	5	4	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
993	*Quercus berberidifolia*	California scrub oak	2	6	4	0	0	0	0	0	0	15	15	Critical	Critical	Hazard	Yes	Hazard	
994	*Quercus berberidifolia*	California scrub oak	6	6	5	5	4	4	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
995	*Quercus berberidifolia*	California scrub oak	8	6	5	4	4	4	0	4	3	15	15	Fair	Fair	Native	Yes	Direct	
996	*Quercus berberidifolia*	California scrub oak	10	4	5	3	3	3	0	3	2	10	15	Fair	Fair	Undersized	Yes	Direct	DBH 2in,2in
997	*Quercus berberidifolia*	California scrub oak	10	6	5	3	3	3	0	3	3	15	15	Fair	Fair	Native	Yes	Direct	DBH 3in,3in
998	*Quercus berberidifolia*	California scrub oak	8	5	5	3	3	3	0	3	3	15	15	Fair	Fair	Undersized	Yes	Direct	
999	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	15	15	Poor	Poor	Undersized	Yes	Direct	
1000	*Quercus berberidifolia*	California scrub oak	4	4	4	5	3	0	0	0	0	15	15	Poor	Poor	Undersized	Yes	Direct	
1001	*Quercus berberidifolia*	California scrub oak	6	6	4	4	3	3	0	0	0	15	15	Poor	Poor	Native	Yes	Direct	
1002	*Quercus berberidifolia*	California scrub oak	3	6	4	3	0	0	0	0	0	15	15	Poor	Poor	Native	Yes	Direct	
1003	*Quercus berberidifolia*	California scrub oak	3	4	4	4	0	0	0	0	0	15	15	Poor	Poor	Undersized	Yes	Direct	
1004	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	15	10	Poor	Poor	Undersized	Yes	Direct	
1005	*Quercus berberidifolia*	California scrub oak	3	8	7	7	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Direct	
1006	*Quercus berberidifolia*	California scrub oak	4	6	7	7	6	0	0	0	0	25	25	Fair	Fair	Native	Yes	Direct	
1007	*Quercus berberidifolia*	California scrub oak	8	5	4	4	4	3	0	3	3	15	15	Poor	Poor	Undersized	Yes	Direct	
1008	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Indirect	
1009	*Quercus berberidifolia*	California scrub oak	3	5	4	4	0	0	0	0	0	10	15	Fair	Fair	Undersized	Yes	Encroachment	
1010	*Quercus berberidifolia*	California scrub oak	3	5	3	1	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
1011	*Quercus berberidifolia*	California scrub oak	3	6	3	2	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Encroachment	
1012	*Quercus berberidifolia*	California scrub oak	12	5	5	4	4	4	0	3	3	15	15	Fair	Fair	Undersized	Yes	Direct	DBH 3in,3in,3in,3in
1013	*Quercus berberidifolia*	California scrub oak	6	5	5	4	4	4	0	0	0	15	15	Poor	Poor	Undersized	Yes	Direct	
1014	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
1015	*Quercus berberidifolia*	California scrub oak	4	7	7	8	6	0	0	0	0	20	20	Fair	Fair	Native	Yes	Direct	
1016	*Quercus berberidifolia*	California scrub oak	4	6	5	5	4	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
1017	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
1018	*Quercus berberidifolia*	California scrub oak	3	6	6	5	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
1019	*Quercus berberidifolia*	California scrub oak	6	6	6	5	4	4	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
1020	*Quercus berberidifolia*	California scrub oak	6	6	6	5	4	4	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1021	*Quercus berberidifolia*	California scrub oak	2	5	2	0	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
1022	*Quercus berberidifolia*	California scrub oak	9	6	5	4	4	4	0	3	2	15	15	Fair	Fair	Native	Yes	Encroachment	DBH 2in
1023	*Sambucus mexicana*	Blue elderberry	3	6	7	4	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Encroachment	
1024	*Quercus berberidifolia*	California scrub oak	4	6	5	4	2	0	0	0	0	15	15	Fair	Fair	Native	Yes	Encroachment	
1025	*Quercus agrifolia*	Coast live oak	5	9	8	7	5	4	0	0	0	15	20	Fair	Fair	Native	Yes	Encroachment	
1026	*Quercus berberidifolia*	California scrub oak	3	6	5	4	0	0	0	0	0	15	20	Fair	Fair	Native	Yes	Indirect	
1027	*Quercus berberidifolia*	California scrub oak	7	6	5	6	4	4	0	4	0	15	20	Poor	Poor	Native	Yes	Indirect	
1028	*Quercus berberidifolia*	California scrub oak	2	6	2	0	0	0	0	0	0	15	10	Fair	Fair	Native	Yes	Direct	
1029	*Quercus berberidifolia*	California scrub oak	2	6	5	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
1030	*Quercus berberidifolia*	California scrub oak	7	5	5	5	4	4	0	4	0	10	15	Fair	Fair	Undersized	Yes	Preserve in Place	
1031	*Quercus berberidifolia*	California scrub oak	7	6	5	5	4	4	0	3	0	15	15	Fair	Fair	Native	Yes	Preserve in Place	
1032	*Quercus berberidifolia*	California scrub oak	10	6	5	5	4	4	0	4	3	15	20	Fair	Fair	Native	Yes	Preserve in Place	DBH 3in,3in
1033	*Sambucus mexicana*	Blue elderberry	3	13	6	7	0	0	0	0	0	30	25	Poor	Poor	Native	Yes	Encroachment	
1034	*Quercus agrifolia*	Coast live oak	3	16	9	6	0	0	0	0	0	30	30	Fair	Fair	Native	Yes	Indirect	
1035	*Quercus berberidifolia*	California scrub oak	1	7	0	0	0	0	0	0	0	10	15	Poor	Poor	Undersized	Yes	Indirect	
1036	*Quercus virginiana*	Southern live oak	6	8	1	2	2	2	0	0	0	15	20	Fair	Fair	Significant	No	Indirect	
1037	*Pinus halepensis*	┬áAleppo pine	1	10	0	0	0	0	0	0	0	15	20	Fair	Fair	Significant	No	Indirect	
1051	*Schinus molle*	Peruvian pepper	1	5	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	No	Encroachment	
1052	*Schinus molle*	Peruvian pepper	4	15	8	8	8	0	0	0	0	30	30	Fair	Fair	Significant	No	Encroachment	
1053	*Cupressus sempervirens*	Italian cypress	1	7	0	0	0	0	0	0	0	15	10	Dead	Dead	Hazard	No	Hazard	
1054	*Cupressus sempervirens*	Italian cypress	3	8	6	5	0	0	0	0	0	20	15	Critical	Critical	Hazard	No	Hazard	
1055	*Cupressus sempervirens*	Italian cypress	1	7	0	0	0	0	0	0	0	20	15	Dead	Dead	Hazard	No	Hazard	
1056	*Schinus molle*	Peruvian pepper	2	6	4	0	0	0	0	0	0	20	15	Fair	Fair	Significant	No	Direct	
1057	*Schinus molle*	Peruvian pepper	1	7	0	0	0	0	0	0	0	15	15	Fair	Fair	Significant	No	Direct	
1068	*Quercus agrifolia*	Coast live oak	2	14	16	0	0	0	0	0	0	30	35	Fair	Fair	Native	Yes	Direct	
1077	*Quercus agrifolia*	Coast live oak	2	9	17	0	0	0	0	0	0	30	20	Poor	Poor	Native	Yes	Preserve in Place	
1078	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	20	18	Fair	Fair	Native	Yes	Preserve in Place	
1079	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	12	Fair	Fair	Undersized	Yes	Preserve in Place	
1080	*Quercus berberidifolia*	California scrub oak	3	9	5	4	0	0	0	0	0	18	30	Fair	Fair	Native	Yes	Preserve in Place	
1081	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	15	10	Fair	Fair	Native	Yes	Preserve in Place	
1082	*Quercus berberidifolia*	California scrub oak	2	2	4	0	0	0	0	0	0	18	10	Fair	Fair	Undersized	Yes	Preserve in Place	
1083	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	13	13	Fair	Fair	Undersized	Yes	Preserve in Place	
1084	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	16	10	Fair	Fair	Undersized	Yes	Preserve in Place	
1085	*Heteromeles arbutifolia*	Toyon	5	6	4	5	3	2	0	0	0	16	17	Poor	Fair	Native	Yes	Preserve in Place	
1086	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Preserve in Place	
1087	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	22	13	Fair	Fair	Undersized	Yes	Preserve in Place	
1088	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	27	10	Fair	Fair	Native	Yes	Preserve in Place	
1089	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	18	12	Fair	Fair	Undersized	Yes	Preserve in Place	
1090	*Quercus berberidifolia*	California scrub oak	3	3	2	2	0	0	0	0	0	12	15	Fair	Fair	Undersized	Yes	Preserve in Place	
1091	*Quercus berberidifolia*	California scrub oak	4	3	4	4	4	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Preserve in Place	
1092	*Quercus berberidifolia*	California scrub oak	5	3	4	4	4	3	0	0	0	10	15	Fair	Fair	Undersized	Yes	Preserve in Place	
1093	*Quercus berberidifolia*	California scrub oak	4	3	4	5	2	0	0	0	0	12	15	Fair	Fair	Undersized	Yes	Preserve in Place	
1094	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	12	9	Good	Fair	Undersized	Yes	Preserve in Place	
1095	*Quercus berberidifolia*	California scrub oak	3	4	3	4	0	0	0	0	0	17	15	Fair	Fair	Undersized	Yes	Preserve in Place	
1096	*Quercus berberidifolia*	California scrub oak	9	6	4	4	5	5	1	1	1	17	15	Fair	Fair	Native	Yes	Indirect	DBH 1in
1097	*Quercus berberidifolia*	California scrub oak	7	5	4	4	4	3	1	1	0	17	15	Fair	Fair	Undersized	Yes	Indirect	
1098	*Quercus berberidifolia*	California scrub oak	3	2	2	2	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Indirect	
1099	*Quercus berberidifolia*	California scrub oak	11	3	4	3	6	5	1	1	1	27	13	Fair	Fair	Native	Yes	Indirect	DBH 1in,1in,1in
1100	*Quercus berberidifolia*	California scrub oak	4	3	4	1	1	0	0	0	0	10	13	Fair	Fair	Undersized	Yes	Indirect	
1101	*Quercus berberidifolia*	California scrub oak	4	3	2	2	2	0	0	0	0	13	15	Fair	Fair	Undersized	Yes	Indirect	
1102	*Quercus berberidifolia*	California scrub oak	5	3	3	2	2	1	0	0	0	11	15	Fair	Fair	Undersized	Yes	Indirect	
1103	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	12	15	Fair	Fair	Undersized	Yes	Indirect	
1104	*Quercus berberidifolia*	California scrub oak	3	2	2	3	0	0	0	0	0	10	12	Fair	Fair	Undersized	Yes	Indirect	
1105	*Quercus berberidifolia*	California scrub oak	4	3	2	3	3	0	0	0	0	10	12	Fair	Fair	Undersized	Yes	Indirect	
1106	*Quercus berberidifolia*	California scrub oak	12	4	4	4	3	4	1	1	1	18	15	Poor	Fair	Undersized	Yes	Indirect	DBH 1in,1in,1in,1in
1107	*Quercus berberidifolia*	California scrub oak	4	3	3	4	5	0	0	0	0	16	15	Good	Fair	Undersized	Yes	Indirect	
1108	*Heteromeles arbutifolia*	Toyon	5	5	4	4	4	4	0	0	0	15	12	Good	Fair	Undersized	Yes	Indirect	
1109	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	4	0	0	0	10	16	Fair	Fair	Undersized	Yes	Indirect	
1110	*Heteromeles arbutifolia*	Toyon	2	3	3	0	0	0	0	0	0	13	9	Good	Fair	Undersized	Yes	Indirect	
1111	*Quercus berberidifolia*	California scrub oak	3	8	6	5	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Indirect	
1112	*Quercus berberidifolia*	California scrub oak	2	7	3	0	0	0	0	0	0	13	17	Fair	Fair	Undersized	Yes	Indirect	
1113	*Quercus berberidifolia*	California scrub oak	5	3	5	2	3	3	0	0	0	16	18	Fair	Fair	Undersized	Yes	Indirect	
1114	*Quercus berberidifolia*	California scrub oak	5	4	4	3	3	0	0	0	0	17	13	Fair	Fair	Undersized	Yes	Indirect	
1115	*Quercus berberidifolia*	California scrub oak	12	3	3	4	4	3	1	1	1	17	18	Fair	Fair	Undersized	Yes	Indirect	DBH 1in,1in,1in,1in
1116	*Quercus berberidifolia*	California scrub oak	5	3	3	4	4	3	0	0	0	10	16	Fair	Fair	Undersized	Yes	Encroachment	
1117	*Quercus berberidifolia*	California scrub oak	8	3	2	4	2	2	1	1	1	12	18	Fair	Fair	Undersized	Yes	Encroachment	
1118	*Quercus berberidifolia*	California scrub oak	3	3	2	3	0	0	0	0	0	10	15	Poor	Fair	Undersized	Yes	Encroachment	
1119	*Quercus berberidifolia*	California scrub oak	4	4	4	3	2	0	0	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
1120	*Quercus berberidifolia*	California scrub oak	2	4	1	0	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1121	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	15	9	Fair	Fair	Undersized	Yes	Direct	
1122	*Quercus berberidifolia*	California scrub oak	4	3	3	3	3	0	0	0	0	13	15	Fair	Fair	Undersized	Yes	Direct	
1123	*Quercus berberidifolia*	California scrub oak	7	3	4	4	3	3	1	1	0	16	17	Fair	Fair	Undersized	Yes	Direct	
1124	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	17	9	Fair	Fair	Undersized	Yes	Direct	
1125	*Sambucus mexicana*	Blue elderberry	2	3	4	0	0	0	0	0	0	20	14	Poor	Poor	Undersized	Yes	Direct	
1126	*Quercus berberidifolia*	California scrub oak	9	3	4	4	4	3	1	1	1	23	16	Fair	Fair	Undersized	Yes	Encroachment	DBH 1in
1127	*Quercus berberidifolia*	California scrub oak	10	3	3	3	3	2	1	1	1	12	13	Fair	Fair	Undersized	Yes	Indirect	DBH 1in,1in
1128	*Quercus berberidifolia*	California scrub oak	5	3	3	2	2	2	0	0	0	12	15	Fair	Fair	Undersized	Yes	Indirect	
1129	*Quercus berberidifolia*	California scrub oak	5	5	5	3	3	4	0	0	0	16	15	Fair	Fair	Undersized	Yes	Indirect	
1130	*Quercus berberidifolia*	California scrub oak	3	10	6	5	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Indirect	
1131	*Quercus berberidifolia*	California scrub oak	8	4	4	4	3	2	1	1	1	15	14	Fair	Fair	Undersized	Yes	Indirect	
1132	*Sambucus mexicana*	Blue elderberry	4	8	2	2	2	0	0	0	0	15	11	Poor	Poor	Native	Yes	Indirect	
1133	*Sambucus mexicana*	Blue elderberry	3	10	9	2	0	0	0	0	0	18	15	Fair	Poor	Native	Yes	Indirect	
1134	*Quercus berberidifolia*	California scrub oak	3	10	5	5	0	0	0	0	0	26	28	Fair	Poor	Undersized	Yes	Indirect	
1135	*Quercus berberidifolia*	California scrub oak	5	4	3	3	3	3	0	0	0	11	13	Fair	Fair	Undersized	Yes	Indirect	
1136	*Quercus berberidifolia*	California scrub oak	1	9	0	0	0	0	0	0	0	20	10	Fair	Fair	Native	Yes	Indirect	
1137	*Quercus berberidifolia*	California scrub oak	5	8	7	6	4	3	0	0	0	18	13	Fair	Fair	Native	Yes	Indirect	
1138	*Heteromeles arbutifolia*	Toyon	20	9	5	4	4	4	1	1	1	19	20	Good	Poor	Native	Yes	Indirect	DBH 1in,1in,1in,1in,1in,1in,1in,1in,1in,1in,1in
1139	*Heteromeles arbutifolia*	Toyon	12	4	3	3	3	3	1	1	1	14	17	Good	Poor	Undersized	Yes	Indirect	DBH 1in,1in,1in,1in
1140	*Quercus berberidifolia*	California scrub oak	5	4	3	3	2	2	0	0	0	10	17	Fair	Fair	Undersized	Yes	Indirect	
1141	*Heteromeles arbutifolia*	Toyon	15	4	6	3	4	4	1	1	1	17	15	Good	Fair	Native	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in
1142	*Quercus agrifolia*	Coast live oak	3	4	6	3	0	0	0	0	0	18	13	Fair	Fair	Native	Yes	Direct	
1143	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	15	11	Fair	Fair	Undersized	Yes	Direct	
1144	*Quercus berberidifolia*	California scrub oak	3	3	4	2	0	0	0	0	0	17	11	Fair	Fair	Undersized	Yes	Direct	
1145	*Quercus berberidifolia*	California scrub oak	5	3	4	4	3	0	0	0	0	15	16	Fair	Fair	Undersized	Yes	Direct	
1146	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	15	9	Fair	Fair	Undersized	Yes	Direct	
1147	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	9	Fair	Fair	Undersized	Yes	Direct	
1148	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	15	11	Fair	Fair	Undersized	Yes	Direct	
1149	*Quercus berberidifolia*	California scrub oak	5	4	5	3	2	2	0	0	0	17	12	Fair	Fair	Undersized	Yes	Direct	
1150	*Quercus berberidifolia*	California scrub oak	5	4	3	3	2	2	0	0	0	11	12	Fair	Fair	Undersized	Yes	Direct	
1151	*Quercus berberidifolia*	California scrub oak	5	4	3	3	2	2	0	0	0	13	12	Fair	Fair	Undersized	Yes	Direct	
1152	*Quercus berberidifolia*	California scrub oak	10	4	3	3	4	4	1	1	1	13	17	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in
1153	*Quercus berberidifolia*	California scrub oak	4	2	3	4	4	0	0	0	0	16	11	Fair	Fair	Undersized	Yes	Direct	
1154	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	20	10	Dead	Dead	Hazard	Yes	Hazard	
1155	*Quercus berberidifolia*	California scrub oak	2	5	3	0	0	0	0	0	0	11	10	Fair	Fair	Undersized	Yes	Direct	
1156	*Quercus berberidifolia*	California scrub oak	2	4	2	0	0	0	0	0	0	9	10	Fair	Fair	Undersized	Yes	Direct	
1157	*Quercus berberidifolia*	California scrub oak	4	4	4	4	3	0	0	0	0	9	12	Fair	Fair	Undersized	Yes	Direct	
1158	*Quercus berberidifolia*	California scrub oak	5	4	4	4	3	3	0	0	0	9	12	Fair	Fair	Undersized	Yes	Direct	
1159	*Quercus berberidifolia*	California scrub oak	5	4	4	4	2	3	0	0	0	12	15	Fair	Fair	Undersized	Yes	Direct	
1160	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	12	6	Fair	Fair	Undersized	Yes	Direct	
1161	*Quercus berberidifolia*	California scrub oak	5	4	2	3	4	4	0	0	0	12	15	Fair	Fair	Undersized	Yes	Direct	
1162	*Quercus berberidifolia*	California scrub oak	4	2	2	3	2	0	0	0	0	12	9	Fair	Fair	Undersized	Yes	Direct	
1163	*Quercus berberidifolia*	California scrub oak	3	2	3	3	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1164	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	7	Fair	Fair	Undersized	Yes	Direct	
1165	*Quercus berberidifolia*	California scrub oak	4	4	2	2	6	0	0	0	0	19	14	Fair	Fair	Native	Yes	Direct	
1166	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	13	9	Dead	Dead	Hazard	Yes	Hazard	
1167	*Quercus berberidifolia*	California scrub oak	4	4	2	1	1	0	0	0	0	11	16	Poor	Poor	Undersized	Yes	Direct	
1168	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	16	9	Poor	Fair	Undersized	Yes	Direct	
1169	*Quercus berberidifolia*	California scrub oak	11	4	4	4	3	3	1	1	1	13	11	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in
1170	*Quercus agrifolia*	Coast live oak	4	14	14	15	4	0	0	0	0	28	30	Good	Fair	Native	Yes	Direct	
1171	*Heteromeles arbutifolia*	Toyon	4	3	3	2	2	0	0	0	0	15	12	Good	Fair	Undersized	Yes	Direct	
1172	*Heteromeles arbutifolia*	Toyon	7	3	3	2	2	2	1	1	0	15	10	Good	Fair	Undersized	Yes	Direct	
1173	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	15	9	Fair	Fair	Undersized	Yes	Direct	
1174	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	15	11	Fair	Fair	Undersized	Yes	Direct	
1175	*Quercus berberidifolia*	California scrub oak	12	4	4	3	3	3	1	1	1	17	19	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in
1176	*Quercus berberidifolia*	California scrub oak	2	3	1	0	0	0	0	0	0	10	6	Fair	Fair	Undersized	Yes	Direct	
1177	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	13	11	Fair	Fair	Undersized	Yes	Direct	
1178	*Quercus berberidifolia*	California scrub oak	3	2	2	3	0	0	0	0	0	11	10	Fair	Fair	Undersized	Yes	Direct	
1179	*Quercus berberidifolia*	California scrub oak	3	2	2	3	0	0	0	0	0	14	7	Fair	Fair	Undersized	Yes	Direct	
1180	*Quercus berberidifolia*	California scrub oak	11	6	4	4	4	4	1	1	1	16	26	Fair	Fair	Native	Yes	Encroachment	DBH 1in,1in,1in
1181	*Quercus berberidifolia*	California scrub oak	3	4	4	3	0	0	0	0	0	13	14	Fair	Fair	Undersized	Yes	Encroachment	
1182	*Quercus berberidifolia*	California scrub oak	14	3	3	3	2	2	1	1	1	14	10	Fair	Fair	Undersized	Yes	Indirect	DBH 1in,1in,1in,1in,1in,1in
1183	*Quercus berberidifolia*	California scrub oak	14	9	9	7	7	6	1	1	1	25	16	Fair	Fair	Native	Yes	Indirect	DBH 1in,1in,1in,1in,1in,1in
1184	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	9	Good	Fair	Undersized	Yes	Indirect	
1185	*Quercus agrifolia*	Coast live oak	2	16	23	0	0	0	0	0	0	40	30	Good	Fair	Native	Yes	Indirect	
1186	*Quercus berberidifolia*	California scrub oak	3	3	3	5	0	0	0	0	0	13	15	Fair	Fair	Undersized	Yes	Preserve in Place	
1187	*Quercus agrifolia*	Coast live oak	1	25	0	0	0	0	0	0	0	35	40	Fair	Fair	Native	Yes	Preserve in Place	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1188	*Quercus agrifolia*	Coast live oak	2	20	6	0	0	0	0	0	0	50	28	Fair	Fair	Native	Yes	Preserve in Place	
1189	*Quercus berberidifolia*	California scrub oak	8	1	1	2	2	2	1	1	1	12	10	Fair	Fair	Undersized	Yes	Preserve in Place	
1190	*Quercus berberidifolia*	California scrub oak	3	2	3	4	0	0	0	0	0	13	9	Fair	Fair	Undersized	Yes	Preserve in Place	
1191	*Quercus agrifolia*	Coast live oak	3	12	14	15	0	0	0	0	0	19	23	Fair	Poor	Native	Yes	Preserve in Place	
1192	*Quercus agrifolia*	Coast live oak	1	5	0	0	0	0	0	0	0	11	8	Good	Fair	Undersized	Yes	Preserve in Place	
1193	*Quercus agrifolia*	Coast live oak	1	10	0	0	0	0	0	0	0	14	9	Fair	Poor	Undersized	Yes	Preserve in Place	
1194	*Quercus berberidifolia*	California scrub oak	3	10	5	8	0	0	0	0	0	27	30	Fair	Fair	Native	Yes	Indirect	
1195	*Quercus berberidifolia*	California scrub oak	4	5	8	8	3	0	0	0	0	27	20	Fair	Fair	Native	Yes	Indirect	
1196	*Sambucus mexicana*	Blue elderberry	2	2	2	0	0	0	0	0	0	12	8	Poor	Poor	Undersized	Yes	Indirect	
1197	*Quercus agrifolia*	Coast live oak	4	6	4	7	9	0	0	0	0	17	19	Fair	Fair	Native	Yes	Indirect	
1198	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	9	Fair	Fair	Undersized	Yes	Indirect	
1199	*Quercus berberidifolia*	California scrub oak	4	4	4	4	4	0	0	0	0	14	16	Fair	Fair	Undersized	Yes	Encroachment	
1200	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	24	16	Fair	Fair	Native	Yes	Direct	
1201	*Quercus agrifolia*	Coast live oak	3	5	5	12	0	0	0	0	0	20	26	Fair	Fair	Native	Yes	Direct	
1202	*Sambucus mexicana*	Blue elderberry	3	4	7	7	0	0	0	0	0	17	15	Poor	Fair	Native	Yes	Direct	
1203	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	11	8	Fair	Fair	Undersized	Yes	Direct	
1204	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	13	6	Fair	Fair	Undersized	Yes	Direct	
1205	*Quercus berberidifolia*	California scrub oak	4	1	4	3	2	0	0	0	0	15	12	Fair	Fair	Undersized	Yes	Direct	
1206	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	12	6	Fair	Fair	Undersized	Yes	Encroachment	
1207	*Quercus berberidifolia*	California scrub oak	3	2	2	1	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
1208	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	12	12	Fair	Fair	Undersized	Yes	Direct	
1209	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	12	9	Fair	Fair	Undersized	Yes	Direct	
1210	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	13	16	Fair	Fair	Undersized	Yes	Direct	
1211	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	23	20	Fair	Fair	Native	Yes	Direct	
1212	*Quercus berberidifolia*	California scrub oak	2	6	6	0	0	0	0	0	0	16	20	Fair	Fair	Native	Yes	Direct	
1213	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	16	12	Fair	Fair	Undersized	Yes	Direct	
1214	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	16	8	Fair	Fair	Undersized	Yes	Direct	
1215	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	14	11	Fair	Fair	Undersized	Yes	Direct	
1216	*Quercus berberidifolia*	California scrub oak	5	3	3	3	2	2	0	0	0	16	10	Fair	Fair	Undersized	Yes	Direct	
1217	*Quercus berberidifolia*	California scrub oak	2	5	6	0	0	0	0	0	0	20	12	Fair	Fair	Native	Yes	Direct	
1218	*Quercus berberidifolia*	California scrub oak	4	3	4	3	3	0	0	0	0	17	16	Fair	Fair	Undersized	Yes	Direct	
1219	*Quercus berberidifolia*	California scrub oak	2	4	2	0	0	0	0	0	0	17	10	Fair	Fair	Undersized	Yes	Direct	
1220	*Quercus berberidifolia*	California scrub oak	5	4	6	5	7	4	0	0	0	27	30	Fair	Fair	Native	Yes	Direct	
1221	*Quercus berberidifolia*	California scrub oak	3	4	2	6	0	0	0	0	0	18	13	Fair	Fair	Native	Yes	Direct	
1222	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	14	8	Fair	Fair	Undersized	Yes	Direct	
1223	*Quercus berberidifolia*	California scrub oak	4	4	4	3	8	0	0	0	0	20	15	Fair	Fair	Native	Yes	Direct	
1224	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	10	7	Fair	Fair	Undersized	Yes	Direct	
1225	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
1226	*Quercus berberidifolia*	California scrub oak	15	4	4	4	3	3	1	1	1	19	15	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in
1227	*Sambucus mexicana*	Blue elderberry	5	2	3	3	5	3	0	0	0	9	10	Dead	Dead	Hazard	Yes	Hazard	
1228	*Quercus berberidifolia*	California scrub oak	5	2	3	3	2	3	0	0	0	14	12	Fair	Fair	Undersized	Yes	Direct	
1229	*Quercus berberidifolia*	California scrub oak	4	5	3	3	3	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
1230	*Quercus berberidifolia*	California scrub oak	4	5	4	5	6	0	0	0	0	20	15	Fair	Fair	Native	Yes	Direct	
1231	*Quercus agrifolia*	Coast live oak	3	10	10	12	0	0	0	0	0	30	30	Good	Fair	Native	Yes	Direct	
1232	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	9	12	Fair	Fair	Undersized	Yes	Direct	
1233	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	8	Fair	Fair	Undersized	Yes	Direct	
1234	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	
1235	*Quercus agrifolia*	Coast live oak	2	18	16	0	0	0	0	0	0	35	40	Fair	Fair	Native	Yes	Direct	
1236	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Direct	
1237	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	9	Fair	Fair	Undersized	Yes	Direct	
1238	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	15	9	Fair	Fair	Undersized	Yes	Direct	
1239	*Quercus berberidifolia*	California scrub oak	5	4	4	4	3	3	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
1240	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	11	7	Fair	Fair	Undersized	Yes	Direct	
1241	*Quercus berberidifolia*	California scrub oak	5	3	4	4	4	4	0	0	0	17	12	Fair	Fair	Undersized	Yes	Direct	
1242	*Quercus berberidifolia*	California scrub oak	3	1	3	2	0	0	0	0	0	12	6	Fair	Fair	Undersized	Yes	Direct	
1243	*Quercus berberidifolia*	California scrub oak	4	1	2	2	2	0	0	0	0	11	7	Fair	Fair	Undersized	Yes	Direct	
1244	*Quercus berberidifolia*	California scrub oak	2	6	6	0	0	0	0	0	0	10	16	Fair	Fair	Undersized	Yes	Direct	
1245	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	9	7	Fair	Fair	Undersized	Yes	Direct	
1246	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	9	5	Fair	Fair	Undersized	Yes	Direct	
1247	*Quercus berberidifolia*	California scrub oak	4	3	3	3	2	0	0	0	0	11	13	Fair	Fair	Undersized	Yes	Direct	
1248	*Quercus berberidifolia*	California scrub oak	2	3	6	0	0	0	0	0	0	16	10	Fair	Fair	Native	Yes	Direct	
1249	*Quercus berberidifolia*	California scrub oak	3	2	2	3	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1250	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	6	Fair	Fair	Undersized	Yes	Direct	
1251	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	6	Fair	Fair	Undersized	Yes	Direct	
1252	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	10	7	Fair	Fair	Undersized	Yes	Direct	
1253	*Quercus berberidifolia*	California scrub oak	7	5	3	2	2	2	1	1	0	13	9	Fair	Fair	Undersized	Yes	Direct	
1254	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	15	11	Fair	Fair	Undersized	Yes	Direct	
1255	*Quercus berberidifolia*	California scrub oak	1	7	0	0	0	0	0	0	0	20	11	Fair	Fair	Native	Yes	Direct	
1256	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	6	5	Fair	Fair	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1257	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	12	5	Fair	Fair	Undersized	Yes	Direct	
1258	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	14	6	Fair	Fair	Undersized	Yes	Direct	
1259	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	13	9	Fair	Fair	Undersized	Yes	Direct	
1260	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	8	11	Poor	Fair	Undersized	Yes	Direct	
1261	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	11	13	Fair	Fair	Undersized	Yes	Direct	
1262	*Quercus berberidifolia*	California scrub oak	4	3	3	3	2	0	0	0	0	14	12	Fair	Fair	Undersized	Yes	Direct	
1263	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	12	7	Fair	Fair	Undersized	Yes	Direct	
1264	*Quercus berberidifolia*	California scrub oak	15	6	6	5	5	4	1	1	1	17	18	Fair	Fair	Native	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in
1265	*Quercus berberidifolia*	California scrub oak	3	3	4	3	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1266	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1267	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1268	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1269	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	16	9	Fair	Fair	Undersized	Yes	Direct	
1270	*Quercus berberidifolia*	California scrub oak	2	4	2	0	0	0	0	0	0	14	7	Fair	Fair	Undersized	Yes	Direct	
1271	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	13	7	Good	Fair	Undersized	Yes	Direct	
1272	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	13	6	Good	Fair	Undersized	Yes	Direct	
1273	*Quercus berberidifolia*	California scrub oak	5	4	3	3	2	5	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
1274	*Quercus berberidifolia*	California scrub oak	3	4	3	2	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1275	*Quercus agrifolia*	Coast live oak	3	3	4	15	0	0	0	0	0	15	18	Fair	Fair	Native	Yes	Direct	
1276	*Quercus agrifolia*	Coast live oak	3	14	15	10	0	0	0	0	0	25	27	Fair	Fair	Native	Yes	Direct	
1277	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	12	8	Fair	Fair	Undersized	Yes	Direct	
1278	*Quercus berberidifolia*	California scrub oak	7	3	3	2	4	3	1	1	0	18	1	Fair	Fair	Undersized	Yes	Direct	
1279	*Quercus berberidifolia*	California scrub oak	4	3	2	2	2	0	0	0	0	10	9	Fair	Fair	Undersized	Yes	Direct	
1280	*Quercus berberidifolia*	California scrub oak	5	3	2	2	2	3	0	0	0	16	13	Fair	Fair	Undersized	Yes	Direct	
1281	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	15	9	Fair	Fair	Undersized	Yes	Direct	
1282	*Quercus berberidifolia*	California scrub oak	4	4	3	1	3	0	0	0	0	11	13	Fair	Fair	Undersized	Yes	Direct	
1283	*Quercus berberidifolia*	California scrub oak	5	3	3	4	2	4	0	0	0	12	14	Fair	Fair	Undersized	Yes	Direct	
1284	*Quercus berberidifolia*	California scrub oak	4	2	3	2	2	0	0	0	0	11	16	Fair	Fair	Undersized	Yes	Direct	
1285	*Quercus berberidifolia*	California scrub oak	2	2	4	0	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
1286	*Quercus berberidifolia*	California scrub oak	8	3	6	4	5	5	1	1	1	15	14	Fair	Fair	Native	Yes	Direct	
1287	*Quercus berberidifolia*	California scrub oak	3	5	5	3	0	0	0	0	0	15	13	Fair	Fair	Undersized	Yes	Direct	
1288	*Quercus berberidifolia*	California scrub oak	7	5	4	3	6	4	1	1	0	17	14	Fair	Fair	Native	Yes	Direct	
1289	*Quercus berberidifolia*	California scrub oak	5	4	4	3	3	4	0	0	0	12	15	Fair	Fair	Undersized	Yes	Direct	
1290	*Quercus berberidifolia*	California scrub oak	3	2	3	4	0	0	0	0	0	12	14	Fair	Fair	Undersized	Yes	Direct	
1291	*Quercus berberidifolia*	California scrub oak	4	6	4	5	3	0	0	0	0	18	12	Poor	Fair	Native	Yes	Direct	
1292	*Sambucus mexicana*	Blue elderberry	1	8	0	0	0	0	0	0	0	10	8	Dead	Dead	Hazard	Yes	Hazard	
1293	*Heteromeles arbutifolia*	Toyon	16	8	5	6	4	5	1	1	1	20	18	Good	Fair	Native	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in,1in,1in
1294	*Sambucus mexicana*	Blue elderberry	3	4	3	3	0	0	0	0	0	13	10	Poor	Poor	Undersized	Yes	Direct	
1295	*Quercus berberidifolia*	California scrub oak	3	3	1	0	0	0	0	0	0	14	13	Fair	Fair	Undersized	Yes	Direct	
1296	*Quercus berberidifolia*	California scrub oak	5	4	4	3	3	3	0	0	0	14	15	Fair	Fair	Undersized	Yes	Direct	
1297	*Quercus berberidifolia*	California scrub oak	15	3	3	3	3	3	1	1	1	15	15	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in,1in
1298	*Quercus berberidifolia*	California scrub oak	5	2	3	4	3	3	0	0	0	13	10	Fair	Fair	Undersized	Yes	Direct	
1299	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	13	7	Fair	Fair	Undersized	Yes	Direct	
1300	*Quercus berberidifolia*	California scrub oak	5	3	2	3	3	3	0	0	0	14	13	Fair	Fair	Undersized	Yes	Direct	
1301	*Quercus berberidifolia*	California scrub oak	3	6	5	4	0	0	0	0	0	13	13	Fair	Fair	Undersized	Yes	Direct	
1302	*Sambucus mexicana*	Blue elderberry	2	4	6	0	0	0	0	0	0	13	11	Dead	Dead	Hazard	Yes	Hazard	
1303	*Quercus berberidifolia*	California scrub oak	5	3	3	3	4	2	0	0	0	16	15	Fair	Fair	Undersized	Yes	Direct	
1304	*Quercus berberidifolia*	California scrub oak	10	3	3	3	4	4	1	1	1	18	18	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in
1305	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	3	0	0	0	13	10	Fair	Fair	Undersized	Yes	Direct	
1306	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	12	6	Fair	Fair	Undersized	Yes	Direct	
1307	*Quercus berberidifolia*	California scrub oak	4	2	4	4	2	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
1308	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	12	7	Fair	Fair	Undersized	Yes	Direct	
1309	*Sambucus mexicana*	Blue elderberry	3	9	4	4	0	0	0	0	0	11	15	Poor	Poor	Undersized	Yes	Direct	
1310	*Quercus berberidifolia*	California scrub oak	2	6	5	0	0	0	0	0	0	17	13	Fair	Fair	Native	Yes	Direct	
1311	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	17	9	Fair	Fair	Undersized	Yes	Direct	
1312	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	17	9	Fair	Fair	Native	Yes	Direct	
1313	*Quercus berberidifolia*	California scrub oak	1	8	0	0	0	0	0	0	0	14	8	Fair	Fair	Undersized	Yes	Direct	
1314	*Quercus berberidifolia*	California scrub oak	7	3	3	3	3	3	1	1	0	14	18	Fair	Fair	Undersized	Yes	Direct	
1315	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	12	Fair	Fair	Undersized	Yes	Direct	
1316	*Quercus berberidifolia*	California scrub oak	8	4	3	3	3	3	1	1	1	14	19	Fair	Fair	Undersized	Yes	Direct	
1317	*Quercus berberidifolia*	California scrub oak	4	3	3	3	3	0	0	0	0	14	15	Fair	Fair	Undersized	Yes	Direct	
1318	*Quercus berberidifolia*	California scrub oak	7	4	4	3	3	3	1	1	0	14	18	Fair	Fair	Undersized	Yes	Direct	
1319	*Sambucus mexicana*	Blue elderberry	2	7	3	0	0	0	0	0	0	16	7	Poor	Fair	Native	Yes	Direct	
1320	*Quercus berberidifolia*	California scrub oak	3	4	3	3	0	0	0	0	0	16	15	Poor	Fair	Undersized	Yes	Direct	
1321	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
1322	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	13	11	Fair	Fair	Undersized	Yes	Direct	
1323	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	14	9	Fair	Fair	Undersized	Yes	Direct	
1324	*Quercus berberidifolia*	California scrub oak	5	3	3	2	3	3	0	0	0	12	9	Fair	Fair	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1325	*Quercus berberidifolia*	California scrub oak	7	3	3	2	2	2	1	1	0	13	10	Poor	Fair	Undersized	Yes	Direct	
1326	*Sambucus mexicana*	Blue elderberry	4	5	11	3	6	0	0	0	0	16	10	Poor	Fair	Native	Yes	Direct	
1327	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	11	8	Fair	Fair	Undersized	Yes	Direct	
1328	*Quercus berberidifolia*	California scrub oak	10	3	4	3	3	3	1	1	1	15	11	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in
1329	*Quercus berberidifolia*	California scrub oak	5	3	4	3	2	2	0	0	0	12	14	Fair	Fair	Undersized	Yes	Direct	
1330	*Quercus berberidifolia*	California scrub oak	3	2	2	2	0	0	0	0	0	10	7	Fair	Fair	Undersized	Yes	Direct	
1331	*Sambucus mexicana*	Blue elderberry	2	10	4	0	0	0	0	0	0	22	10	Poor	Fair	Native	Yes	Direct	
1332	*Quercus berberidifolia*	California scrub oak	4	3	5	3	3	0	0	0	0	17	11	Fair	Fair	Undersized	Yes	Direct	
1333	*Quercus berberidifolia*	California scrub oak	4	2	3	6	5	0	0	0	0	17	12	Fair	Fair	Native	Yes	Direct	
1334	*Quercus berberidifolia*	California scrub oak	8	3	6	4	4	5	1	1	1	18	20	Fair	Fair	Native	Yes	Direct	
1335	*Sambucus mexicana*	Blue elderberry	2	3	10	0	0	0	0	0	0	18	9	Poor	Fair	Native	Yes	Direct	
1336	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	18	9	Fair	Fair	Undersized	Yes	Direct	
1337	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	12	6	Fair	Fair	Undersized	Yes	Direct	
1338	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	14	7	Good	Fair	Undersized	Yes	Direct	
1339	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	7	Fair	Fair	Undersized	Yes	Direct	
1340	*Quercus berberidifolia*	California scrub oak	5	4	4	4	3	3	0	0	0	15	17	Fair	Fair	Undersized	Yes	Direct	
1341	*Quercus berberidifolia*	California scrub oak	4	3	1	3	3	0	0	0	0	13	15	Fair	Fair	Undersized	Yes	Direct	
1342	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	15	9	Fair	Fair	Undersized	Yes	Direct	
1343	*Quercus berberidifolia*	California scrub oak	8	4	4	3	5	4	1	1	1	15	12	Fair	Fair	Undersized	Yes	Direct	
1344	*Quercus berberidifolia*	California scrub oak	4	3	4	3	3	0	0	0	0	10	13	Fair	Fair	Undersized	Yes	Direct	
1345	*Sambucus mexicana*	Blue elderberry	2	10	6	0	0	0	0	0	0	11	9	Poor	Fair	Undersized	Yes	Direct	
1346	*Quercus berberidifolia*	California scrub oak	5	4	3	3	3	3	0	0	0	15	17	Fair	Fair	Undersized	Yes	Direct	
1347	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	15	9	Fair	Fair	Undersized	Yes	Direct	
1348	*Sambucus mexicana*	Blue elderberry	2	6	14	0	0	0	0	0	0	27	10	Fair	Fair	Native	Yes	Direct	
1349	*Quercus berberidifolia*	California scrub oak	5	3	4	1	2	2	0	0	0	14	11	Fair	Fair	Undersized	Yes	Direct	
1350	*Quercus berberidifolia*	California scrub oak	2	4	2	0	0	0	0	0	0	16	11	Fair	Fair	Undersized	Yes	Direct	
1351	*Quercus berberidifolia*	California scrub oak	4	2	2	3	4	0	0	0	0	15	11	Fair	Fair	Undersized	Yes	Direct	
1352	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	13	7	Fair	Fair	Undersized	Yes	Direct	
1353	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	13	10	Fair	Fair	Undersized	Yes	Direct	
1354	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	
1355	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	10	12	Fair	Fair	Undersized	Yes	Direct	
1356	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	8	9	Fair	Fair	Undersized	Yes	Direct	
1357	*Quercus agrifolia*	Coast live oak	3	3	5	8	0	0	0	0	0	15	18	Fair	Fair	Native	Yes	Direct	
1358	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	35	20	Fair	Fair	Native	Yes	Direct	
1359	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	11	12	Fair	Fair	Undersized	Yes	Direct	
1360	*Quercus berberidifolia*	California scrub oak	3	7	4	2	0	0	0	0	0	27	14	Fair	Fair	Native	Yes	Direct	
1361	*Quercus berberidifolia*	California scrub oak	5	3	3	4	6	3	0	0	0	17	12	Fair	Fair	Native	Yes	Direct	
1362	*Quercus berberidifolia*	California scrub oak	5	3	4	3	3	3	0	0	0	14	8	Fair	Fair	Undersized	Yes	Direct	
1363	*Quercus berberidifolia*	California scrub oak	2	6	3	0	0	0	0	0	0	16	9	Fair	Fair	Native	Yes	Direct	
1364	*Quercus berberidifolia*	California scrub oak	8	4	3	3	3	2	1	1	1	15	9	Fair	Fair	Undersized	Yes	Direct	
1365	*Quercus berberidifolia*	California scrub oak	5	2	3	3	3	4	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
1366	*Quercus berberidifolia*	California scrub oak	4	2	1	3	2	0	0	0	0	11	8	Fair	Fair	Undersized	Yes	Direct	
1367	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	14	16	Fair	Fair	Undersized	Yes	Direct	
1368	*Quercus berberidifolia*	California scrub oak	4	3	3	3	2	0	0	0	0	14	9	Fair	Fair	Undersized	Yes	Direct	
1369	*Quercus berberidifolia*	California scrub oak	15	3	3	3	3	3	1	1	1	15	15	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in
1370	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	10	6	Fair	Fair	Undersized	Yes	Direct	
1371	*Quercus berberidifolia*	California scrub oak	7	3	4	3	3	4	1	1	0	15	15	Fair	Fair	Undersized	Yes	Direct	
1372	*Quercus berberidifolia*	California scrub oak	15	3	3	3	3	3	1	1	1	11	17	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in
1373	*Quercus berberidifolia*	California scrub oak	15	3	2	2	2	2	1	1	1	13	18	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in
1374	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	13	8	Poor	Fair	Undersized	Yes	Direct	
1375	*Quercus berberidifolia*	California scrub oak	4	2	2	1	1	0	0	0	0	13	10	Dead	Dead	Hazard	Yes	Hazard	
1376	*Quercus berberidifolia*	California scrub oak	5	3	3	2	2	1	0	0	0	14	12	Fair	Fair	Undersized	Yes	Direct	
1377	*Quercus berberidifolia*	California scrub oak	4	3	3	2	2	0	0	0	0	13	10	Fair	Fair	Undersized	Yes	Direct	
1378	*Quercus berberidifolia*	California scrub oak	13	5	4	4	3	3	1	1	1	14	20	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in
1379	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	3	0	0	0	17	20	Fair	Fair	Undersized	Yes	Direct	
1380	*Quercus berberidifolia*	California scrub oak	12	3	3	3	3	3	1	1	1	17	20	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in
1381	*Quercus berberidifolia*	California scrub oak	8	3	3	3	2	2	1	1	1	11	16	Fair	Fair	Undersized	Yes	Indirect	
1382	*Quercus berberidifolia*	California scrub oak	10	3	3	2	2	2	1	1	1	16	14	Fair	Fair	Undersized	Yes	Indirect	DBH 1in,1in
1383	*Quercus berberidifolia*	California scrub oak	7	4	3	4	4	4	1	1	0	13	14	Fair	Fair	Undersized	Yes	Indirect	
1384	*Quercus berberidifolia*	California scrub oak	7	4	3	4	4	4	1	1	0	15	13	Fair	Fair	Undersized	Yes	Indirect	
1385	*Heteromeles arbutifolia*	Toyon	10	4	3	4	4	4	1	1	1	12	17	Fair	Fair	Undersized	Yes	Indirect	DBH 1in,1in
1386	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Indirect	
1387	*Heteromeles arbutifolia*	Toyon	7	3	3	2	2	2	1	1	0	15	8	Fair	Fair	Undersized	Yes	Indirect	
1388	*Quercus agrifolia*	Coast live oak	1	17	0	0	0	0	0	0	0	20	13	Fair	Fair	Native	Yes	Indirect	
1389	*Heteromeles arbutifolia*	Toyon	13	3	3	3	3	3	1	1	1	10	18	Fair	Fair	Undersized	Yes	Indirect	DBH 1in,1in,1in,1in,1in
1390	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	13	12	Fair	Fair	Undersized	Yes	Preserve in Place	
1391	*Quercus berberidifolia*	California scrub oak	4	4	4	4	4	0	0	0	0	16	12	Fair	Fair	Undersized	Yes	Preserve in Place	
1392	*Quercus agrifolia*	Coast live oak	2	16	13	0	0	0	0	0	0	35	20	Fair	Fair	Native	Yes	Preserve in Place	
1393	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	13	9	Fair	Fair	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1394	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	10	12	Fair	Fair	Undersized	Yes	Direct	
1395	*Quercus berberidifolia*	California scrub oak	1	15	0	0	0	0	0	0	0	24	16	Fair	Fair	Native	Yes	Direct	
1396	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	14	7	Fair	Fair	Undersized	Yes	Direct	
1397	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	11	12	Fair	Fair	Undersized	Yes	Direct	
1398	*Quercus berberidifolia*	California scrub oak	3	6	3	4	0	0	0	0	0	14	17	Fair	Fair	Undersized	Yes	Direct	
1399	*Sambucus mexicana*	Blue elderberry	1	9	0	0	0	0	0	0	0	14	12	Fair	Fair	Undersized	Yes	Direct	
1400	*Quercus berberidifolia*	California scrub oak	2	2	4	0	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
1401	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	15	6	Fair	Fair	Undersized	Yes	Direct	
1402	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	15	8	Fair	Fair	Native	Yes	Direct	
1403	*Quercus berberidifolia*	California scrub oak	3	6	3	2	0	0	0	0	0	15	12	Fair	Fair	Native	Yes	Direct	
1404	*Quercus berberidifolia*	California scrub oak	3	6	5	3	0	0	0	0	0	11	12	Poor	Fair	Undersized	Yes	Direct	
1405	*Quercus berberidifolia*	California scrub oak	7	6	4	3	5	3	1	1	0	11	14	Fair	Fair	Undersized	Yes	Direct	
1406	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Indirect	
1407	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
1408	*Quercus berberidifolia*	California scrub oak	2	10	2	0	0	0	0	0	0	16	12	Fair	Fair	Native	Yes	Direct	
1409	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	15	9	Fair	Fair	Native	Yes	Direct	
1410	*Quercus berberidifolia*	California scrub oak	3	3	8	8	0	0	0	0	0	18	17	Fair	Fair	Native	Yes	Direct	
1411	*Quercus agrifolia*	Coast live oak	1	17	0	0	0	0	0	0	0	37	30	Fair	Fair	Native	Yes	Direct	
1412	*Quercus agrifolia*	Coast live oak	2	16	20	0	0	0	0	0	0	45	32	Fair	Fair	Native	Yes	Direct	
1413	*Sambucus mexicana*	Blue elderberry	1	5	0	0	0	0	0	0	0	20	10	Dead	Dead	Hazard	Yes	Hazard	
1414	*Sambucus mexicana*	Blue elderberry	1	5	0	0	0	0	0	0	0	20	10	Dead	Dead	Hazard	Yes	Hazard	
1415	*Quercus berberidifolia*	California scrub oak	5	3	2	3	4	4	0	0	0	13	15	Fair	Fair	Undersized	Yes	Direct	
1416	*Quercus berberidifolia*	California scrub oak	8	8	6	5	4	3	1	1	1	14	19	Fair	Fair	Undersized	Yes	Direct	
1417	*Quercus berberidifolia*	California scrub oak	3	6	3	4	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1418	*Quercus berberidifolia*	California scrub oak	7	3	3	4	4	3	1	1	0	14	10	Fair	Fair	Undersized	Yes	Direct	
1419	*Sambucus mexicana*	Blue elderberry	2	7	3	0	0	0	0	0	0	14	9	Poor	Fair	Undersized	Yes	Direct	
1420	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	14	12	Fair	Fair	Undersized	Yes	Direct	
1421	*Sambucus mexicana*	Blue elderberry	1	9	0	0	0	0	0	0	0	11	6	Dead	Dead	Hazard	Yes	Hazard	
1422	*Quercus berberidifolia*	California scrub oak	4	3	3	3	3	0	0	0	0	7	6	Fair	Fair	Undersized	Yes	Direct	
1423	*Quercus berberidifolia*	California scrub oak	4	3	3	4	3	0	0	0	0	12	11	Poor	Fair	Undersized	Yes	Direct	
1424	*Quercus berberidifolia*	California scrub oak	5	3	3	2	4	2	0	0	0	13	12	Fair	Fair	Undersized	Yes	Direct	
1425	*Quercus berberidifolia*	California scrub oak	5	3	3	2	2	2	0	0	0	13	11	Poor	Fair	Undersized	Yes	Direct	
1426	*Quercus berberidifolia*	California scrub oak	7	3	3	4	3	3	1	1	0	14	11	Fair	Fair	Undersized	Yes	Direct	
1427	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	14	9	Fair	Fair	Undersized	Yes	Direct	
1428	*Quercus berberidifolia*	California scrub oak	1	8	0	0	0	0	0	0	0	17	9	Fair	Fair	Native	Yes	Direct	
1429	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	3	0	0	0	14	17	Fair	Fair	Undersized	Yes	Direct	
1430	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	11	6	Fair	Fair	Undersized	Yes	Direct	
1431	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	12	6	Poor	Poor	Undersized	Yes	Direct	
1432	*Heteromeles arbutifolia*	Toyon	18	3	3	3	3	3	1	1	1	14	15	Good	Poor	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in,1in,1in,1in
1433	*Heteromeles arbutifolia*	Toyon	14	6	9	3	3	3	1	1	1	14	17	Fair	Poor	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in
1434	*Quercus berberidifolia*	California scrub oak	4	3	3	3	3	0	0	0	0	13	16	Fair	Poor	Undersized	Yes	Direct	
1435	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	4	0	0	0	14	16	Poor	Fair	Undersized	Yes	Direct	
1436	*Quercus berberidifolia*	California scrub oak	3	3	4	4	0	0	0	0	0	15	11	Poor	Fair	Undersized	Yes	Direct	
1437	*Quercus berberidifolia*	California scrub oak	4	3	3	3	2	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
1438	*Quercus berberidifolia*	California scrub oak	4	3	3	3	2	0	0	0	0	16	8	Poor	Fair	Undersized	Yes	Direct	
1439	*Heteromeles arbutifolia*	Toyon	12	6	6	4	4	5	1	1	1	14	18	Poor	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in
1440	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	7	Poor	Fair	Undersized	Yes	Direct	
1441	*Quercus berberidifolia*	California scrub oak	11	4	4	5	5	4	1	1	1	14	14	Poor	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in
1442	*Quercus berberidifolia*	California scrub oak	4	2	4	5	6	0	0	0	0	18	14	Poor	Fair	Native	Yes	Direct	
1443	*Quercus berberidifolia*	California scrub oak	8	3	6	4	6	6	1	1	1	18	16	Poor	Fair	Native	Yes	Direct	
1444	*Quercus berberidifolia*	California scrub oak	4	4	4	3	3	0	0	0	0	14	16	Poor	Fair	Undersized	Yes	Direct	
1445	*Quercus berberidifolia*	California scrub oak	13	2	2	2	2	2	1	1	1	11	16	Poor	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in
1446	*Heteromeles arbutifolia*	Toyon	16	4	4	4	4	2	1	1	1	16	13	Fair	Poor	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in
1447	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	13	10	Fair	Fair	Undersized	Yes	Direct	
1448	*Quercus berberidifolia*	California scrub oak	5	3	3	2	2	2	0	0	0	12	7	Fair	Fair	Undersized	Yes	Direct	
1449	*Quercus berberidifolia*	California scrub oak	11	2	2	2	2	2	1	1	1	12	9	Poor	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in
1450	*Quercus berberidifolia*	California scrub oak	9	2	2	2	2	2	1	1	1	12	10	Poor	Fair	Undersized	Yes	Direct	DBH 1in
1451	*Quercus berberidifolia*	California scrub oak	4	3	3	2	2	0	0	0	0	11	9	Poor	Fair	Undersized	Yes	Direct	
1452	*Quercus berberidifolia*	California scrub oak	4	2	2	2	2	0	0	0	0	11	8	Poor	Fair	Undersized	Yes	Direct	
1453	*Quercus berberidifolia*	California scrub oak	5	2	2	2	2	2	0	0	0	12	6	Poor	Fair	Undersized	Yes	Direct	
1454	*Quercus berberidifolia*	California scrub oak	3	2	2	2	0	0	0	0	0	10	6	Poor	Fair	Undersized	Yes	Direct	
1455	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	7	5	Poor	Fair	Undersized	Yes	Direct	
1456	*Sambucus mexicana*	Blue elderberry	2	3	9	0	0	0	0	0	0	17	13	Dead	Dead	Hazard	Yes	Hazard	
1457	*Quercus berberidifolia*	California scrub oak	3	8	4	4	0	0	0	0	0	17	13	Fair	Fair	Native	Yes	Direct	
1458	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	14	8	Good	Fair	Undersized	Yes	Direct	
1459	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	12	9	Good	Fair	Undersized	Yes	Direct	
1460	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
1461	*Quercus berberidifolia*	California scrub oak	5	5	4	4	4	4	0	0	0	14	12	Fair	Fair	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1462	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	9	6	Fair	Fair	Undersized	Yes	Direct	
1463	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	9	6	Fair	Fair	Undersized	Yes	Direct	
1464	*Quercus berberidifolia*	California scrub oak	2	6	7	0	0	0	0	0	0	23	16	Fair	Fair	Native	Yes	Direct	
1465	*Quercus berberidifolia*	California scrub oak	3	4	4	3	0	0	0	0	0	13	14	Fair	Fair	Undersized	Yes	Direct	
1466	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	13	7	Fair	Fair	Undersized	Yes	Direct	
1467	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	13	7	Fair	Fair	Undersized	Yes	Direct	
1468	*Quercus berberidifolia*	California scrub oak	7	3	3	3	3	3	1	1	0	8	15	Fair	Fair	Undersized	Yes	Direct	
1469	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	8	11	Fair	Fair	Undersized	Yes	Direct	
1470	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	9	12	Fair	Fair	Undersized	Yes	Direct	
1471	*Quercus berberidifolia*	California scrub oak	4	4	3	2	2	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
1472	*Quercus berberidifolia*	California scrub oak	2	6	3	0	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1473	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	6	Fair	Fair	Undersized	Yes	Direct	
1474	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	12	5	Fair	Fair	Undersized	Yes	Direct	
1475	*Quercus berberidifolia*	California scrub oak	8	3	2	3	3	3	1	1	1	12	11	Fair	Fair	Undersized	Yes	Direct	
1476	*Quercus berberidifolia*	California scrub oak	7	3	2	2	2	2	1	1	0	14	11	Fair	Fair	Undersized	Yes	Direct	
1477	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	9	11	Fair	Fair	Undersized	Yes	Direct	
1478	*Heteromeles arbutifolia*	Toyon	5	2	2	2	1	1	0	0	0	12	11	Fair	Fair	Undersized	Yes	Direct	
1479	*Heteromeles arbutifolia*	Toyon	9	2	2	1	1	1	1	1	1	12	13	Fair	Fair	Undersized	Yes	Direct	DBH 1
1480	*Quercus berberidifolia*	California scrub oak	2	2	3	0	0	0	0	0	0	12	9	Fair	Fair	Undersized	Yes	Direct	
1481	*Quercus berberidifolia*	California scrub oak	3	2	5	2	0	0	0	0	0	12	9	Fair	Fair	Undersized	Yes	Direct	
1482	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	12	9	Fair	Fair	Undersized	Yes	Direct	
1483	*Sambucus mexicana*	Blue elderberry	2	3	2	0	0	0	0	0	0	13	9	Fair	Poor	Undersized	Yes	Direct	
1484	*Quercus berberidifolia*	California scrub oak	5	2	2	3	3	2	0	0	0	14	11	Fair	Fair	Undersized	Yes	Direct	
1485	*Heteromeles arbutifolia*	Toyon	4	3	2	3	3	0	0	0	0	14	11	Fair	Fair	Undersized	Yes	Direct	
1486	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	14	6	Fair	Fair	Undersized	Yes	Direct	
1487	*Quercus berberidifolia*	California scrub oak	4	2	2	2	1	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
1488	*Quercus berberidifolia*	California scrub oak	5	3	3	4	4	5	0	0	0	18	12	Fair	Fair	Undersized	Yes	Direct	
1489	*Heteromeles arbutifolia*	Toyon	8	3	3	3	3	3	1	1	1	16	13	Good	Fair	Undersized	Yes	Direct	
1490	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	16	10	Good	Fair	Undersized	Yes	Direct	
1491	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	13	9	Good	Fair	Undersized	Yes	Direct	
1492	*Heteromeles arbutifolia*	Toyon	4	6	4	3	4	0	0	0	0	17	14	Good	Fair	Native	Yes	Direct	
1493	*Heteromeles arbutifolia*	Toyon	1	7	0	0	0	0	0	0	0	5	4	Poor	Poor	Undersized	Yes	Direct	
1494	*Quercus berberidifolia*	California scrub oak	4	3	3	2	2	0	0	0	0	12	10	Poor	Poor	Undersized	Yes	Direct	
1495	*Quercus berberidifolia*	California scrub oak	7	3	3	2	2	2	1	1	0	9	10	Fair	Poor	Undersized	Yes	Direct	
1496	*Quercus berberidifolia*	California scrub oak	5	3	3	2	2	2	0	0	0	15	14	Fair	Fair	Undersized	Yes	Direct	
1497	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	10	12	Fair	Fair	Undersized	Yes	Direct	
1498	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	3	0	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
1499	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	3	0	0	0	13	8	Poor	Fair	Undersized	Yes	Direct	
1500	*Quercus berberidifolia*	California scrub oak	3	3	4	2	0	0	0	0	0	11	8	Fair	Fair	Undersized	Yes	Direct	
1501	*Quercus berberidifolia*	California scrub oak	3	3	4	2	0	0	0	0	0	11	9	Poor	Fair	Undersized	Yes	Direct	
1502	*Quercus berberidifolia*	California scrub oak	18	3	3	2	2	2	1	1	1	14	12	Poor	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in,1in,1in,1in,1in,1in
1503	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	10	10	Poor	Fair	Undersized	Yes	Direct	
1504	*Quercus berberidifolia*	California scrub oak	7	3	3	2	2	2	1	1	0	10	15	Poor	Fair	Undersized	Yes	Direct	
1505	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
1506	*Quercus berberidifolia*	California scrub oak	22	3	2	2	3	2	1	1	1	14	14	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in,1in,1in,1in,1in,1in,1in,1in
1507	*Quercus berberidifolia*	California scrub oak	9	3	2	2	3	2	1	1	1	15	9	Fair	Fair	Undersized	Yes	Direct	1
1508	*Quercus berberidifolia*	California scrub oak	10	3	4	4	3	2	1	1	1	16	11	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in
1509	*Quercus berberidifolia*	California scrub oak	8	3	4	4	3	2	1	1	1	17	11	Fair	Fair	Undersized	Yes	Direct	
1510	*Quercus berberidifolia*	California scrub oak	5	4	3	4	3	2	0	0	0	15	11	Fair	Fair	Undersized	Yes	Direct	
1511	*Quercus berberidifolia*	California scrub oak	4	4	3	3	5	0	0	0	0	15	11	Fair	Fair	Undersized	Yes	Direct	
1512	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	12	8	Poor	Fair	Undersized	Yes	Direct	
1513	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
1514	*Quercus berberidifolia*	California scrub oak	5	3	3	2	2	3	0	0	0	10	15	Fair	Fair	Undersized	Yes	Direct	
1515	*Quercus berberidifolia*	California scrub oak	2	3	5	0	0	0	0	0	0	13	10	Fair	Fair	Undersized	Yes	Direct	
1516	*Quercus berberidifolia*	California scrub oak	4	5	6	2	3	0	0	0	0	16	14	Fair	Fair	Native	Yes	Direct	
1517	*Quercus berberidifolia*	California scrub oak	8	2	2	2	2	2	1	1	1	11	11	Fair	Fair	Undersized	Yes	Direct	
1518	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	15	7	Poor	Fair	Native	Yes	Direct	
1519	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	12	5	Fair	Fair	Undersized	Yes	Direct	
1520	*Quercus berberidifolia*	California scrub oak	2	4	2	0	0	0	0	0	0	12	6	Fair	Fair	Undersized	Yes	Direct	
1521	*Quercus berberidifolia*	California scrub oak	5	2	2	2	2	2	0	0	0	9	9	Fair	Fair	Undersized	Yes	Direct	
1522	*Quercus berberidifolia*	California scrub oak	2	2	3	0	0	0	0	0	0	13	12	Fair	Fair	Undersized	Yes	Direct	
1523	*Quercus berberidifolia*	California scrub oak	3	2	3	3	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
1524	*Quercus berberidifolia*	California scrub oak	7	4	3	3	2	3	1	1	0	18	15	Fair	Fair	Undersized	Yes	Direct	
1525	*Quercus berberidifolia*	California scrub oak	5	6	3	3	2	2	0	0	0	18	15	Fair	Fair	Native	Yes	Direct	
1526	*Quercus berberidifolia*	California scrub oak	4	4	4	3	2	0	0	0	0	13	11	Fair	Fair	Undersized	Yes	Direct	
1527	*Quercus berberidifolia*	California scrub oak	5	1	4	3	3	2	0	0	0	12	11	Fair	Fair	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1528	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	10	9	Fair	Fair	Undersized	Yes	Direct	
1529	*Quercus berberidifolia*	California scrub oak	3	1	4	3	0	0	0	0	0	13	9	Fair	Fair	Undersized	Yes	Direct	
1530	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	17	10	Fair	Fair	Undersized	Yes	Direct	
1531	*Quercus berberidifolia*	California scrub oak	3	4	3	4	0	0	0	0	0	10	12	Fair	Fair	Undersized	Yes	Direct	
1532	*Quercus berberidifolia*	California scrub oak	3	4	3	4	0	0	0	0	0	12	12	Fair	Fair	Undersized	Yes	Direct	
1533	*Quercus berberidifolia*	California scrub oak	3	4	5	4	0	0	0	0	0	14	12	Fair	Fair	Undersized	Yes	Direct	
1534	*Heteromeles arbutifolia*	Toyon	10	4	4	4	3	3	1	1	1	14	15	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in
1535	*Quercus berberidifolia*	California scrub oak	5	4	4	4	3	2	0	0	0	17	12	Fair	Fair	Undersized	Yes	Direct	
1536	*Quercus berberidifolia*	California scrub oak	9	7	4	3	3	2	1	1	1	18	17	Poor	Fair	Native	Yes	Indirect	DBH 1in
1537	*Quercus berberidifolia*	California scrub oak	2	6	5	0	0	0	0	0	0	20	16	Poor	Fair	Native	Yes	Indirect	
1538	*Quercus berberidifolia*	California scrub oak	8	5	3	2	2	2	1	1	1	13	15	Fair	Fair	Undersized	Yes	Indirect	
1539	*Quercus agrifolia*	Coast live oak	3	19	11	12	0	0	0	0	0	25	35	Poor	Poor	Native	Yes	Preserve in Place	
1540	*Quercus agrifolia*	Coast live oak	4	11	6	3	4	0	0	0	0	14	21	Fair	Poor	Undersized	Yes	Preserve in Place	
1541	*Sambucus mexicana*	Blue elderberry	2	6	3	0	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Preserve in Place	
1543	*Quercus berberidifolia*	California scrub oak	8	3	3	3	4	4	1	1	1	11	13	Poor	Fair	Undersized	Yes	Direct	
1544	*Quercus berberidifolia*	California scrub oak	17	3	3	3	4	4	1	1	1	12	15	Poor	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in,1in,1in
1545	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	9	8	Poor	Fair	Undersized	Yes	Direct	
1546	*Quercus berberidifolia*	California scrub oak	5	3	3	3	4	4	0	0	0	9	17	Poor	Fair	Undersized	Yes	Direct	
1547	*Quercus berberidifolia*	California scrub oak	8	2	2	2	2	2	1	1	1	11	13	Fair	Fair	Undersized	Yes	Direct	
1548	*Quercus berberidifolia*	California scrub oak	3	4	3	3	0	0	0	0	0	13	11	Fair	Fair	Undersized	Yes	Direct	
1549	*Quercus berberidifolia*	California scrub oak	9	4	3	3	3	3	1	1	1	11	17	Fair	Fair	Undersized	Yes	Direct	DBH 1in
1550	*Quercus berberidifolia*	California scrub oak	7	4	3	3	3	3	1	1	0	11	15	Poor	Fair	Undersized	Yes	Direct	
1552	*Quercus berberidifolia*	California scrub oak	9	4	3	3	3	3	1	1	1	14	17	Good	Fair	Undersized	Yes	Direct	DBH 1in
1553	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	14	9	Fair	Fair	Undersized	Yes	Direct	
1554	*Quercus berberidifolia*	California scrub oak	9	3	3	3	3	3	1	1	1	14	10	Fair	Fair	Undersized	Yes	Direct	DBH 1in
1555	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	16	8	Fair	Fair	Undersized	Yes	Direct	
1556	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	11	12	Poor	Poor	Undersized	Yes	Direct	
1557	*Quercus berberidifolia*	California scrub oak	14	2	3	3	2	2	1	1	1	11	12	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in
1558	*Quercus berberidifolia*	California scrub oak	5	2	3	2	2	2	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1559	*Quercus berberidifolia*	California scrub oak	15	2	2	2	2	2	1	1	1	12	18	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in
1560	*Quercus berberidifolia*	California scrub oak	17	2	2	2	2	2	1	1	1	20	30	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in,1in,1in
1561	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	15	5	Fair	Fair	Undersized	Yes	Direct	
1562	*Quercus berberidifolia*	California scrub oak	15	2	2	2	2	2	1	1	1	11	15	Poor	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in
1563	*Quercus berberidifolia*	California scrub oak	8	2	2	2	2	2	1	1	1	12	15	Poor	Fair	Undersized	Yes	Direct	
1565	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	12	8	Fair	Fair	Undersized	Yes	Direct	
1566	*Quercus berberidifolia*	California scrub oak	10	4	3	3	3	6	1	1	1	15	16	Fair	Fair	Native	Yes	Direct	DBH 1in,1in
1567	*Quercus berberidifolia*	California scrub oak	12	2	2	2	2	2	1	1	1	11	15	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in
1568	*Quercus berberidifolia*	California scrub oak	5	6	7	5	3	3	0	0	0	17	15	Fair	Fair	Native	Yes	Direct	
1572	*Quercus berberidifolia*	California scrub oak	5	4	4	4	3	3	0	0	0	17	17	Fair	Fair	Undersized	Yes	Direct	
1575	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	14	6	Poor	Fair	Undersized	Yes	Direct	
1576	*Quercus berberidifolia*	California scrub oak	3	4	3	4	0	0	0	0	0	16	9	Poor	Fair	Undersized	Yes	Direct	
1577	*Quercus berberidifolia*	California scrub oak	4	4	3	4	4	4	0	0	0	18	15	Poor	Fair	Undersized	Yes	Direct	
1578	*Quercus berberidifolia*	California scrub oak	5	2	2	2	2	2	0	0	0	15	11	Poor	Fair	Undersized	Yes	Direct	
1579	*Quercus berberidifolia*	California scrub oak	15	2	2	2	2	2	1	1	1	15	10	Poor	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in
1580	*Quercus berberidifolia*	California scrub oak	3	2	2	3	0	0	0	0	0	15	10	Poor	Fair	Undersized	Yes	Direct	
1581	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	11	6	Fair	Fair	Undersized	Yes	Direct	
1582	*Quercus berberidifolia*	California scrub oak	5	3	2	2	2	2	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1583	*Quercus berberidifolia*	California scrub oak	3	3	2	2	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1584	*Quercus berberidifolia*	California scrub oak	4	2	2	2	2	0	0	0	0	10	8	Poor	Poor	Undersized	Yes	Direct	
1585	*Quercus berberidifolia*	California scrub oak	2	2	3	0	0	0	0	0	0	12	9	Poor	Fair	Undersized	Yes	Direct	
1586	*Quercus berberidifolia*	California scrub oak	4	2	3	2	2	0	0	0	0	12	14	Good	Fair	Undersized	Yes	Direct	
1587	*Quercus berberidifolia*	California scrub oak	8	2	3	2	2	3	1	1	1	15	14	Fair	Good	Undersized	Yes	Direct	
1588	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	5	Poor	Fair	Undersized	Yes	Direct	
1589	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	5	Fair	Fair	Undersized	Yes	Direct	
1592	*Quercus berberidifolia*	California scrub oak	5	3	4	4	2	2	0	0	0	15	8	Fair	Fair	Undersized	Yes	Direct	
1593	*Quercus berberidifolia*	California scrub oak	10	2	2	2	2	2	1	1	1	13	11	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in
1594	*Heteromeles arbutifolia*	Toyon	8	2	2	2	2	2	1	1	1	11	9	Fair	Fair	Undersized	Yes	Direct	
1595	*Quercus berberidifolia*	California scrub oak	3	2	2	2	0	0	0	0	0	12	15	Fair	Fair	Undersized	Yes	Direct	
1596	*Quercus berberidifolia*	California scrub oak	5	4	3	2	2	2	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
1597	*Quercus berberidifolia*	California scrub oak	8	4	3	2	2	2	1	1	1	17	20	Fair	Fair	Undersized	Yes	Direct	
1598	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	9	4	Fair	Fair	Undersized	Yes	Direct	
1599	*Heteromeles arbutifolia*	Toyon	9	3	3	3	2	2	1	1	1	11	12	Fair	Fair	Undersized	Yes	Direct	DBH 1in
1600	*Quercus berberidifolia*	California scrub oak	5	3	3	3	2	1	0	0	0	11	14	Fair	Fair	Undersized	Yes	Direct	
1601	*Heteromeles arbutifolia*	Toyon	11	3	3	3	2	2	1	1	1	16	14	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in
1602	*Heteromeles arbutifolia*	Toyon	1	5	0	0	0	0	0	0	0	12	8	Poor	Fair	Undersized	Yes	Direct	
1603	*Quercus berberidifolia*	California scrub oak	11	4	4	4	3	3	1	1	1	18	20	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in
1604	*Quercus berberidifolia*	California scrub oak	8	3	3	3	3	3	1	1	1	12	18	Fair	Fair	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1606	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	3	0	0	0	12	18	Fair	Fair	Undersized	Yes	Direct	
1607	*Quercus berberidifolia*	California scrub oak	5	2	2	2	2	2	0	0	0	12	15	Fair	Fair	Undersized	Yes	Direct	
1608	*Quercus berberidifolia*	California scrub oak	2	6	4	0	0	0	0	0	0	15	7	Poor	Fair	Native	Yes	Direct	
1609	*Quercus berberidifolia*	California scrub oak	16	2	2	2	2	2	1	1	1	15	20	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in,1in
1610	*Quercus berberidifolia*	California scrub oak	9	2	2	2	2	2	1	1	1	12	7	Fair	Fair	Undersized	Yes	Direct	DBH 1in
1611	*Quercus berberidifolia*	California scrub oak	16	2	2	2	2	2	1	1	1	14	16	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in,1in
1615	*Quercus agrifolia*	Coast live oak	1	29	0	0	0	0	0	0	0	45	40	Good	Fair	Native	Yes	Preserve in Place	
1616	*Quercus agrifolia*	Coast live oak	1	33	0	0	0	0	0	0	0	40	40	Good	Fair	Native	Yes	Preserve in Place	
1619	*Quercus berberidifolia*	California scrub oak	4	4	4	3	2	0	0	0	0	14	12	Good	Fair	Undersized	Yes	Preserve in Place	
1620	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	11	5	Fair	Fair	Undersized	Yes	Indirect	
1621	*Quercus berberidifolia*	California scrub oak	4	3	3	4	3	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Indirect	
1630	*Eucalyptus camaldulensis*	River red gum	2	12	20	0	0	0	0	0	0	70	40	Fair	Fair	Significant	No	Indirect	
1631	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	9	4	Poor	Fair	Undersized	Yes	Indirect	
1632	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	4	Fair	Fair	Undersized	Yes	Indirect	
1633	*Quercus agrifolia*	Coast live oak	1	24	0	0	0	0	0	0	0	40	40	Fair	Fair	Native	Yes	Indirect	
1634	*Quercus agrifolia*	Coast live oak	2	6	4	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Indirect	
1635	*Quercus agrifolia*	Coast live oak	1	17	0	0	0	0	0	0	0	17	25	Fair	Fair	Native	Yes	Indirect	
1636	*Quercus agrifolia*	Coast live oak	2	18	10	0	0	0	0	0	0	35	35	Fair	Fair	Native	Yes	Indirect	
1637	*Eucalyptus camaldulensis*	River red gum	2	16	19	0	0	0	0	0	0	75	35	Fair	Fair	Significant	No	Indirect	
1638	*Eucalyptus camaldulensis*	River red gum	1	16	0	0	0	0	0	0	0	60	27	Fair	Fair	Significant	No	Indirect	
1639	*Quercus agrifolia*	Coast live oak	2	16	9	0	0	0	0	0	0	25	18	Dead	Dead	Hazard	Yes	Hazard	
1640	*Quercus agrifolia*	Coast live oak	2	11	4	0	0	0	0	0	0	13	9	Dead	Dead	Hazard	Yes	Hazard	
1641	*Eucalyptus camaldulensis*	River red gum	1	12	0	0	0	0	0	0	0	50	17	Fair	Fair	Significant	No	Indirect	
1642	*Eucalyptus camaldulensis*	River red gum	2	16	17	0	0	0	0	0	0	55	40	Fair	Fair	Significant	No	Indirect	
1643	*Eucalyptus camaldulensis*	River red gum	1	17	0	0	0	0	0	0	0	50	25	Fair	Fair	Significant	No	Indirect	
1644	*Eucalyptus camaldulensis*	River red gum	2	17	18	0	0	0	0	0	0	40	30	Fair	Poor	Significant	No	Indirect	
1645	*Eucalyptus camaldulensis*	River red gum	4	7	8	9	14	0	0	0	0	40	20	Fair	Poor	Significant	No	Indirect	
1646	*Eucalyptus camaldulensis*	River red gum	4	44	45	50	14	0	0	0	0	40	20	Fair	Poor	Significant	No	Indirect	
1647	*Quercus berberidifolia*	California scrub oak	5	7	8	8	6	6	0	0	0	23	17	Fair	Fair	Native	Yes	Indirect	
1648	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	9	4	Fair	Fair	Undersized	Yes	Indirect	
1649	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	12	5	Fair	Fair	Undersized	Yes	Indirect	
1650	*Quercus berberidifolia*	California scrub oak	3	3	4	3	0	0	0	0	0	15	13	Fair	Fair	Undersized	Yes	Indirect	
1653	*Quercus berberidifolia*	California scrub oak	3	3	4	6	0	0	0	0	0	19	14	Fair	Fair	Native	Yes	Indirect	
1654	*Quercus agrifolia*	Coast live oak	2	15	17	0	0	0	0	0	0	40	40	Fair	Fair	Native	Yes	Indirect	
1655	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	30	23	Fair	Fair	Native	Yes	Indirect	
1656	*Quercus berberidifolia*	California scrub oak	2	12	6	0	0	0	0	0	0	28	18	Fair	Fair	Native	Yes	Direct	
1657	*Sambucus mexicana*	Blue elderberry	2	3	3	0	0	0	0	0	0	7	10	Poor	Poor	Undersized	Yes	Direct	
1658	*Quercus agrifolia*	Coast live oak	3	7	13	10	0	0	0	0	0	28	17	Good	Good	Native	Yes	Direct	
1659	*Quercus berberidifolia*	California scrub oak	5	2	2	2	2	2	0	0	0	12	6	Good	Good	Undersized	Yes	Direct	
1660	*Quercus berberidifolia*	California scrub oak	9	2	3	2	2	3	1	1	1	15	13	Good	Good	Undersized	Yes	Direct	DBH 1in
1661	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	
1662	*Quercus berberidifolia*	California scrub oak	2	2	3	0	0	0	0	0	0	8	10	Fair	Fair	Undersized	Yes	Direct	
1663	*Quercus berberidifolia*	California scrub oak	3	1	1	3	0	0	0	0	0	8	10	Fair	Fair	Undersized	Yes	Direct	
1664	*Quercus berberidifolia*	California scrub oak	5	3	2	3	2	2	0	0	0	8	5	Fair	Fair	Undersized	Yes	Direct	
1665	*Quercus berberidifolia*	California scrub oak	7	4	2	3	2	2	1	1	0	12	12	Fair	Fair	Undersized	Yes	Direct	
1666	*Quercus berberidifolia*	California scrub oak	5	3	2	3	2	2	0	0	0	10	12	Fair	Fair	Undersized	Yes	Direct	
1667	*Quercus berberidifolia*	California scrub oak	9	2	2	3	2	2	1	1	1	9	15	Fair	Fair	Undersized	Yes	Direct	DBH 1in
1668	*Quercus berberidifolia*	California scrub oak	7	3	3	2	2	2	1	1	0	10	15	Fair	Fair	Undersized	Yes	Direct	
1669	*Quercus berberidifolia*	California scrub oak	8	3	3	2	2	2	1	1	1	12	15	Fair	Fair	Undersized	Yes	Direct	
1670	*Heteromeles arbutifolia*	Toyon	5	3	3	2	4	0	0	0	0	16	17	Fair	Fair	Undersized	Yes	Direct	
1671	*Quercus berberidifolia*	California scrub oak	4	3	3	2	2	0	0	0	0	14	11	Fair	Fair	Undersized	Yes	Direct	
1672	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	11	9	Fair	Fair	Undersized	Yes	Direct	
1673	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	10	7	Poor	Poor	Undersized	Yes	Direct	
1674	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	10	9	Poor	Poor	Undersized	Yes	Direct	
1675	*Quercus berberidifolia*	California scrub oak	10	2	2	2	2	2	1	1	1	12	13	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in
1676	*Quercus berberidifolia*	California scrub oak	5	3	2	2	3	2	0	0	0	12	14	Poor	Poor	Undersized	Yes	Direct	
1677	*Quercus berberidifolia*	California scrub oak	4	3	2	2	3	0	0	0	0	12	12	Poor	Poor	Undersized	Yes	Direct	
1678	*Quercus berberidifolia*	California scrub oak	9	3	2	2	4	4	1	1	1	13	16	Fair	Fair	Undersized	Yes	Direct	DBH 1in
1679	*Quercus berberidifolia*	California scrub oak	9	6	5	3	4	4	1	1	1	20	20	Fair	Fair	Native	Yes	Direct	DBH 1in
1680	*Quercus berberidifolia*	California scrub oak	21	6	6	5	5	4	1	1	1	25	28	Fair	Fair	Native	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in,1in,1in,1in,1in,1in,1in,1in
1681	*Quercus berberidifolia*	California scrub oak	8	2	2	2	2	2	1	1	1	17	20	Fair	Fair	Undersized	Yes	Direct	
1682	*Quercus berberidifolia*	California scrub oak	7	2	3	3	2	2	1	1	0	17	19	Fair	Fair	Undersized	Yes	Direct	
1683	*Quercus berberidifolia*	California scrub oak	7	2	2	2	2	2	1	1	0	14	15	Fair	Fair	Undersized	Yes	Direct	
1684	*Quercus berberidifolia*	California scrub oak	5	2	2	2	2	2	0	0	0	11	12	Fair	Fair	Undersized	Yes	Direct	
1685	*Quercus berberidifolia*	California scrub oak	9	4	5	6	5	4	1	1	1	20	18	Fair	Fair	Native	Yes	Direct	
1686	*Quercus berberidifolia*	California scrub oak	3	3	1	1	0	0	0	0	0	14	9	Poor	Poor	Undersized	Yes	Direct	
1688	*Quercus berberidifolia*	California scrub oak	7	6	3	2	3	3	1	1	0	16	18	Poor	Poor	Native	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1689	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	12	11	Poor	Poor	Undersized	Yes	Direct	
1690	*Quercus berberidifolia*	California scrub oak	18	3	3	3	3	3	1	1	1	13	15	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in,1in,1in,1in,1in,1in,1in
1691	*Quercus berberidifolia*	California scrub oak	7	3	3	3	3	3	1	1	0	15	13	Fair	Fair	Undersized	Yes	Direct	
1692	*Quercus berberidifolia*	California scrub oak	5	3	3	3	2	2	0	0	0	15	13	Fair	Fair	Undersized	Yes	Direct	
1693	*Heteromeles arbutifolia*	Toyon	10	3	3	3	2	2	1	1	1	18	13	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in
1694	*Quercus berberidifolia*	California scrub oak	5	3	3	3	2	2	0	0	0	12	11	Fair	Fair	Undersized	Yes	Direct	
1695	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	9	14	Fair	Fair	Undersized	Yes	Direct	
1696	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	12	8	Fair	Fair	Undersized	Yes	Direct	
1697	*Quercus berberidifolia*	California scrub oak	5	3	2	2	2	2	0	0	0	15	12	Fair	Fair	Undersized	Yes	Direct	
1698	*Quercus berberidifolia*	California scrub oak	12	3	2	3	3	3	1	1	1	13	14	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in,1in,1in
1699	*Sambucus mexicana*	Blue elderberry	5	10	12	6	6	5	0	0	0	20	13	Poor	Poor	Native	Yes	Indirect	
1700	*Quercus berberidifolia*	California scrub oak	9	4	4	4	3	3	1	1	1	13	15	Fair	Fair	Undersized	Yes	Preserve in Place	DBH 1in
1702	*Heteromeles arbutifolia*	Toyon	1	3	0	0	0	0	0	0	0	12	6	Poor	Poor	Undersized	Yes	Indirect	
1704	*Heteromeles arbutifolia*	Toyon	5	3	2	2	2	2	0	0	0	11	8	Poor	Poor	Undersized	Yes	Indirect	
1707	*Quercus berberidifolia*	California scrub oak	3	3	2	3	0	0	0	0	0	9	12	Fair	Fair	Undersized	Yes	Direct	
1708	*Quercus berberidifolia*	California scrub oak	8	6	3	4	3	2	1	1	1	15	15	Fair	Fair	Native	Yes	Direct	
1709	*Sambucus mexicana*	Blue elderberry	4	3	3	2	2	0	0	0	0	15	13	Poor	Poor	Undersized	Yes	Direct	
1710	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	11	8	Fair	Fair	Undersized	Yes	Direct	
1711	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	13	8	Fair	Fair	Undersized	Yes	Direct	
1712	*Quercus berberidifolia*	California scrub oak	3	3	2	2	0	0	0	0	0	14	13	Fair	Fair	Undersized	Yes	Direct	
1713	*Quercus berberidifolia*	California scrub oak	4	4	4	5	3	0	0	0	0	14	17	Fair	Fair	Undersized	Yes	Direct	
1714	*Sambucus mexicana*	Blue elderberry	1	9	0	0	0	0	0	0	0	14	9	Poor	Poor	Undersized	Yes	Direct	
1715	*Quercus berberidifolia*	California scrub oak	2	3	8	0	0	0	0	0	0	20	12	Poor	Poor	Native	Yes	Direct	
1716	*Quercus berberidifolia*	California scrub oak	3	4	8	2	0	0	0	0	0	17	14	Fair	Fair	Native	Yes	Direct	
1719	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	9	7	Fair	Fair	Undersized	Yes	Direct	
1721	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	9	7	Fair	Fair	Undersized	Yes	Direct	
1722	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	9	Fair	Fair	Undersized	Yes	Direct	
1723	*Quercus berberidifolia*	California scrub oak	10	3	3	3	3	3	1	1	1	10	14	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in
1724	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	6	Fair	Fair	Undersized	Yes	Direct	
1727	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	15	8	Fair	Fair	Native	Yes	Direct	
1728	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	9	7	Fair	Fair	Undersized	Yes	Direct	
1729	*Quercus berberidifolia*	California scrub oak	11	4	4	5	2	2	1	1	1	15	16	Poor	Poor	Undersized	Yes	Direct	DBH 1in,1in,1in
1730	*Quercus berberidifolia*	California scrub oak	5	4	4	3	2	2	0	0	0	15	17	Poor	Poor	Undersized	Yes	Direct	
1731	*Quercus berberidifolia*	California scrub oak	5	4	6	7	6	4	0	0	0	18	17	Fair	Fair	Native	Yes	Direct	
1732	*Quercus berberidifolia*	California scrub oak	3	4	3	2	0	0	0	0	0	6	5	Poor	Poor	Undersized	Yes	Direct	
1733	*Heteromeles arbutifolia*	Toyon	12	3	3	2	2	3	1	1	1	15	20	Good	Good	Undersized	Yes	Direct	DBH 1in,1in,1in,1in
1737	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	15	14	Good	Good	Undersized	Yes	Direct	
1740	*Quercus agrifolia*	Coast live oak	3	17	17	19	0	0	0	0	0	45	50	Good	Good	Native	Yes	Direct	
1741	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	6	Fair	Fair	Undersized	Yes	Direct	
1742	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	7	4	Fair	Fair	Undersized	Yes	Direct	
1743	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	15	8	Fair	Fair	Native	Yes	Direct	
1744	*Quercus berberidifolia*	California scrub oak	4	5	3	3	4	0	0	0	0	18	13	Fair	Fair	Undersized	Yes	Direct	
1750	*Quercus agrifolia*	Coast live oak	2	12	34	0	0	0	0	0	0	35	27	Fair	Fair	Native	Yes	Direct	
1751	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	15	7	Fair	Fair	Undersized	Yes	Direct	
1752	*Quercus berberidifolia*	California scrub oak	2	5	2	0	0	0	0	0	0	15	8	Fair	Fair	Undersized	Yes	Direct	
1756	*Heteromeles arbutifolia*	Toyon	10	3	2	3	3	3	1	1	1	15	18	Fair	Fair	Undersized	Yes	Direct	DBH 1in,1in
1757	*Quercus agrifolia*	Coast live oak	1	19	0	0	0	0	0	0	0	40	25	Fair	Fair	Native	Yes	Direct	
1758	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	40	18	Fair	Fair	Native	Yes	Direct	
1758.1	*Fraxinus spp*	Ash spp	5	3	2	3	4	3	0	0	0	15	12	Fair	Fair	Undersized	No	Direct	
1759	*Sambucus mexicana*	Blue elderberry	1	8	0	0	0	0	0	0	0	13	8	Fair	Fair	Undersized	Yes	Direct	
1760	*Quercus agrifolia*	Coast live oak	1	8	0	0	0	0	0	0	0	13	8	Fair	Fair	Undersized	Yes	Direct	
1761	*Quercus berberidifolia*	California scrub oak	2	5	4	0	0	0	0	0	0	13	11	Fair	Fair	Undersized	Yes	Direct	
1762	*Quercus berberidifolia*	California scrub oak	9	6	4	6	5	4	1	1	1	15	17	Fair	Fair	Native	Yes	Direct	DBH 1in
1763	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	6	6	Fair	Fair	Undersized	Yes	Direct	
1764	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	6	7	Fair	Fair	Undersized	Yes	Direct	
1767	*Quercus berberidifolia*	California scrub oak	2	6	5	0	0	0	0	0	0	6	9	Fair	Fair	Undersized	Yes	Direct	
1768	*Sambucus mexicana*	Blue elderberry	3	3	6	2	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Direct	
1769	*Quercus agrifolia*	Coast live oak	2	16	20	0	0	0	0	0	0	45	33	Fair	Fair	Native	Yes	Direct	
1771	*Quercus berberidifolia*	California scrub oak	3	4	4	4	0	0	0	0	0	15	18	Fair	Fair	Undersized	Yes	Direct	
1772	*Quercus berberidifolia*	California scrub oak	3	4	2	3	0	0	0	0	0	15	14	Fair	Fair	Undersized	Yes	Direct	
1773	*Quercus berberidifolia*	California scrub oak	3	10	9	8	0	0	0	0	0	18	25	Fair	Fair	Native	Yes	Direct	
1774	*Quercus berberidifolia*	California scrub oak	3	4	4	3	0	0	0	0	0	18	14	Fair	Fair	Undersized	Yes	Direct	
1776	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	12	7	Fair	Fair	Undersized	Yes	Direct	
1777	*Quercus berberidifolia*	California scrub oak	4	4	4	4	6	0	0	0	0	16	15	Fair	Fair	Native	Yes	Direct	
1778	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	15	6	Fair	Fair	Undersized	Yes	Direct	
1779	*Quercus berberidifolia*	California scrub oak	4	7	3	2	2	0	0	0	0	16	14	Fair	Fair	Native	Yes	Direct	
1781	*Quercus berberidifolia*	California scrub oak	5	3	3	2	2	4	0	0	0	16	12	Fair	Fair	Undersized	Yes	Direct	
1782	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	13	12	Fair	Fair	Undersized	Yes	Direct	

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Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1783	*Quercus berberidifolia*	California scrub oak	2	2	6	0	0	0	0	0	0	17	9	Fair	Fair	Native	Yes	Direct	
1784	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	14	4	Fair	Fair	Undersized	Yes	Direct	
1785	*Heteromeles arbutifolia*	Toyon	10	6	8	4	5	4	1	1	1	18	20	Good	Good	Native	Yes	Direct	DBH 1in,1in
1786	*Quercus agrifolia*	Coast live oak	1	5	0	0	0	0	0	0	0	18	5	Good	Good	Undersized	Yes	Direct	
1787	*Quercus agrifolia*	Coast live oak	1	10	0	0	0	0	0	0	0	30	15	Good	Good	Native	Yes	Direct	
1788	*Quercus berberidifolia*	California scrub oak	4	3	4	4	3	0	0	0	0	18	15	Fair	Fair	Undersized	Yes	Direct	
1789	*Quercus berberidifolia*	California scrub oak	3	3	4	4	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
1790	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	14	9	Fair	Fair	Undersized	Yes	Direct	
1801	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	12	7	Fair	Fair	Undersized	Yes	Direct	
1802	*Quercus berberidifolia*	California scrub oak	4	3	3	3	4	0	0	0	0	14	11	Fair	Fair	Undersized	Yes	Direct	
1803	*Quercus berberidifolia*	California scrub oak	4	3	3	3	4	0	0	0	0	14	13	Fair	Fair	Undersized	Yes	Direct	
1804	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	14	10	Fair	Fair	Undersized	Yes	Direct	
1805	*Quercus berberidifolia*	California scrub oak	4	6	6	3	2	0	0	0	0	17	13	Fair	Fair	Native	Yes	Direct	
1806	*Quercus agrifolia*	Coast live oak	2	12	16	0	0	0	0	0	0	35	18	Fair	Fair	Native	Yes	Direct	
1807	*Quercus agrifolia*	Coast live oak	3	10	16	15	0	0	0	0	0	50	27	Poor	Poor	Native	Yes	Direct	
1808	*Sambucus mexicana*	Blue elderberry	3	10	8	6	0	0	0	0	0	18	9	Poor	Poor	Native	Yes	Direct	
1809	*Quercus agrifolia*	Coast live oak	1	10	0	0	0	0	0	0	0	25	13	Good	Good	Native	Yes	Direct	
1810	*Sambucus mexicana*	Blue elderberry	3	8	4	3	0	0	0	0	0	9	11	Fair	Fair	Undersized	Yes	Direct	
1817	*Platanus racemosa*	California sycamore	5	12	13	9	12	15	0	0	0	65	40	Fair	Fair	Native	Yes	Direct	
1818	*Platanus racemosa*	California sycamore	2	4	10	0	0	0	0	0	0	50	20	Fair	Fair	Native	Yes	Direct	
1819	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	11	6	Good	Good	Undersized	Yes	Direct	
1820	*Quercus agrifolia*	Coast live oak	2	8	9	0	0	0	0	0	0	25	18	Fair	Fair	Native	Yes	Direct	
1821	*Quercus agrifolia*	Coast live oak	3	13	15	26	0	0	0	0	0	45	40	Fair	Fair	Native	Yes	Direct	
1822	*Platanus racemosa*	California sycamore	5	7	6	6	6	6	0	0	0	40	20	Fair	Fair	Native	Yes	Direct	
1823	*Quercus agrifolia*	Coast live oak	1	16	0	0	0	0	0	0	0	40	17	Fair	Fair	Native	Yes	Direct	
1824	*Quercus berberidifolia*	California scrub oak	5	3	4	6	4	3	0	0	0	14	17	Fair	Fair	Undersized	Yes	Direct	
1830	*Sambucus mexicana*	Blue elderberry	9	4	3	2	2	1	1	1	1	15	9	Fair	Fair	Undersized	Yes	Indirect	DBH 1in
1831	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	12	8	Poor	Poor	Undersized	Yes	Indirect	
1832	*Quercus berberidifolia*	California scrub oak	3	4	3	4	0	0	0	0	0	15	13	Poor	Poor	Undersized	Yes	Indirect	
1833	*Quercus berberidifolia*	California scrub oak	3	4	3	4	0	0	0	0	0	15	9	Poor	Poor	Undersized	Yes	Preserve in Place	
1834	*Quercus berberidifolia*	California scrub oak	2	5	4	0	0	0	0	0	0	17	12	Poor	Poor	Undersized	Yes	Indirect	
1835	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	13	7	Poor	Poor	Undersized	Yes	Indirect	
1836	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	15	6	Poor	Poor	Undersized	Yes	Indirect	
1837	*Quercus berberidifolia*	California scrub oak	5	3	3	4	3	3	0	0	0	15	13	Poor	Poor	Undersized	Yes	Indirect	
1838	*Quercus berberidifolia*	California scrub oak	12	3	3	2	3	3	1	1	1	15	15	Fair	Fair	Undersized	Yes	Indirect	DBH 1in,1in,1in,1in
1840	*Quercus berberidifolia*	California scrub oak	8	6	4	4	3	4	1	1	1	15	15	Fair	Fair	Native	Yes	Encroachment	
1841	*Quercus berberidifolia*	California scrub oak	4	3	4	4	3	0	0	0	0	15	12	Fair	Fair	Undersized	Yes	Encroachment	
1842	*Quercus berberidifolia*	California scrub oak	7	4	4	3	3	3	1	1	0	14	12	Fair	Fair	Undersized	Yes	Encroachment	
1851	*Quercus berberidifolia*	California scrub oak	8	4	4	3	3	3	1	1	1	14	18	Poor	Poor	Undersized	Yes	Indirect	
1852	*Quercus berberidifolia*	California scrub oak	13	4	4	3	3	3	1	1	1	14	30	Poor	Poor	Undersized	Yes	Preserve in Place	DBH 1in,1in,1in,1in,1in
1853	*Quercus berberidifolia*	California scrub oak	3	4	4	3	0	0	0	0	0	14	12	Poor	Poor	Undersized	Yes	Indirect	
1854	*Quercus berberidifolia*	California scrub oak	3	4	2	3	0	0	0	0	0	14	7	Poor	Poor	Undersized	Yes	Indirect	
1858	*Quercus berberidifolia*	California scrub oak	3	3	3	0	0	0	0	0	0	9	10	Fair	Fair	Undersized	Yes	Indirect	
1859	*Quercus berberidifolia*	California scrub oak	7	3	3	2	2	2	1	1	0	9	12	Fair	Fair	Undersized	Yes	Indirect	
1860	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	14	7	Fair	Fair	Undersized	Yes	Direct	
1861	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	17	5	Fair	Fair	Undersized	Yes	Direct	
1862	*Quercus berberidifolia*	California scrub oak	9	3	2	3	3	3	1	1	1	15	14	Fair	Fair	Undersized	Yes	Direct	DBH 1in
1863	*Quercus berberidifolia*	California scrub oak	8	4	4	3	3	3	1	1	1	13	14	Fair	Fair	Undersized	Yes	Direct	
1864	*Quercus berberidifolia*	California scrub oak	3	4	3	3	0	0	0	0	0	13	10	Fair	Fair	Undersized	Yes	Direct	
1865	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	3	0	0	0	14	9	Fair	Fair	Undersized	Yes	Direct	
1867	*Quercus berberidifolia*	California scrub oak	4	3	3	4	4	0	0	0	0	14	9	Fair	Fair	Undersized	Yes	Direct	
1868	*Quercus berberidifolia*	California scrub oak	4	3	3	4	4	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
1872	*Quercus berberidifolia*	California scrub oak	5	5	4	2	3	4	0	0	0	17	15	Fair	Fair	Undersized	Yes	Direct	
1873	*Quercus berberidifolia*	California scrub oak	3	4	3	2	0	0	0	0	0	15	11	Fair	Fair	Undersized	Yes	Direct	
1874	*Quercus berberidifolia*	California scrub oak	8	4	3	2	4	3	1	1	1	15	15	Fair	Fair	Undersized	Yes	Direct	
693	*Heteromeles arbutifolia*	Toyon	6	6	6	5	4	4	4	0	0	20	20	Fair	Fair	Native	Yes	Indirect	
695	*Quercus berberidifolia*	California scrub oak	4	3	3	2	3	0	0	0	0	13	15	Fair	Fair	Undersized	Yes	Direct	
696	*Quercus berberidifolia*	California scrub oak	3	4	2	1	0	0	0	0	0	3	8	Fair	Fair	Undersized	Yes	Direct	
699	*Quercus berberidifolia*	California scrub oak	2	6	6	0	0	0	0	0	0	18	13	Fair	Fair	Native	Yes	Direct	
711	*Sambucus mexicana*	Blue elderberry	2	6	6	0	0	0	0	0	0	18	10	Fair	Fair	Native	Yes	Direct	
712	*Quercus berberidifolia*	California scrub oak	2	7	6	0	0	0	0	0	0	20	16	Fair	Fair	Native	Yes	Direct	
716	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	12	Fair	Fair	Undersized	Yes	Direct	
717	*Quercus berberidifolia*	California scrub oak	4	4	3	3	2	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
718	*Quercus berberidifolia*	California scrub oak	2	6	3	0	0	0	0	0	0	18	20	Fair	Fair	Native	Yes	Direct	
721	*Quercus berberidifolia*	California scrub oak	3	6	4	4	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
760	*Quercus agrifolia*	Coast live oak	2	11	22	0	0	0	0	0	0	55	55	Fair	Fair	Native	Yes	Preserve in Place	
761	*Quercus agrifolia*	Coast live oak	1	20	0	0	0	0	0	0	0	35	65	Fair	Fair	Native	Yes	Preserve in Place	
762	*Quercus agrifolia*	Coast live oak	2	12	14	0	0	0	0	0	0	40	55	Fair	Fair	Native	Yes	Indirect	
763	*Quercus agrifolia*	Coast live oak	1	26	0	0	0	0	0	0	0	25	0	Dead	Dead	Hazard	Yes	Hazard	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
764	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Indirect	
765	*Quercus agrifolia*	Coast live oak	1	24	0	0	0	0	0	0	0	50	40	Fair	Fair	Native	Yes	Indirect	
766	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	40	20	Fair	Poor	Native	Yes	Indirect	
767	*Quercus agrifolia*	Coast live oak	1	16	0	0	0	0	0	0	0	45	35	Fair	Fair	Native	Yes	Indirect	
768	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	40	25	Fair	Fair	Native	Yes	Indirect	
769	*Heteromeles arbutifolia*	Toyon	3	10	4	4	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Indirect	
770	*Quercus agrifolia*	Coast live oak	4	12	12	12	6	0	0	0	0	50	45	Fair	Fair	Native	Yes	Indirect	
771	*Quercus agrifolia*	Coast live oak	1	13	0	0	0	0	0	0	0	50	45	Fair	Fair	Native	Yes	Indirect	
772	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Indirect	
773	*Quercus agrifolia*	Coast live oak	4	8	7	8	6	0	0	0	0	25	20	Fair	Fair	Native	Yes	Indirect	
774	*Quercus berberidifolia*	California scrub oak	5	6	6	5	4	4	0	0	0	30	30	Fair	Fair	Native	Yes	Indirect	
775	*Quercus agrifolia*	Coast live oak	1	24	0	0	0	0	0	0	0	50	40	Fair	Fair	Native	Yes	Indirect	
775.1	*Sambucus mexicana*	Blue elderberry	1	8	0	0	0	0	0	0	0	18	15	Fair	Fair	Native	Yes	Indirect	
776	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	45	25	Fair	Fair	Native	Yes	Indirect	
776.1	*Heteromeles arbutifolia*	Toyon	2	4	4	3	2	2	0	0	0	22	15	Fair	Fair	Undersized	Yes	Indirect	
777.1	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	40	20	Fair	Fair	Native	Yes	Indirect	
783	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	25	15	Fair	Fair	Native	Yes	Direct	
784	*Quercus agrifolia*	Coast live oak	1	7	0	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Direct	
785	*Quercus agrifolia*	Coast live oak	1	5	0	0	0	0	0	0	0	20	12	Fair	Fair	Undersized	Yes	Direct	
786	*Quercus agrifolia*	Coast live oak	4	22	18	17	14	0	0	0	0	60	65	Fair	Fair	Native	Yes	Encroachment	
787	*Quercus agrifolia*	Coast live oak	1	11	0	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Indirect	
788	*Quercus agrifolia*	Coast live oak	1	11	0	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Indirect	
789	*Quercus agrifolia*	Coast live oak	1	11	0	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Indirect	
790	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	30	15	Fair	Fair	Native	Yes	Indirect	
793	*Quercus agrifolia*	Coast live oak	1	17	0	0	0	0	0	0	0	45	35	Fair	Fair	Native	Yes	Indirect	
794	*Quercus agrifolia*	Coast live oak	1	11	0	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Indirect	
795	*Quercus agrifolia*	Coast live oak	1	10	0	0	0	0	0	0	0	35	20	Fair	Fair	Native	Yes	Indirect	
796	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	25	12	Fair	Fair	Undersized	Yes	Indirect	
797	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	30	25	Fair	Fair	Native	Yes	Encroachment	
798	*Quercus agrifolia*	Coast live oak	1	8	0	0	0	0	0	0	0	35	20	Fair	Fair	Native	Yes	Indirect	
799	*Quercus agrifolia*	Coast live oak	2	10	6	0	0	0	0	0	0	40	20	Fair	Fair	Native	Yes	Indirect	
801	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	35	12	Fair	Fair	Native	Yes	Indirect	
802	*Quercus agrifolia*	Coast live oak	1	11	0	0	0	0	0	0	0	40	20	Fair	Fair	Native	Yes	Indirect	
803	*Quercus agrifolia*	Coast live oak	1	7	0	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Indirect	
804	*Sambucus mexicana*	Blue elderberry	4	3	2	1	1	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Indirect	
812	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	30	25	Fair	Fair	Native	Yes	Direct	
813	*Quercus agrifolia*	Coast live oak	2	14	10	0	0	0	0	0	0	40	35	Fair	Fair	Native	Yes	Direct	
814	*Quercus agrifolia*	Coast live oak	2	12	10	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Encroachment	
815	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	40	30	Fair	Fair	Native	Yes	Encroachment	
816	*Quercus agrifolia*	Coast live oak	1	20	0	0	0	0	0	0	0	55	35	Fair	Fair	Native	Yes	Encroachment	
817	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	50	35	Fair	Fair	Native	Yes	Encroachment	
818	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	40	20	Poor	Poor	Native	Yes	Indirect	
823	*Quercus agrifolia*	Coast live oak	1	20	0	0	0	0	0	0	0	15	25	Fair	Fair	Native	Yes	Indirect	
824	*Quercus agrifolia*	Coast live oak	1	17	0	0	0	0	0	0	0	40	25	Fair	Fair	Native	Yes	Indirect	
824.1	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Indirect	
825	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Indirect	
825.1	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	30	25	Fair	Fair	Native	Yes	Indirect	
826	*Quercus agrifolia*	Coast live oak	1	10	0	0	0	0	0	0	0	30	15	Fair	Fair	Native	Yes	Indirect	
827	*Quercus agrifolia*	Coast live oak	1	11	0	0	0	0	0	0	0	30	20	Fair	Poor	Native	Yes	Indirect	
828	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	45	30	Fair	Poor	Native	Yes	Indirect	
829	*Heteromeles arbutifolia*	Toyon	4	4	3	4	2	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Indirect	
830	*Quercus agrifolia*	Coast live oak	2	6	4	0	0	0	0	0	0	25	20	Fair	Fair	Native	Yes	Indirect	
831	*Quercus agrifolia*	Coast live oak	1	13	0	0	0	0	0	0	0	30	25	Fair	Fair	Native	Yes	Indirect	
832	*Quercus agrifolia*	Coast live oak	5	21	10	9	7	4	0	0	0	45	35	Fair	Fair	Native	Yes	Indirect	
833	*Sambucus mexicana*	Blue elderberry	3	4	5	4	0	0	0	0	0	15	13	Poor	Poor	Undersized	Yes	Indirect	
834	*Platanus racemosa*	California sycamore	4	3	20	20	18	0	0	0	0	70	50	Fair	Poor	Native	Yes	Indirect	
835	*Platanus racemosa*	California sycamore	3	2	22	20	0	0	0	0	0	60	45	Fair	Poor	Native	Yes	Indirect	
843	*Quercus agrifolia*	Coast live oak	2	19	19	0	0	0	0	0	0	50	30	Fair	Fair	Native	Yes	Indirect	
844	*Quercus agrifolia*	Coast live oak	1	13	0	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Indirect	
845	*Quercus agrifolia*	Coast live oak	1	13	0	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Indirect	
846	*Quercus agrifolia*	Coast live oak	2	1	17	0	0	0	0	0	0	40	30	Fair	Fair	Native	Yes	Indirect	
847	*Quercus agrifolia*	Coast live oak	3	4	4	3	0	0	0	0	0	25	20	Fair	Fair	Undersized	Yes	Indirect	
848	*Quercus agrifolia*	Coast live oak	1	17	0	0	0	0	0	0	0	35	35	Fair	Fair	Native	Yes	Indirect	
849	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Indirect	
850	*Quercus agrifolia*	Coast live oak	1	10	0	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Indirect	
851	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	40	18	Fair	Fair	Native	Yes	Indirect	
852	*Quercus agrifolia*	Coast live oak	1	13	0	0	0	0	0	0	0	30	12	Fair	Fair	Native	Yes	Indirect	
853	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	30	15	Fair	Fair	Native	Yes	Indirect	
854	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	40	20	Fair	Fair	Native	Yes	Indirect	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
855	*Quercus agrifolia*	Coast live oak	3	20	16	8	0	0	0	0	0	45	45	Fair	Fair	Native	Yes	Indirect	
857	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Indirect	
858	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Indirect	
859	*Sambucus mexicana*	Blue elderberry	4	9	4	3	4	0	0	0	0	15	8	Fair	Fair	Native	Yes	Direct	
860	*Quercus berberidifolia*	California scrub oak	3	4	3	2	0	0	0	0	0	15	28	Fair	Fair	Undersized	Yes	Direct	
861	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	16	10	Fair	Fair	Undersized	Yes	Direct	
862	*Sambucus mexicana*	Blue elderberry	5	6	5	3	2	2	0	0	0	15	12	Fair	Fair	Native	Yes	Direct	
863	*Quercus berberidifolia*	California scrub oak	4	4	3	3	3	0	0	0	0	18	15	Fair	Fair	Undersized	Yes	Direct	
864	*Quercus berberidifolia*	California scrub oak	4	3	2	2	2	0	0	0	0	15	12	Fair	Fair	Undersized	Yes	Direct	
865	*Quercus berberidifolia*	California scrub oak	5	2	2	2	2	1	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
866	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	15	8	Fair	Fair	Undersized	Yes	Direct	
867	*Heteromeles arbutifolia*	Toyon	5	6	4	2	3	2	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
868	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	15	10	Fair	Fair	Native	Yes	Direct	
869	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	25	15	Fair	Fair	Native	Yes	Direct	
870	*Heteromeles arbutifolia*	Toyon	7	7	7	6	4	4	5	4	0	18	20	Fair	Poor	Native	Yes	Direct	
871	*Quercus berberidifolia*	California scrub oak	7	4	3	4	3	4	3	4	0	18	20	Poor	Poor	Undersized	Yes	Direct	
872	*Heteromeles arbutifolia*	Toyon	2	6	6	0	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Direct	
873	*Quercus agrifolia*	Coast live oak	2	11	6	0	0	0	0	0	0	30	25	Fair	Fair	Native	Yes	Direct	
874	*Quercus agrifolia*	Coast live oak	2	11	11	0	0	0	0	0	0	40	25	Fair	Fair	Native	Yes	Direct	
875	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	35	25	Poor	Poor	Native	Yes	Direct	
876	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
877	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
878	*Heteromeles arbutifolia*	Toyon	6	4	4	3	4	2	2	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
892	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	35	35	Fair	Fair	Native	Yes	Encroachment	
893	*Quercus agrifolia*	Coast live oak	1	6	0	0	0	0	0	0	0	20	10	Fair	Fair	Native	Yes	Indirect	
894	*Quercus agrifolia*	Coast live oak	1	23	0	0	0	0	0	0	0	50	40	Fair	Fair	Native	Yes	Indirect	
895	*Quercus berberidifolia*	California scrub oak	7	2	2	2	2	6	4	3	0	15	20	Fair	Fair	Native	Yes	Indirect	
896	*Quercus berberidifolia*	California scrub oak	2	5	5	0	0	0	0	0	0	15	20	Fair	Fair	Undersized	Yes	Indirect	
897	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Indirect	
898	*Quercus berberidifolia*	California scrub oak	8	3	1	1	2	1	2	1	3	10	15	Fair	Fair	Undersized	Yes	Indirect	
899	*Heteromeles arbutifolia*	Toyon	5	4	4	4	3	2	0	0	0	18	15	Fair	Fair	Undersized	Yes	Indirect	
900	*Quercus agrifolia*	Coast live oak	1	30	0	0	0	0	0	0	0	35	35	Fair	Fair	Native	Yes	Indirect	
901	*Quercus agrifolia*	Coast live oak	1	35	0	0	0	0	0	0	0	45	40	Fair	Fair	Native	Yes	Indirect	
902	*Sambucus mexicana*	Blue elderberry	3	5	7	9	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
903	*Sambucus mexicana*	Blue elderberry	2	12	14	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Indirect	
904	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	13	8	Fair	Fair	Undersized	Yes	Indirect	
905	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	13	7	Fair	Fair	Undersized	Yes	Encroachment	
906	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	14	6	Fair	Fair	Undersized	Yes	Direct	
907	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Encroachment	
908	*Cupressus sempervirens*	Italian cypress	1	6	0	0	0	0	0	0	0	30	10	Fair	Fair	Significant	No	Encroachment	
909	*Cupressus sempervirens*	Italian cypress	1	6	0	0	0	0	0	0	0	35	10	Fair	Fair	Significant	No	Encroachment	
910	*Cupressus sempervirens*	Italian cypress	1	9	0	0	0	0	0	0	0	35	10	Fair	Fair	Significant	No	Encroachment	
946	*Quercus berberidifolia*	California scrub oak	4	4	3	3	3	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
947	*Quercus berberidifolia*	California scrub oak	4	4	4	4	3	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
948	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
949	*Quercus berberidifolia*	California scrub oak	2	6	4	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Direct	
1038	*Pinus halepensis*	┬áAleppo pine	1	9	0	0	0	0	0	0	0	20	20	Dead	Dead	Hazard	No	Hazard	
1039	*Quercus agrifolia*	Coast live oak	1	5	0	0	0	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Indirect	
1040	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	20	15	Poor	Poor	Native	Yes	Indirect	
1041	*Pinus halepensis*	┬áAleppo pine	1	12	0	0	0	0	0	0	0	35	20	Fair	Fair	Significant	No	Indirect	
1042	*Pinus halepensis*	┬áAleppo pine	1	9	0	0	0	0	0	0	0	30	20	Fair	Fair	Significant	No	Indirect	
1043	*Pinus halepensis*	┬áAleppo pine	1	12	0	0	0	0	0	0	0	35	25	Fair	Fair	Significant	No	Indirect	
1044	*Cupressus sempervirens*	Italian cypress	1	4	0	0	0	0	0	0	0	15	5	Fair	Fair	Undersized	No	Indirect	
1045	*Pinus halepensis*	┬áAleppo pine	1	15	0	0	0	0	0	0	0	45	30	Fair	Fair	Significant	No	Indirect	
1046	*Cupressus sempervirens*	Italian cypress	1	6	0	0	0	0	0	0	0	15	10	Fair	Fair	Significant	No	Indirect	
1047	*Schinus molle*	Peruvian pepper	4	6	6	6	6	0	0	0	0	15	15	Fair	Fair	Significant	No	Indirect	
1048	*Pinus halepensis*	┬áAleppo pine	1	13	0	0	0	0	0	0	0	45	30	Fair	Fair	Significant	No	Indirect	
1049	*Schinus molle*	Peruvian pepper	2	6	5	0	0	0	0	0	0	20	15	Fair	Fair	Significant	No	Encroachment	
1050	*Schinus molle*	Peruvian pepper	2	5	3	0	0	0	0	0	0	20	15	Fair	Fair	Undersized	No	Indirect	
1058	*Quercus agrifolia*	Coast live oak	1	36	0	0	0	0	0	0	0	50	50	Fair	Fair	Native	Yes	Indirect	
1059	*Pinus halepensis*	┬áAleppo pine	1	14	0	0	0	0	0	0	0	35	30	Fair	Fair	Significant	No	Indirect	
1060	*Schinus molle*	Peruvian pepper	1	6	0	0	0	0	0	0	0	25	20	Fair	Fair	Significant	No	Indirect	
1061	*Schinus molle*	Peruvian pepper	1	7	0	0	0	0	0	0	0	25	20	Fair	Fair	Significant	No	Indirect	
1062	*Quercus berberidifolia*	California scrub oak	3	6	6	5	0	0	0	0	0	15	20	Fair	Fair	Native	Yes	Indirect	
1063	*Heteromeles arbutifolia*	Toyon	7	6	6	5	5	4	4	4	0	25	25	Fair	Fair	Native	Yes	Indirect	
1064	*Quercus agrifolia*	Coast live oak	1	9	0	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Indirect	
1065	*Quercus berberidifolia*	California scrub oak	2	8	6	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Indirect	
1066	*Quercus berberidifolia*	California scrub oak	5	9	9	8	8	7	0	0	0	25	25	Fair	Fair	Native	Yes	Indirect	
1067	*Heteromeles arbutifolia*	Toyon	4	16	12	6	8	0	0	0	0	35	35	Fair	Fair	Native	Yes	Indirect	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1069	*Quercus agrifolia*	Coast live oak	1	24	0	0	0	0	0	0	0	45	45	Fair	Fair	Native	Yes	Encroachment	
1542	*Quercus berberidifolia*	California scrub oak	5	5	4	4	2	2	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1551	*Quercus berberidifolia*	California scrub oak	5	5	5	4	4	2	0	0	0	14	12	Fair	Fair	Undersized	Yes	Direct	
1564	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	12	8	Fair	Fair	Undersized	Yes	Direct	
1569	*Quercus berberidifolia*	California scrub oak	4	5	4	3	2	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
1570	*Quercus berberidifolia*	California scrub oak	6	4	3	3	2	2	1	0	0	12	15	Fair	Fair	Undersized	Yes	Direct	
1571	*Quercus berberidifolia*	California scrub oak	5	5	5	4	3	3	0	0	0	16	12	Fair	Fair	Undersized	Yes	Direct	
1573	*Quercus berberidifolia*	California scrub oak	4	4	3	3	2	0	0	0	0	16	12	Fair	Fair	Undersized	Yes	Direct	
1574	*Quercus berberidifolia*	California scrub oak	6	5	4	4	3	2	2	0	0	18	20	Fair	Fair	Undersized	Yes	Direct	
1590	*Quercus berberidifolia*	California scrub oak	4	3	3	2	2	0	0	0	0	16	12	Fair	Fair	Undersized	Yes	Direct	
1591	*Quercus berberidifolia*	California scrub oak	6	4	3	3	3	2	1	0	0	20	13	Fair	Fair	Undersized	Yes	Direct	
1605	*Quercus berberidifolia*	California scrub oak	5	4	4	3	3	2	0	0	0	20	14	Fair	Fair	Undersized	Yes	Direct	
1612	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	2	0	0	0	15	12	Fair	Fair	Undersized	Yes	Direct	
1613	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	15	12	Fair	Fair	Undersized	Yes	Direct	
1614	*Quercus berberidifolia*	California scrub oak	7	5	4	4	3	2	2	1	0	24	18	Dead	Dead	Hazard	Yes	Hazard	
1617	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	25	15	Good	Good	Undersized	Yes	Preserve in Place	
1618	*Quercus berberidifolia*	California scrub oak	3	6	3	3	0	0	0	0	0	25	15	Good	Good	Native	Yes	Indirect	
1622	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	18	15	Good	Good	Native	Yes	Indirect	
1623	*Quercus berberidifolia*	California scrub oak	5	4	3	3	2	2	0	0	0	18	15	Good	Good	Undersized	Yes	Indirect	
1624	*Quercus berberidifolia*	California scrub oak	5	6	3	3	3	2	0	0	0	16	15	Good	Good	Native	Yes	Indirect	
1625	*Quercus berberidifolia*	California scrub oak	6	4	4	5	2	2	1	0	0	20	12	Good	Good	Undersized	Yes	Indirect	
1626	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	16	16	Good	Good	Undersized	Yes	Indirect	
1627	*Quercus berberidifolia*	California scrub oak	6	3	3	3	3	3	4	0	0	18	20	Good	Good	Undersized	Yes	Preserve in Place	
1628	*Quercus berberidifolia*	California scrub oak	7	3	3	3	3	3	2	2	0	12	18	Good	Good	Undersized	Yes	Preserve in Place	
1629	*Quercus berberidifolia*	California scrub oak	4	3	3	3	2	0	0	0	0	10	8	Good	Good	Undersized	Yes	Preserve in Place	
1651	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	20	8	Good	Good	Native	Yes	Indirect	
1652	*Quercus berberidifolia*	California scrub oak	4	5	3	3	2	0	0	0	0	15	12	Good	Good	Undersized	Yes	Indirect	
1687	*Quercus berberidifolia*	California scrub oak	4	3	3	3	2	0	0	0	0	20	15	Good	Good	Undersized	Yes	Direct	
1701	*Quercus berberidifolia*	California scrub oak	7	6	4	4	4	3	2	2	0	25	20	Good	Good	Native	Yes	Indirect	
1703	*Heteromeles arbutifolia*	Toyon	8	4	3	3	3	2	2	2	2	20	25	Good	Good	Undersized	Yes	Indirect	
1705	*Heteromeles arbutifolia*	Toyon	6	3	3	3	2	2	2	0	0	16	15	Good	Good	Undersized	Yes	Direct	
1706	*Quercus berberidifolia*	California scrub oak	3	7	7	8	0	0	0	0	0	35	20	Good	Good	Native	Yes	Indirect	
1707	*Quercus berberidifolia*	California scrub oak	8	5	4	3	3	3	3	2	2	24	20	Good	Good	Undersized	Yes	Direct	
1717	*Quercus berberidifolia*	California scrub oak	3	7	5	3	0	0	0	0	0	25	20	Fair	Good	Native	Yes	Direct	
1718	*Quercus berberidifolia*	California scrub oak	8	8	5	3	3	3	2	2	1	28	25	Fair	Good	Native	Yes	Direct	
1720	*Quercus berberidifolia*	California scrub oak	1	7	0	0	0	0	0	0	0	12	6	Dead	Dead	Hazard	Yes	Hazard	
1725	*Quercus berberidifolia*	California scrub oak	2	7	8	0	0	0	0	0	0	25	30	Good	Good	Native	Yes	Direct	
1726	*Sambucus mexicana*	Blue elderberry	2	3	6	0	0	0	0	0	0	15	10	Dead	Dead	Hazard	Yes	Hazard	
1734	*Quercus agrifolia*	Coast live oak	8	7	4	5	2	8	5	5	3	30	20	Fair	Fair	Native	Yes	Direct	
1735	*Quercus agrifolia*	Coast live oak	3	16	18	12	0	0	0	0	0	30	25	Dead	Dead	Hazard	Yes	Hazard	Resprout
1736	*Heteromeles arbutifolia*	Toyon	8	4	3	4	4	3	2	2	3	15	25	Good	Good	Undersized	Yes	Direct	
1738	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	16	8	Good	Good	Undersized	Yes	Direct	
1739	*Quercus berberidifolia*	California scrub oak	1	7	0	0	0	0	0	0	0	20	20	Good	Good	Undersized	Yes	Direct	
1745	*Quercus berberidifolia*	California scrub oak	6	3	2	2	2	2	2	0	0	13	15	Good	Good	Undersized	Yes	Direct	
1746	*Quercus berberidifolia*	California scrub oak	7	5	4	4	5	3	3	2	0	20	20	Good	Good	Undersized	Yes	Direct	
1747	*Quercus berberidifolia*	California scrub oak	4	6	5	5	4	0	0	0	0	15	10	Good	Good	Native	Yes	Direct	
1748	*Quercus berberidifolia*	California scrub oak	7	3	3	3	3	3	3	2	0	16	15	Good	Good	Undersized	Yes	Direct	
1749	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	14	6	Good	Good	Undersized	Yes	Direct	
1753	*Quercus berberidifolia*	California scrub oak	6	5	4	4	3	2	2	0	0	18	15	Fair	Fair	Undersized	Yes	Direct	
1754	*Quercus berberidifolia*	California scrub oak	4	7	3	3	2	0	0	0	0	20	12	Good	Good	Native	Yes	Direct	
1755	*Quercus agrifolia*	Coast live oak	2	3	3	0	0	0	0	0	0	10	10	Good	Good	Undersized	Yes	Direct	
1757.1	*Quercus agrifolia*	Coast live oak	1	20	0	0	0	0	0	0	0	40	30	Fair	Good	Native	Yes	Direct	
1765	*Heteromeles arbutifolia*	Toyon	10	4	2	2	2	2	2	2	2	16	20	Good	Good	Undersized	Yes	Direct	DBH 2in,2in
1766	*Quercus agrifolia*	Coast live oak	1	33	0	0	0	0	0	0	0	55	40	Fair	Good	Native	Yes	Direct	
1770	*Quercus berberidifolia*	California scrub oak	7	5	5	4	3	3	2	2	0	20	15	Good	Good	Undersized	Yes	Direct	
1774	*Quercus berberidifolia*	California scrub oak	3	7	5	4	0	0	0	0	0	12	15	Good	Good	Undersized	Yes	Direct	
1775	*Quercus berberidifolia*	California scrub oak	3	3	4	3	0	0	0	0	0	14	6	Good	Good	Undersized	Yes	Direct	
1780	*Quercus berberidifolia*	California scrub oak	2	6	3	0	0	0	0	0	0	12	10	Good	Good	Undersized	Yes	Direct	
1790	*Quercus berberidifolia*	California scrub oak	3	4	4	2	0	0	0	0	0	12	15	Good	Good	Undersized	Yes	Direct	
1791	*Quercus berberidifolia*	California scrub oak	11	5	4	4	4	4	4	3	3	17	20	Good	Good	Undersized	Yes	Direct	DBH 3in,3in,3in
1792	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	12	8	Good	Good	Undersized	Yes	Direct	
1793	*Quercus berberidifolia*	California scrub oak	9	6	5	4	3	4	3	5	2	20	20	Good	Good	Native	Yes	Direct	DBH 2in
1794	*Quercus agrifolia*	Coast live oak	2	17	7	0	0	0	0	0	0	40	25	Good	Good	Native	Yes	Direct	
1795	*Quercus berberidifolia*	California scrub oak	3	4	3	2	0	0	0	0	0	20	15	Good	Good	Undersized	Yes	Direct	
1796	*Quercus berberidifolia*	California scrub oak	2	15	7	0	0	0	0	0	0	35	20	Good	Good	Native	Yes	Direct	
1796	*Quercus berberidifolia*	California scrub oak	4	4	3	1	1	0	0	0	0	18	10	Good	Good	Undersized	Yes	Direct	
1797	*Quercus berberidifolia*	California scrub oak	8	6	5	3	4	4	4	3	2	25	25	Good	Good	Native	Yes	Direct	
1798	*Quercus berberidifolia*	California scrub oak	2	4	2	0	0	0	0	0	0	18	15	Good	Good	Undersized	Yes	Direct	
1799	*Quercus berberidifolia*	California scrub oak	5	3	3	3	2	2	0	0	0	12	15	Good	Good	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1810	*Quercus berberidifolia*	California scrub oak	5	7	6	6	3	2	0	0	0	20	20	Good	Good	Native	Yes	Direct	
1811	*Quercus berberidifolia*	California scrub oak	7	3	3	3	2	3	2	3	0	15	29	Good	Good	Undersized	Yes	Direct	
1812	*Quercus berberidifolia*	California scrub oak	3	7	4	3	0	0	0	0	0	20	20	Good	Good	Native	Yes	Direct	
1813	*Quercus berberidifolia*	California scrub oak	1	2	0	0	0	0	0	0	0	15	6	Good	Good	Undersized	Yes	Direct	
1814	*Quercus berberidifolia*	California scrub oak	3	5	3	2	0	0	0	0	0	20	12	Good	Good	Undersized	Yes	Direct	
1815	*Quercus berberidifolia*	California scrub oak	4	6	4	3	2	0	0	0	0	15	15	Good	Good	Native	Yes	Direct	
1816	*Quercus berberidifolia*	California scrub oak	4	10	4	3	2	0	0	0	0	18	25	Good	Good	Native	Yes	Direct	
1825	*Quercus berberidifolia*	California scrub oak	7	5	4	4	3	2	3	2	0	16	20	Good	Good	Undersized	Yes	Direct	
1826	*Quercus berberidifolia*	California scrub oak	9	6	5	4	4	3	3	3	2	20	25	Good	Good	Native	Yes	Direct	DBH 2in
1827	*Quercus berberidifolia*	California scrub oak	4	6	4	3	3	0	0	0	0	17	15	Good	Good	Native	Yes	Direct	
1828	*Quercus berberidifolia*	California scrub oak	5	3	3	4	3	2	0	0	0	12	18	Good	Good	Undersized	Yes	Direct	
1829	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	15	8	Good	Good	Undersized	Yes	Direct	
1839	*Quercus berberidifolia*	California scrub oak	5	4	4	3	2	2	0	0	0	15	12	Good	Good	Undersized	Yes	Direct	
1843	*Quercus berberidifolia*	California scrub oak	4	4	3	4	3	0	0	0	0	20	12	Good	Good	Undersized	Yes	Direct	
1844	*Quercus berberidifolia*	California scrub oak	3	4	5	3	0	0	0	0	0	17	15	Good	Good	Undersized	Yes	Direct	
1845	*Quercus berberidifolia*	California scrub oak	4	3	4	3	2	0	0	0	0	14	12	Good	Good	Undersized	Yes	Encroachment	
1846	*Quercus berberidifolia*	California scrub oak	3	5	3	2	0	0	0	0	0	18	10	Good	Good	Undersized	Yes	Encroachment	
1847	*Quercus berberidifolia*	California scrub oak	2	5	5	0	0	0	0	0	0	20	10	Good	Good	Undersized	Yes	Encroachment	
1848	*Quercus berberidifolia*	California scrub oak	3	3	4	3	0	0	0	0	0	14	10	Good	Good	Undersized	Yes	Indirect	
1849	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	12	8	Good	Good	Undersized	Yes	Indirect	
1850	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	12	8	Good	Good	Undersized	Yes	Indirect	
1855	*Quercus berberidifolia*	California scrub oak	5	4	3	3	3	2	0	0	0	20	20	Good	Good	Undersized	Yes	Encroachment	
1856	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	12	10	Good	Good	Undersized	Yes	Encroachment	
1857	*Quercus berberidifolia*	California scrub oak	11	3	4	3	3	2	3	3	2	18	20	Good	Good	Undersized	Yes	Indirect	DBH 2in,2in,2in
1866	*Quercus berberidifolia*	California scrub oak	4	3	3	3	2	0	0	0	0	12	10	Good	Good	Undersized	Yes	Indirect	
1869	*Quercus berberidifolia*	California scrub oak	4	3	3	3	2	0	0	0	0	13	15	Good	Good	Undersized	Yes	Direct	
1870	*Quercus berberidifolia*	California scrub oak	6	3	4	3	2	3	3	0	0	15	12	Good	Good	Undersized	Yes	Direct	
1871	*Quercus berberidifolia*	California scrub oak	6	3	3	3	2	1	3	0	0	12	15	Good	Good	Undersized	Yes	Direct	
1875	*Quercus berberidifolia*	California scrub oak	9	4	5	5	3	2	2	2	2	15	20	Good	Good	Undersized	Yes	Direct	DBH 2in
1876	*Quercus berberidifolia*	California scrub oak	9	3	3	3	3	3	3	3	2	15	25	Fair	Good	Undersized	Yes	Direct	DBH 2in
1877	*Quercus berberidifolia*	California scrub oak	5	4	3	2	1	2	0	0	0	15	12	Good	Good	Undersized	Yes	Direct	
1878	*Quercus berberidifolia*	California scrub oak	6	5	4	3	3	2	1	0	0	15	15	Good	Good	Undersized	Yes	Direct	
1879	*Quercus berberidifolia*	California scrub oak	7	4	3	3	2	3	3	3	0	15	15	Good	Good	Undersized	Yes	Direct	
1880	*Quercus berberidifolia*	California scrub oak	9	4	3	3	3	3	3	3	3	13	10	Good	Good	Undersized	Yes	Direct	DBH 3in
1881	*Quercus berberidifolia*	California scrub oak	12	3	3	3	3	2	3	3	2	10	20	Good	Good	Undersized	Yes	Direct	DBH 2in,2in,2in,2in
1882	*Quercus berberidifolia*	California scrub oak	4	3	3	2	3	0	0	0	0	10	12	Good	Good	Undersized	Yes	Direct	
1883	*Quercus berberidifolia*	California scrub oak	7	3	3	2	3	2	1	2	0	12	8	Good	Good	Undersized	Yes	Direct	
1884	*Quercus berberidifolia*	California scrub oak	5	4	3	2	3	2	0	0	0	15	12	Good	Good	Undersized	Yes	Direct	
1885	*Quercus berberidifolia*	California scrub oak	9	4	3	3	3	2	3	2	3	12	18	Good	Good	Undersized	Yes	Direct	
1886	*Quercus berberidifolia*	California scrub oak	4	4	2	3	3	0	0	0	0	13	10	Good	Good	Undersized	Yes	Direct	
1887	*Quercus berberidifolia*	California scrub oak	7	3	3	2	3	4	2	3	0	15	10	Good	Good	Undersized	Yes	Direct	
1888	*Quercus berberidifolia*	California scrub oak	8	6	4	3	3	3	2	2	2	18	25	Good	Good	Native	Yes	Direct	
1889	*Quercus berberidifolia*	California scrub oak	5	3	3	3	4	2	0	0	0	12	15	Good	Good	Undersized	Yes	Direct	
1890	*Quercus berberidifolia*	California scrub oak	8	3	2	3	2	2	2	3	2	13	18	Good	Good	Undersized	Yes	Direct	
1891	*Quercus berberidifolia*	California scrub oak	4	2	3	4	4	0	0	0	0	15	13	Fair	Fair	Undersized	Yes	Direct	
1892	*Quercus berberidifolia*	California scrub oak	5	6	5	5	3	2	0	0	0	12	18	Poor	Fair	Undersized	Yes	Direct	
1895	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	18	9	Poor	Fair	Native	Yes	Direct	
1896	*Quercus berberidifolia*	California scrub oak	3	3	2	3	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	
1897	*Heteromeles arbutifolia*	Toyon	4	4	6	3	3	0	0	0	0	20	16	Good	Fair	Native	Yes	Direct	
1898	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1899	*Quercus berberidifolia*	California scrub oak	3	4	5	2	0	0	0	0	0	13	8	Fair	Fair	Undersized	Yes	Direct	
1900	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	
1901	*Quercus berberidifolia*	California scrub oak	4	4	4	4	3	0	0	0	0	11	13	Good	Fair	Undersized	Yes	Direct	
1902	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	13	15	Good	Fair	Undersized	Yes	Direct	
1903	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Direct	
1904	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	
1905	*Quercus berberidifolia*	California scrub oak	3	5	3	3	0	0	0	0	0	15	17	Fair	Fair	Undersized	Yes	Direct	
1906	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	15	6	Fair	Fair	Undersized	Yes	Direct	
1907	*Quercus berberidifolia*	California scrub oak	6	6	5	8	8	4	7	0	0	28	20	Fair	Fair	Native	Yes	Encroachment	
1908	*Quercus berberidifolia*	California scrub oak	3	4	5	3	0	0	0	0	0	18	10	Fair	Fair	Undersized	Yes	Encroachment	
1909	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	17	16	Fair	Fair	Undersized	Yes	Direct	
1910	*Quercus berberidifolia*	California scrub oak	6	4	5	6	6	3	6	0	0	27	14	Poor	Fair	Native	Yes	Direct	
1911	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	4	Fair	Fair	Undersized	Yes	Direct	
1912	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	12	9	Fair	Fair	Undersized	Yes	Direct	
1913	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	9	6	Fair	Fair	Undersized	Yes	Direct	
1914	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	13	12	Fair	Fair	Undersized	Yes	Encroachment	
1915	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	9	10	Fair	Fair	Undersized	Yes	Direct	
1916	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	9	8	Fair	Fair	Undersized	Yes	Direct	
1917	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	8	8	Fair	Fair	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1918	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	12	6	Fair	Fair	Undersized	Yes	Direct	
1919	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	
1920	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	11	7	Fair	Fair	Undersized	Yes	Direct	
1921	*Quercus berberidifolia*	California scrub oak	3	2	3	4	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1922	*Quercus berberidifolia*	California scrub oak	4	5	5	4	4	0	0	0	0	11	15	Fair	Fair	Undersized	Yes	Direct	
1923	*Quercus berberidifolia*	California scrub oak	4	7	4	4	4	0	0	0	0	17	18	Poor	Fair	Native	Yes	Direct	
1924	*Heteromeles arbutifolia*	Toyon	8	3	3	3	3	3	3	3	3	17	15	Good	Fair	Undersized	Yes	Direct	
1925	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	6	Fair	Fair	Undersized	Yes	Direct	
1926	*Quercus berberidifolia*	California scrub oak	4	2	3	1	2	0	0	0	0	9	14	Fair	Fair	Undersized	Yes	Direct	
1927	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	15	10	Fair	Fair	Native	Yes	Direct	
1928	*Quercus berberidifolia*	California scrub oak	7	3	3	3	2	2	3	2	0	15	16	Fair	Fair	Undersized	Yes	Direct	
1929	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	15	15	Good	Fair	Undersized	Yes	Direct	
1930	*Quercus berberidifolia*	California scrub oak	3	4	7	4	0	0	0	0	0	20	20	Good	Good	Native	Yes	Direct	
1931	*Quercus berberidifolia*	California scrub oak	3	4	3	2	0	0	0	0	0	15	10	Fair	Good	Undersized	Yes	Direct	
1932	*Quercus berberidifolia*	California scrub oak	6	5	5	2	2	3	2	0	0	20	18	Fair	Good	Undersized	Yes	Direct	
1933	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	16	8	Good	Good	Undersized	Yes	Direct	
1934	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	10	8	Fair	Good	Undersized	Yes	Direct	
1935	*Quercus berberidifolia*	California scrub oak	2	5	4	0	0	0	0	0	0	15	9	Fair	Good	Undersized	Yes	Direct	
1936	*Quercus berberidifolia*	California scrub oak	8	7	7	3	4	3	3	2	2	20	20	Good	Good	Native	Yes	Direct	
1937	*Quercus berberidifolia*	California scrub oak	8	3	3	3	2	2	2	3	2	18	16	Good	Good	Undersized	Yes	Direct	
1938	*Quercus berberidifolia*	California scrub oak	2	5	4	0	0	0	0	0	0	16	15	Good	Good	Undersized	Yes	Direct	
1939	*Quercus berberidifolia*	California scrub oak	4	4	3	3	2	0	0	0	0	14	10	Fair	Good	Undersized	Yes	Direct	
1940	*Quercus berberidifolia*	California scrub oak	4	3	3	3	3	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
1941	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	7	Fair	Fair	Undersized	Yes	Direct	
1942	*Quercus berberidifolia*	California scrub oak	5	3	3	4	4	3	0	0	0	16	16	Fair	Fair	Undersized	Yes	Direct	
1943	*Quercus berberidifolia*	California scrub oak	4	3	4	3	2	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Direct	
1944	*Quercus berberidifolia*	California scrub oak	6	5	4	3	2	2	1	0	0	10	16	Good	Good	Undersized	Yes	Direct	
1945	*Sambucus mexicana*	Blue elderberry	6	4	4	4	3	5	3	0	0	18	15	Fair	Good	Undersized	Yes	Direct	
1946	*Quercus berberidifolia*	California scrub oak	2	6	3	0	0	0	0	0	0	14	8	Good	Good	Undersized	Yes	Direct	
1947	*Quercus berberidifolia*	California scrub oak	5	3	2	2	2	2	0	0	0	15	15	Fair	Fair	Undersized	Yes	Direct	
1948	*Quercus agrifolia*	Coast live oak	2	7	7	0	0	0	0	0	0	16	15	Fair	Good	Native	Yes	Direct	
1949	*Quercus berberidifolia*	California scrub oak	5	5	5	3	4	2	0	0	0	18	15	Fair	Good	Undersized	Yes	Direct	
1950	*Heteromeles arbutifolia*	Toyon	9	6	5	4	5	3	4	3	3	18	20	Fair	Good	Native	Yes	Direct	DBH 3in
1951	*Quercus berberidifolia*	California scrub oak	4	4	4	2	1	0	0	0	0	16	12	Fair	Good	Undersized	Yes	Direct	
1952	*Quercus berberidifolia*	California scrub oak	3	5	3	4	0	0	0	0	0	10	12	Fair	Good	Undersized	Yes	Direct	
1953	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	15	14	Fair	Fair	Undersized	Yes	Direct	
1954	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	11	Fair	Fair	Undersized	Yes	Direct	
1955	*Sambucus mexicana*	Blue elderberry	3	4	5	3	0	0	0	0	0	17	10	Dead	Dead	Hazard	Yes	Hazard	
1956	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	14	9	Fair	Fair	Undersized	Yes	Direct	
1957	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	15	12	Fair	Fair	Undersized	Yes	Direct	
1958	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	13	6	Fair	Fair	Undersized	Yes	Direct	
1959	*Quercus berberidifolia*	California scrub oak	10	4	5	3	3	3	3	3	3	12	18	Fair	Fair	Undersized	Yes	Direct	DBH 3in,3in
1960	*Quercus berberidifolia*	California scrub oak	9	5	4	4	4	3	3	3	3	17	18	Fair	Fair	Undersized	Yes	Direct	DBH 3in
1961	*Quercus berberidifolia*	California scrub oak	3	5	3	2	0	0	0	0	0	18	12	Good	Good	Undersized	Yes	Direct	
1962	*Quercus berberidifolia*	California scrub oak	5	9	8	8	7	3	0	0	0	25	30	Good	Good	Native	Yes	Direct	
1963	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	13	8	Good	Fair	Undersized	Yes	Direct	
1964	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	3	0	0	0	14	12	Fair	Fair	Undersized	Yes	Direct	
1965	*Heteromeles arbutifolia*	Toyon	8	3	3	3	3	3	3	3	3	15	13	Good	Fair	Undersized	Yes	Direct	
1966	*Quercus berberidifolia*	California scrub oak	6	3	2	2	2	2	3	0	0	12	10	Good	Good	Undersized	Yes	Direct	
1967	*Quercus berberidifolia*	California scrub oak	5	3	3	3	3	3	0	0	0	10	12	Fair	Fair	Undersized	Yes	Direct	
1968	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	13	11	Fair	Fair	Undersized	Yes	Direct	
1969	*Quercus berberidifolia*	California scrub oak	5	4	3	3	3	2	0	0	0	12	15	Good	Good	Undersized	Yes	Direct	
1970	*Quercus berberidifolia*	California scrub oak	7	4	3	3	3	2	3	2	0	12	18	Good	Good	Undersized	Yes	Direct	
1971	*Quercus berberidifolia*	California scrub oak	4	2	3	3	2	0	0	0	0	12	14	Poor	Fair	Undersized	Yes	Direct	
1971	*Quercus berberidifolia*	California scrub oak	5	3	2	2	2	3	0	0	0	12	14	Poor	Fair	Undersized	Yes	Direct	
1972	*Quercus berberidifolia*	California scrub oak	5	3	2	2	2	2	0	0	0	13	12	Poor	Fair	Undersized	Yes	Direct	
1973	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	12	8	Fair	Fair	Undersized	Yes	Direct	
1974	*Quercus berberidifolia*	California scrub oak	6	3	3	3	2	1	2	0	0	13	12	Poor	Fair	Undersized	Yes	Direct	
1975	*Quercus berberidifolia*	California scrub oak	7	3	4	3	4	4	3	2	0	15	20	Good	Fair	Undersized	Yes	Direct	
1976	*Quercus berberidifolia*	California scrub oak	7	2	2	3	3	2	2	2	0	7	13	Fair	Fair	Undersized	Yes	Direct	
1977	*Quercus berberidifolia*	California scrub oak	3	2	2	3	0	0	0	0	0	13	12	Fair	Fair	Undersized	Yes	Direct	
1978	*Quercus berberidifolia*	California scrub oak	10	4	4	3	3	3	3	3	2	18	13	Fair	Fair	Undersized	Yes	Direct	DBH 2in,2in
1979	*Quercus berberidifolia*	California scrub oak	6	2	2	1	1	2	2	0	0	12	12	Good	Fair	Undersized	Yes	Direct	
1980	*Quercus berberidifolia*	California scrub oak	4	5	4	2	2	0	0	0	0	18	20	Fair	Fair	Undersized	Yes	Direct	
1981	*Quercus berberidifolia*	California scrub oak	5	3	3	3	2	2	0	0	0	11	13	Good	Fair	Undersized	Yes	Preserve in Place	
1982	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	16	6	Fair	Fair	Undersized	Yes	Preserve in Place	
1983	*Quercus berberidifolia*	California scrub oak	3	2	3	2	0	0	0	0	0	15	12	Fair	Fair	Undersized	Yes	Preserve in Place	
1984	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	13	6	Good	Fair	Undersized	Yes	Preserve in Place	
1985	*Quercus berberidifolia*	California scrub oak	2	4	6	0	0	0	0	0	0	18	13	Good	Fair	Native	Yes	Preserve in Place	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
1986	*Quercus agrifolia*	Coast live oak	5	12	15	11	10	13	0	0	0	30	20	Good	Poor	Native	Yes	Preserve in Place	
1987	*Sambucus mexicana*	Blue elderberry	1	8	0	0	0	0	0	0	0	14	7	Poor	Poor	Undersized	Yes	Preserve in Place	
1988	*Quercus berberidifolia*	California scrub oak	4	6	6	5	2	0	0	0	0	25	18	Good	Fair	Native	Yes	Preserve in Place	
1989	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	15	12	Fair	Fair	Undersized	Yes	Preserve in Place	
1990	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	12	6	Fair	Fair	Undersized	Yes	Preserve in Place	
1991	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	13	8	Fair	Fair	Undersized	Yes	Preserve in Place	
1992	*Quercus berberidifolia*	California scrub oak	4	3	3	4	3	0	0	0	0	17	14	Fair	Fair	Undersized	Yes	Preserve in Place	
1993	*Quercus berberidifolia*	California scrub oak	5	4	4	2	2	5	0	0	0	14	14	Fair	Fair	Undersized	Yes	Preserve in Place	
1994	*Quercus berberidifolia*	California scrub oak	10	5	4	3	3	3	3	3	2	15	17	Fair	Fair	Undersized	Yes	Preserve in Place	DBH 2in,2in
1995	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	13	10	Fair	Fair	Undersized	Yes	Preserve in Place	
1996	*Heteromeles arbutifolia*	Toyon	6	3	4	3	3	2	2	0	0	11	16	Fair	Fair	Undersized	Yes	Preserve in Place	
1997	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	13	13	Fair	Fair	Undersized	Yes	Preserve in Place	
1998	*Quercus berberidifolia*	California scrub oak	5	3	3	4	3	2	0	0	0	10	8	Fair	Fair	Undersized	Yes	Preserve in Place	
1999	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	13	13	Fair	Fair	Undersized	Yes	Preserve in Place	
2000	*Quercus berberidifolia*	California scrub oak	3	11	4	6	0	0	0	0	0	27	21	Fair	Fair	Native	Yes	Preserve in Place	
2001	*Quercus berberidifolia*	California scrub oak	2	10	4	0	0	0	0	0	0	28	12	Good	Good	Undersized	Yes	Preserve in Place	
2002	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	25	12	Good	Good	Undersized	Yes	Preserve in Place	
2002	*Quercus agrifolia*	Coast live oak	2	12	13	0	0	0	0	0	0	30	18	Good	Good	Native	Yes	Preserve in Place	
2003	*Quercus agrifolia*	Coast live oak	1	23	0	0	0	0	0	0	0	50	30	Good	Good	Native	Yes	Preserve in Place	
2004	*Quercus agrifolia*	Coast live oak	2	8	6	0	0	0	0	0	0	12	10	Good	Good	Undersized	Yes	Preserve in Place	
2005	*Quercus agrifolia*	Coast live oak	2	15	3	0	0	0	0	0	0	25	15	Good	Good	Native	Yes	Preserve in Place	
2006	*Quercus berberidifolia*	California scrub oak	4	4	3	2	3	0	0	0	0	15	12	Fair	Good	Undersized	Yes	Preserve in Place	
2007	*Quercus berberidifolia*	California scrub oak	4	3	2	2	2	0	0	0	0	12	8	Good	Good	Undersized	Yes	Preserve in Place	
2008	*Quercus berberidifolia*	California scrub oak	5	5	3	2	1	1	0	0	0	20	15	Good	Good	Undersized	Yes	Preserve in Place	
2009	*Quercus berberidifolia*	California scrub oak	8	4	4	3	2	4	3	3	4	10	20	Good	Good	Undersized	Yes	Preserve in Place	
2010	*Quercus berberidifolia*	California scrub oak	3	5	2	2	0	0	0	0	0	18	12	Fair	Good	Undersized	Yes	Preserve in Place	
2011	*Quercus berberidifolia*	California scrub oak	3	4	3	3	0	0	0	0	0	11	16	Fair	Fair	Undersized	Yes	Preserve in Place	
2012	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	17	8	Good	Fair	Undersized	Yes	Preserve in Place	
2013	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	11	8	Fair	Fair	Undersized	Yes	Indirect	
2014	*Quercus berberidifolia*	California scrub oak	1	0	0	0	0	0	0	0	0	14	7	Fair	Fair	Undersized	Yes	Preserve in Place	
2015	*Platanus racemosa*	California sycamore	4	4	10	9	10	0	0	0	0	60	30	Poor	Poor	Native	Yes	Preserve in Place	
2016	*Quercus agrifolia*	Coast live oak	1	26	0	0	0	0	0	0	0	45	40	Good	Fair	Native	Yes	Indirect	
2017	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	12	7	Fair	Fair	Undersized	Yes	Direct	
2018	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	13	6	Fair	Fair	Undersized	Yes	Encroachment	
2019	*Sambucus mexicana*	Blue elderberry	1	7	0	0	0	0	0	0	0	11	7	Fair	Poor	Undersized	Yes	Encroachment	
2020	*Sambucus mexicana*	Blue elderberry	1	6	0	0	0	0	0	0	0	14	8	Dead	Dead	Hazard	Yes	Hazard	
2021	*Quercus berberidifolia*	California scrub oak	7	5	3	3	1	3	2	1	0	15	15	Fair	Good	Undersized	Yes	Preserve in Place	
2022	*Sambucus mexicana*	Blue elderberry	1	6	0	0	0	0	0	0	0	16	10	Poor	Poor	Native	Yes	Preserve in Place	
2023	*Quercus berberidifolia*	California scrub oak	5	4	4	3	3	3	0	0	0	15	15	Good	Good	Undersized	Yes	Preserve in Place	
2024	*Quercus berberidifolia*	California scrub oak	4	3	2	2	2	0	0	0	0	10	10	Good	Good	Undersized	Yes	Preserve in Place	
2025	*Quercus berberidifolia*	California scrub oak	7	4	3	3	3	3	3	2	0	18	15	Fair	Fair	Undersized	Yes	Indirect	
2026	*Quercus agrifolia*	Coast live oak	4	10	14	6	10	0	0	0	0	20	20	Poor	Poor	Native	Yes	Direct	
2027	*Quercus berberidifolia*	California scrub oak	1	7	0	0	0	0	0	0	0	17	9	Fair	Fair	Native	Yes	Direct	
2028	*Quercus agrifolia*	Coast live oak	1	8	0	0	0	0	0	0	0	27	13	Fair	Fair	Native	Yes	Direct	
2029	*Sambucus mexicana*	Blue elderberry	1	11	0	0	0	0	0	0	0	11	10	Poor	Poor	Undersized	Yes	Direct	
2030	*Quercus berberidifolia*	California scrub oak	7	3	2	2	2	2	2	1	0	12	10	Good	Good	Undersized	Yes	Preserve in Place	
2031	*Quercus berberidifolia*	California scrub oak	6	3	2	2	2	2	2	0	0	10	10	Good	Good	Undersized	Yes	Preserve in Place	
2032	*Quercus berberidifolia*	California scrub oak	4	3	2	2	1	0	0	0	0	1	8	Good	Good	Undersized	Yes	Preserve in Place	
2033	*Quercus berberidifolia*	California scrub oak	8	2	2	2	2	2	1	2	2	12	10	Good	Good	Undersized	Yes	Preserve in Place	
2034	*Quercus berberidifolia*	California scrub oak	8	3	2	2	2	2	2	2	1	16	12	Good	Good	Undersized	Yes	Preserve in Place	
2035	*Quercus berberidifolia*	California scrub oak	4	3	1	1	1	0	0	0	0	10	10	Fair	Good	Undersized	Yes	Preserve in Place	
2036	*Quercus berberidifolia*	California scrub oak	3	3	2	1	0	0	0	0	0	8	12	Good	Good	Undersized	Yes	Indirect	
2037	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	14	12	Good	Good	Undersized	Yes	Indirect	
2038	*Quercus berberidifolia*	California scrub oak	7	5	6	4	3	2	9	8	0	28	25	Good	Good	Native	Yes	Indirect	
2039	*Quercus berberidifolia*	California scrub oak	3	9	7	7	0	0	0	0	0	30	18	Good	Good	Native	Yes	Indirect	
2040	*Quercus berberidifolia*	California scrub oak	6	6	3	3	3	3	4	0	0	15	15	Good	Good	Native	Yes	Indirect	
2041	*Sambucus mexicana*	Blue elderberry	1	4	0	0	0	0	0	0	0	18	9	Dead	Dead	Hazard	Yes	Hazard	
2042	*Sambucus mexicana*	Blue elderberry	2	10	13	0	0	0	0	0	0	15	19	Poor	Poor	Native	Yes	Direct	
2043	*Quercus berberidifolia*	California scrub oak	5	3	4	3	3	2	0	0	0	17	19	Poor	Fair	Undersized	Yes	Direct	
2044	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	17	13	Fair	Fair	Undersized	Yes	Direct	
2045	*Quercus berberidifolia*	California scrub oak	4	4	3	3	5	0	0	0	0	19	15	Fair	Fair	Undersized	Yes	Indirect	
2046	*Quercus berberidifolia*	California scrub oak	5	2	4	3	3	3	0	0	0	19	15	Fair	Fair	Undersized	Yes	Direct	
2047	*Quercus berberidifolia*	California scrub oak	2	4	2	0	0	0	0	0	0	13	10	Fair	Fair	Undersized	Yes	Encroachment	
2048	*Quercus berberidifolia*	California scrub oak	4	3	4	4	4	0	0	0	0	15	13	Fair	Fair	Undersized	Yes	Direct	
2049	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	13	6	Fair	Fair	Undersized	Yes	Direct	
2050	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	10	6	Good	Good	Undersized	Yes	Indirect	
2051	*Quercus berberidifolia*	California scrub oak	4	4	3	1	1	0	0	0	0	12	12	Fair	Good	Undersized	Yes	Indirect	
2052	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	15	12	Good	Good	Undersized	Yes	Indirect	
2053	*Quercus berberidifolia*	California scrub oak	6	2	1	1	1	1	1	0	0	8	6	Good	Good	Undersized	Yes	Direct	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
2054	*Quercus berberidifolia*	California scrub oak	5	4	3	2	2	3	0	0	0	10	10	Good	Good	Undersized	Yes	Direct	
2055	*Quercus berberidifolia*	California scrub oak	4	3	3	4	2	0	0	0	0	13	10	Fair	Fair	Undersized	Yes	Direct	
2056	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	16	10	Good	Good	Undersized	Yes	Direct	
2057	*Quercus berberidifolia*	California scrub oak	8	5	4	4	3	5	4	2	3	25	25	Good	Good	Undersized	Yes	Direct	
2058	*Quercus berberidifolia*	California scrub oak	4	3	2	3	4	0	0	0	0	17	13	Fair	Fair	Undersized	Yes	Direct	
2059	*Quercus berberidifolia*	California scrub oak	3	7	5	3	0	0	0	0	0	15	18	Fair	Fair	Native	Yes	Direct	
2060	*Quercus berberidifolia*	California scrub oak	4	3	2	6	3	0	0	0	0	17	15	Fair	Fair	Native	Yes	Direct	
2061	*Quercus berberidifolia*	California scrub oak	5	3	2	4	3	2	0	0	0	15	12	Good	Good	Undersized	Yes	Direct	
2062	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	14	11	Fair	Fair	Undersized	Yes	Direct	
2063	*Quercus berberidifolia*	California scrub oak	10	3	3	3	3	3	2	2	2	19	15	Fair	Fair	Undersized	Yes	Direct	DBH 2in,2in
2064	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	16	12	Fair	Fair	Undersized	Yes	Direct	
2065	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	13	7	Fair	Fair	Undersized	Yes	Direct	
2066	*Quercus berberidifolia*	California scrub oak	2	3	3	0	0	0	0	0	0	17	7	Fair	Fair	Undersized	Yes	Direct	
2067	*Quercus berberidifolia*	California scrub oak	2	9	6	0	0	0	0	0	0	27	22	Fair	Fair	Native	Yes	Direct	
2068	*Quercus berberidifolia*	California scrub oak	1	3	0	0	0	0	0	0	0	9	7	Fair	Fair	Undersized	Yes	Direct	
2069	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	12	9	Fair	Fair	Undersized	Yes	Direct	
2069	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	14	13	Fair	Fair	Undersized	Yes	Direct	
2070	*Quercus berberidifolia*	California scrub oak	7	6	3	4	3	2	2	3	0	16	16	Fair	Good	Native	Yes	Direct	
2071	*Heteromeles arbutifolia*	Toyon	11	6	5	4	4	3	3	3	3	25	20	Good	Good	Native	Yes	Direct	DBH 3in,3in,3in
2072	*Heteromeles arbutifolia*	Toyon	6	6	5	4	5	4	3	0	0	16	18	Good	Good	Native	Yes	Direct	
2073	*Quercus berberidifolia*	California scrub oak	6	3	4	4	3	2	2	0	0	14	10	Good	Good	Undersized	Yes	Direct	
2074	*Sambucus mexicana*	Blue elderberry	3	9	7	4	0	0	0	0	0	16	10	Dead	Dead	Hazard	Yes	Hazard	
2075	*Quercus berberidifolia*	California scrub oak	8	6	5	4	3	3	2	2	2	22	18	Good	Good	Native	Yes	Direct	
2076	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	20	8	Good	Good	Native	Yes	Direct	
2077	*Quercus berberidifolia*	California scrub oak	3	6	5	3	0	0	0	0	0	15	20	Good	Good	Native	Yes	Direct	
2078	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	15	10	Good	Good	Undersized	Yes	Direct	
2079	*Quercus berberidifolia*	California scrub oak	5	2	1	1	1	2	0	0	0	10	14	Good	Good	Undersized	Yes	Direct	
2080	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	16	10	Fair	Good	Undersized	Yes	Direct	
2081	*Quercus berberidifolia*	California scrub oak	4	5	4	3	3	0	0	0	0	15	20	Fair	Good	Undersized	Yes	Direct	
2082	*Quercus berberidifolia*	California scrub oak	3	5	3	3	0	0	0	0	0	18	15	Good	Good	Undersized	Yes	Direct	
2083	*Quercus berberidifolia*	California scrub oak	3	3	3	3	0	0	0	0	0	14	12	Fair	Fair	Undersized	Yes	Direct	
2084	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	14	13	Fair	Fair	Undersized	Yes	Direct	
2085	*Quercus berberidifolia*	California scrub oak	3	4	3	4	0	0	0	0	0	13	17	Poor	Poor	Undersized	Yes	Direct	
2086	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	16	8	Fair	Fair	Undersized	Yes	Direct	
2087	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Direct	
2088	*Quercus berberidifolia*	California scrub oak	4	3	4	3	4	0	0	0	0	14	18	Fair	Fair	Undersized	Yes	Direct	
2089	*Quercus berberidifolia*	California scrub oak	2	3	4	0	0	0	0	0	0	14	9	Fair	Fair	Undersized	Yes	Direct	
2090	*Quercus agrifolia*	Coast live oak	4	16	14	20	4	0	0	0	0	45	49	Good	Good	Native	Yes	Direct	
2091	*Quercus agrifolia*	Coast live oak	2	30	28	0	0	0	0	0	0	60	55	Good	Good	Native	Yes	Direct	
2092	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	27	12	Good	Good	Native	Yes	Direct	
2093	*Quercus agrifolia*	Coast live oak	1	20	0	0	0	0	0	0	0	35	40	Good	Poor	Native	Yes	Direct	
2094	*Quercus agrifolia*	Coast live oak	1	20	0	0	0	0	0	0	0	35	30	Fair	Good	Native	Yes	Direct	
2096	*Quercus agrifolia*	Coast live oak	4	25	2	2	5	0	0	0	0	40	25	Good	Good	Native	Yes	Direct	
2097	*Quercus agrifolia*	Coast live oak	2	11	7	0	0	0	0	0	0	25	18	Good	Good	Native	Yes	Direct	
2098	*Quercus agrifolia*	Coast live oak	2	5	3	0	0	0	0	0	0	18	10	Fair	Good	Undersized	Yes	Direct	
2099	*Platanus racemosa*	California sycamore	1	25	0	0	0	0	0	0	0	70	30	Fair	Good	Native	Yes	Direct	
2100	*Heteromeles arbutifolia*	Toyon	1	5	0	0	0	0	0	0	0	16	10	Fair	Good	Undersized	Yes	Direct	
2101	*Platanus racemosa*	California sycamore	1	10	0	0	0	0	0	0	0	40	20	Good	Fair	Native	Yes	Direct	
2102	*Quercus agrifolia*	Coast live oak	1	20	0	0	0	0	0	0	0	50	35	Good	Fair	Native	Yes	Direct	
2103	*Quercus agrifolia*	Coast live oak	1	16	0	0	0	0	0	0	0	40	28	Good	Fair	Native	Yes	Direct	
2104	*Quercus agrifolia*	Coast live oak	1	25	0	0	0	0	0	0	0	40	35	Good	Fair	Native	Yes	Encroachment	
2105	*Quercus agrifolia*	Coast live oak	2	33	15	0	0	0	0	0	0	45	45	Good	Fair	Native	Yes	Direct	
2106	*Platanus racemosa*	California sycamore	1	16	0	0	0	0	0	0	0	50	40	Good	Good	Native	Yes	Direct	
2107	*Platanus racemosa*	California sycamore	2	14	16	0	0	0	0	0	0	50	45	Good	Fair	Native	Yes	Direct	
2108	*Heteromeles arbutifolia*	Toyon	9	8	7	6	5	4	3	3	3	30	35	Good	Fair	Native	Yes	Direct	
2109	*Quercus berberidifolia*	California scrub oak	2	6	7	0	0	0	0	0	0	20	20	Good	Fair	Native	Yes	Direct	
2110	*Quercus agrifolia*	Coast live oak	3	14	14	15	0	0	0	0	0	25	25	Good	Fair	Native	Yes	Direct	
2111	*Quercus berberidifolia*	California scrub oak	13	5	5	3	3	3	3	2	2	20	20	Fair	Fair	Undersized	Yes	Direct	DBH 2in,2in,2in,2in,2in
2112	*Quercus agrifolia*	Coast live oak	2	4	4	0	0	0	0	0	0	15	7	Poor	Poor	Undersized	Yes	Direct	
2113	*Quercus berberidifolia*	California scrub oak	9	3	3	3	3	3	2	2	2	15	12	Good	Fair	Undersized	Yes	Direct	
2114	*Quercus berberidifolia*	California scrub oak	2	4	3	0	0	0	0	0	0	9	9	Poor	Poor	Undersized	Yes	Direct	
2115	*Quercus berberidifolia*	California scrub oak	3	4	4	2	0	0	0	0	0	16	15	Fair	Fair	Undersized	Yes	Direct	
2116	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	8	8	Fair	Poor	Native	Yes	Preserve in Place	
2117	*Quercus agrifolia*	Coast live oak	1	27	0	0	0	0	0	0	0	45	30	Good	Fair	Native	Yes	Preserve in Place	
2118	*Quercus agrifolia*	Coast live oak	3	16	8	9	0	0	0	0	0	50	25	Fair	Fair	Native	Yes	Indirect	
2119	*Quercus agrifolia*	Coast live oak	2	18	9	0	0	0	0	0	0	30	30	Fair	Fair	Native	Yes	Encroachment	
2120	*Quercus agrifolia*	Coast live oak	1	25	0	0	0	0	0	0	0	40	35	Fair	Fair	Native	Yes	Preserve in Place	
2121	*Quercus agrifolia*	Coast live oak	2	18	20	0	0	0	0	0	0	40	25	Poor	Poor	Native	Yes	Indirect	1 dead trunk
2122	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	10	8	Fair	Fair	Undersized	Yes	Preserve in Place	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
2123	*Quercus agrifolia*	Coast live oak	2	4	2	0	0	0	0	0	0	15	10	Good	Fair	Native	Yes	Preserve in Place	
2124	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	30	15	Fair	Fair	Native	Yes	Preserve in Place	
2125	*Quercus berberidifolia*	California scrub oak	3	4	2	4	0	0	0	0	0	15	8	Good	Fair	Native	Yes	Preserve in Place	
2126	*Quercus berberidifolia*	California scrub oak	3	4	3	3	0	0	0	0	0	10	10	Fair	Fair	Native	Yes	Preserve in Place	
2127	*Quercus berberidifolia*	California scrub oak	3	4	2	2	0	0	0	0	0	10	8	Fair	Poor	Native	Yes	Preserve in Place	
2128	*Quercus berberidifolia*	California scrub oak	3	4	2	2	0	0	0	0	0	10	8	Fair	Fair	Native	Yes	Preserve in Place	
2129	*Quercus berberidifolia*	California scrub oak	3	8	4	5	0	0	0	0	0	15	8	Fair	Fair	Native	Yes	Preserve in Place	
2130	*Quercus berberidifolia*	California scrub oak	10	2	2	2	2	2	2	0	0	10	10	Fair	Fair	Undersized	Yes	Preserve in Place	possible tagged before
2131	*Quercus berberidifolia*	California scrub oak	5	4	3	3	3	3	0	0	0	18	15	Fair	Fair	Native	Yes	Preserve in Place	
2132	*Quercus agrifolia*	Coast live oak	3	28	20	5	0	0	0	0	0	15	10	Poor	Poor	Native	Yes	Indirect	tree uprooted; may have previously inventoried
2133	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	15	8	Fair	Fair	Native	Yes	Indirect	may have previously inventory
2134	*Quercus agrifolia*	Coast live oak	4	7	6	5	4	0	0	0	0	20	20	Fair	Fair	Native	Yes	Indirect	
2135	*Quercus agrifolia*	Coast live oak	1	24	0	0	0	0	0	0	0	35	25	Fair	Fair	Native	Yes	Indirect	
2136	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	35	15	Fair	Fair	Native	Yes	Indirect	
2137	*Quercus agrifolia*	Coast live oak	1	21	0	0	0	0	0	0	0	35	30	Fair	Fair	Native	Yes	Indirect	
2138	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	8	8	Good	Fair	Native	Yes	Encroachment	
2139	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Encroachment	
2140	*Quercus agrifolia*	Coast live oak	2	12	4	0	0	0	0	0	0	18	12	Fair	Fair	Native	Yes	Direct	
2141	*Quercus agrifolia*	Coast live oak	3	7	7	7	0	0	0	0	0	20	15	Poor	Poor	Native	Yes	Direct	
2142	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Direct	
2143	*Quercus agrifolia*	Coast live oak	1	24	0	0	0	0	0	0	0	18	10	Poor	Poor	Native	Yes	Direct	broken out top; possible retag
2144	*Quercus agrifolia*	Coast live oak	1	5	0	0	0	0	0	0	0	12	10	Poor	Poor	Native	Yes	Direct	
2145	*Quercus agrifolia*	Coast live oak	3	18	15	15	0	0	0	0	0	1	1	Dead	Dead	Native	Yes	Direct	uprooted;
2146	*Quercus berberidifolia*	California scrub oak	3	4	2	2	0	0	0	0	0	15	8	Fair	Poor	Native	Yes	Encroachment	
2147	*Quercus agrifolia*	Coast live oak	1	15	0	0	0	0	0	0	0	18	10	Poor	Poor	Native	Yes	Indirect	broken top
2148	*Quercus agrifolia*	Coast live oak	3	19	18	15	0	0	0	0	0	20	18	Fair	Poor	Native	Yes	Indirect	
2149	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	12	8	Good	Fair	Native	Yes	Indirect	
2150	*Quercus berberidifolia*	California scrub oak	3	4	2	1	0	0	0	0	0	12	15	Fair	Poor	Native	Yes	Indirect	
2151	*Quercus agrifolia*	Coast live oak	3	22	19	18	0	0	0	0	0	45	40	Good	Fair	Native	Yes	Indirect	
2152	*Quercus agrifolia*	Coast live oak	3	4	2	1	0	0	0	0	0	12	10	Fair	Fair	Native	Yes	Indirect	
2153	*Quercus berberidifolia*	California scrub oak	6	4	3	2	2	2	2	0	0	12	18	Fair	Fair	Native	Yes	Indirect	
2154	*Quercus berberidifolia*	California scrub oak	3	4	2	2	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
2155	*Quercus agrifolia*	Coast live oak	3	17	9	5	0	0	0	0	0	20	2	Dead	Dead	Native	Yes	Indirect	
2156	*Quercus agrifolia*	Coast live oak	1	17	0	0	0	0	0	0	0	18	1	Dead	Dead	Native	Yes	Indirect	
2157	*Quercus agrifolia*	Coast live oak	1	18	0	0	0	0	0	0	0	30	25	Fair	Fair	Native	Yes	Indirect	
2158	*Quercus agrifolia*	Coast live oak	2	9	9	0	0	0	0	0	0	18	15	Fair	Poor	Native	Yes	Indirect	
2159	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	10	10	Fair	Fair	Native	Yes	Indirect	
2160	*Quercus agrifolia*	Coast live oak	2	3	1	0	0	0	0	0	0	12	10	Poor	Fair	Undersized	Yes	Indirect	
2161	*Quercus agrifolia*	Coast live oak	1	21	0	0	0	0	0	0	0	40	30	Fair	Fair	Native	Yes	Indirect	
2162	*Quercus agrifolia*	Coast live oak	2	16	22	0	0	0	0	0	0	30	20	Fair	Poor	Native	Yes	Indirect	
2163	*Quercus agrifolia*	Coast live oak	2	14	10	0	0	0	0	0	0	30	25	Fair	Fair	Native	Yes	Indirect	
2164	*Quercus agrifolia*	Coast live oak	2	17	7	0	0	0	0	0	0	50	30	Fair	Fair	Native	Yes	Indirect	
2165	*Quercus agrifolia*	Coast live oak	2	29	12	0	0	0	0	0	0	60	35	Fair	Poor	Native	Yes	Indirect	
2166	*Quercus agrifolia*	Coast live oak	4	6	3	1	1	2	0	0	0	24	15	Fair	Fair	Native	Yes	Indirect	
2167	*Quercus agrifolia*	Coast live oak	1	20	0	0	0	0	0	0	0	25	20	Fair	Fair	Native	Yes	Indirect	
2168	*Quercus agrifolia*	Coast live oak	2	11	8	0	0	0	0	0	0	26	15	Fair	Fair	Native	Yes	Indirect	
2169	*Quercus agrifolia*	Coast live oak	1	5	0	0	0	0	0	0	0	18	10	Fair	Fair	Native	Yes	Indirect	
2170	*Platanus racemosa*	California sycamore	4	30	16	16	18	0	0	0	0	45	50	Fair	Fair	Native	Yes	Preserve in Place	
2171	*Quercus agrifolia*	Coast live oak	3	9	6	4	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
2172	*Platanus racemosa*	California sycamore	4	17	15	15	13	0	0	0	0	45	35	Fair	Fair	Native	Yes	Indirect	
2173	*Quercus agrifolia*	Coast live oak	2	7	4	0	0	0	0	0	0	18	12	Fair	Fair	Native	Yes	Indirect	
2174	*Quercus agrifolia*	Coast live oak	1	20	0	0	0	0	0	0	0	24	20	Fair	Poor	Native	Yes	Indirect	
2175	*Quercus agrifolia*	Coast live oak	1	14	0	0	0	0	0	0	0	18	15	Fair	Fair	Native	Yes	Indirect	
2176	*Quercus agrifolia*	Coast live oak	3	28	21	17	0	0	0	0	0	55	45	Fair	Fair	Native	Yes	Indirect	
2177	*Quercus berberidifolia*	California scrub oak	4	3	1	1	1	0	0	0	0	15	20	Fair	Fair	Native	Yes	Indirect	
2178	*Quercus agrifolia*	Coast live oak	1	24	0	0	0	0	0	0	0	10	10	Poor	Poor	Native	Yes	Indirect	broken top
2179	*Quercus berberidifolia*	California scrub oak	2	4	2	0	0	0	0	0	0	18	15	Fair	Fair	Native	Yes	Indirect	
2180	*Quercus agrifolia*	Coast live oak	1	12	0	0	0	0	0	0	0	30	20	Fair	Fair	Native	Yes	Indirect	
2181	*Quercus agrifolia*	Coast live oak	3	22	14	12	0	0	0	0	0	45	35	Good	Fair	Native	Yes	Indirect	
2182	*Quercus berberidifolia*	California scrub oak	3	1	1	2	0	0	0	0	0	8	8	Fair	Fair	Undersized	Yes	Indirect	
2183	*Quercus agrifolia*	Coast live oak	1	3	0	0	0	0	0	0	0	10	6	Good	Fair	Undersized	Yes	Indirect	
2184	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	12	6	Fair	Fair	Native	Yes	Indirect	
2185	*Quercus agrifolia*	Coast live oak	3	20	17	12	0	0	0	0	0	30	30	Fair	Poor	Native	Yes	Indirect	
2186	*Quercus berberidifolia*	California scrub oak	3	5	4	4	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
2187	*Quercus agrifolia*	Coast live oak	5	19	12	9	6	0	0	0	0	1	1	Fair	Poor	Native	Yes	Indirect	
2188	*Quercus berberidifolia*	California scrub oak	5	6	5	4	3	3	0	0	0	20	20	Fair	Fair	Native	Yes	Indirect	
2189	*Quercus berberidifolia*	California scrub oak	6	5	4	4	4	2	2	0	0	18	20	Fair	Fair	Native	Yes	Encroachment	
2190	*Quercus agrifolia*	Coast live oak	1	28	0	0	0	0	0	0	0	50	30	Fair	Fair	Native	Yes	Encroachment	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

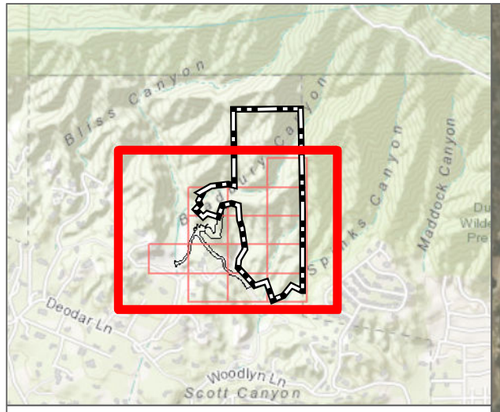
Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
2191	*Quercus berberidifolia*	California scrub oak	5	2	1	1	1	1	0	0	0	12	15	Fair	Fair	Undersized	Yes	Encroachment	
2192	*Quercus berberidifolia*	California scrub oak	6	2	1	2	1	1	1	0	0	15	20	Fair	Fair	Undersized	Yes	Direct	
2193	*Quercus berberidifolia*	California scrub oak	3	4	2	0	0	0	0	0	0	12	15	Fair	Fair	Native	Yes	Indirect	
2194	*Quercus berberidifolia*	California scrub oak	4	1	1	1	1	0	0	0	0	7	6	Good	Fair	Undersized	Yes	Indirect	
2195	*Quercus berberidifolia*	California scrub oak	6	3	1	1	1	1	1	0	0	15	12	Fair	Fair	Undersized	Yes	Indirect	
2196	*Quercus agrifolia*	Coast live oak	2	6	2	0	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Indirect	
2197	*Quercus berberidifolia*	California scrub oak	4	2	1	1	1	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Indirect	
2198	*Quercus berberidifolia*	California scrub oak	9	2	1	1	1	1	1	0	0	12	15	Fair	Fair	Undersized	Yes	Indirect	possible duplicate
2199	*Quercus berberidifolia*	California scrub oak	5	3	2	1	1	1	0	0	0	12	15	Fair	Fair	Undersized	Yes	Indirect	possible duplicate
2200	*Quercus berberidifolia*	California scrub oak	7	1	1	1	1	1	1	0	0	12	15	Fair	Fair	Undersized	Yes	Indirect	
2201	*Quercus berberidifolia*	California scrub oak	3	2	1	1	0	0	0	0	0	10	6	Fair	Fair	Undersized	Yes	Indirect	
2202	*Quercus berberidifolia*	California scrub oak	6	2	1	1	1	3	2	0	0	12	18	Good	Fair	Undersized	Yes	Indirect	possible duplicate
2203	*Quercus agrifolia*	Coast live oak	2	6	2	0	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	possible duplicate
2204	*Quercus berberidifolia*	California scrub oak	10	2	1	1	1	2	2	0	0	12	18	Good	Fair	Undersized	Yes	Indirect	
2205	*Quercus berberidifolia*	California scrub oak	3	2	1	1	0	0	0	0	0	8	10	Fair	Fair	Undersized	Yes	Indirect	
2206	*Quercus berberidifolia*	California scrub oak	4	3	1	1	1	0	0	0	0	10	15	Fair	Fair	Undersized	Yes	Indirect	
2207	*Quercus berberidifolia*	California scrub oak	3	2	2	1	0	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Indirect	
2208	*Quercus berberidifolia*	California scrub oak	3	3	2	2	0	0	0	0	0	10	18	Fair	Fair	Undersized	Yes	Indirect	
2209	*Quercus berberidifolia*	California scrub oak	3	9	7	3	0	0	0	0	0	25	25	Fair	Fair	Native	Yes	Indirect	
2210	*Quercus berberidifolia*	California scrub oak	2	2	2	0	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Indirect	
2211	*Quercus agrifolia*	Coast live oak	1	11	0	0	0	0	0	0	0	30	20	Good	Fair	Native	Yes	Indirect	
2212	*Quercus agrifolia*	Coast live oak	2	17	8	0	0	0	0	0	0	40	30	Fair	Fair	Native	Yes	Indirect	
2213	*Quercus agrifolia*	Coast live oak	1	13	0	0	0	0	0	0	0	45	20	Fair	Fair	Native	Yes	Indirect	
2214	*Quercus agrifolia*	Coast live oak	1	20	0	0	0	0	0	0	0	40	30	Fair	Fair	Native	Yes	Indirect	
2215	*Quercus berberidifolia*	California scrub oak	2	6	1	0	0	0	0	0	0	15	12	Fair	Fair	Native	Yes	Indirect	
2216	*Quercus agrifolia*	Coast live oak	2	6	5	0	0	0	0	0	0	15	12	Fair	Fair	Native	Yes	Indirect	
2217	*Quercus agrifolia*	Coast live oak	1	25	0	0	0	0	0	0	0	55	30	Good	Fair	Native	Yes	Indirect	
2218	*Quercus berberidifolia*	California scrub oak	3	2	1	1	0	0	0	0	0	6	10	Fair	Fair	Undersized	Yes	Indirect	
2219	*Quercus agrifolia*	Coast live oak	1	26	0	0	0	0	0	0	0	40	30	Fair	Fair	Native	Yes	Indirect	
2220	*Platanus racemosa*	California sycamore	3	6	1	1	0	0	0	0	0	20	20	Fair	Fair	Native	Yes	Preserve in Place	
2221	*Quercus berberidifolia*	California scrub oak	2	3	2	0	0	0	0	0	0	12	12	Fair	Fair	Undersized	Yes	Indirect	
2222	*Quercus agrifolia*	Coast live oak	3	13	6	6	0	0	0	0	0	30	30	Fair	Fair	Native	Yes	Indirect	
2223	*Quercus agrifolia*	Coast live oak	1	4	0	0	0	0	0	0	0	10	6	Fair	Poor	Native	Yes	Indirect	
2224	*Quercus agrifolia*	Coast live oak	5	16	7	8	2	1	0	0	0	35	25	Fair	Fair	Native	Yes	Indirect	
2225	*Quercus berberidifolia*	California scrub oak	1	6	0	0	0	0	0	0	0	30	15	Fair	Fair	Native	Yes	Indirect	
2226	*Quercus berberidifolia*	California scrub oak	5	2	1	1	1	1	0	0	0	10	15	Fair	Fair	Undersized	Yes	Indirect	
2227	*Quercus agrifolia*	Coast live oak	3	2	2	1	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Preserve in Place	
2228	*Quercus agrifolia*	Coast live oak	3	24	22	22	0	0	0	0	0	50	40	Fair	Fair	Native	Yes	Preserve in Place	
2229	*Platanus racemosa*	California sycamore	3	17	7	14	0	0	0	0	0	45	25	Fair	Fair	Native	Yes	Preserve in Place	
2230	*Quercus agrifolia*	Coast live oak	4	17	15	12	11	0	0	0	0	45	40	Fair	Fair	Native	Yes	Preserve in Place	
2231	*Quercus berberidifolia*	California scrub oak	8	3	2	2	1	1	1	0	0	15	20	Fair	Fair	Undersized	Yes	Preserve in Place	
2232	*Quercus agrifolia*	Coast live oak	6	19	20	15	14	12	0	0	0	35	45	Fair	Poor	Native	Yes	Preserve in Place	
2233	*Quercus berberidifolia*	California scrub oak	4	4	1	1	1	0	0	0	0	10	15	Fair	Fair	Native	Yes	Preserve in Place	
2234	*Quercus berberidifolia*	California scrub oak	3	7	3	1	0	0	0	0	0	18	20	Fair	Poor	Native	Yes	Preserve in Place	
2235	*Quercus berberidifolia*	California scrub oak	4	5	2	2	2	0	0	0	0	15	12	Fair	Fair	Native	Yes	Preserve in Place	
2236	*Quercus berberidifolia*	California scrub oak	3	4	3	3	0	0	0	0	0	20	18	Good	Fair	Native	Yes	Preserve in Place	
2237	*Quercus berberidifolia*	California scrub oak	6	2	2	2	1	1	1	0	0	15	15	Fair	Fair	Undersized	Yes	Preserve in Place	
2238	*Quercus berberidifolia*	California scrub oak	6	6	4	4	3	3	2	0	0	18	15	Fair	Fair	Native	Yes	Preserve in Place	
2239	*Quercus berberidifolia*	California scrub oak	5	3	3	3	2	1	0	0	0	15	12	Fair	Fair	Undersized	Yes	Preserve in Place	
2240	*Quercus berberidifolia*	California scrub oak	3	3	3	2	0	0	0	0	0	12	10	Fair	Fair	Undersized	Yes	Preserve in Place	
2241	*Quercus berberidifolia*	California scrub oak	5	1	1	1	1	1	0	0	0	10	12	Fair	Fair	Undersized	Yes	Indirect	
2242	*Quercus berberidifolia*	California scrub oak	3	4	3	3	0	0	0	0	0	15	20	Fair	Fair	Native	Yes	Indirect	
2243	*Quercus berberidifolia*	California scrub oak	2	4	2	0	0	0	0	0	0	12	10	Fair	Fair	Native	Yes	Indirect	
2244	*Quercus berberidifolia*	California scrub oak	4	3	2	1	1	0	0	0	0	10	10	Fair	Fair	Undersized	Yes	Indirect	
2245	*Quercus berberidifolia*	California scrub oak	5	3	2	2	1	1	0	0	0	10	10	Fair	Fair	Undersized	Yes	Indirect	
2246	*Quercus berberidifolia*	California scrub oak	6	4	3	3	2	2	1	0	0	12	20	Fair	Fair	Native	Yes	Indirect	
2247	*Quercus berberidifolia*	California scrub oak	5	3	2	2	3	2	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
2248	*Quercus berberidifolia*	California scrub oak	6	4	3	2	2	2	1	0	0	18	15	Fair	Fair	Native	Yes	Indirect	
2249	*Quercus agrifolia*	Coast live oak	2	2	1	0	0	0	0	0	0	10	7	Good	Fair	Undersized	Yes	Indirect	
2250	*Quercus berberidifolia*	California scrub oak	6	6	5	3	2	2	2	0	0	20	20	Fair	Fair	Native	Yes	Indirect	
2251	*Quercus berberidifolia*	California scrub oak	6	4	4	3	3	2	5	0	0	18	20	Fair	Fair	Native	Yes	Indirect	
2274	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	12	15	Fair	Fair	Native	Yes	Preserve in Place	
2275	*Quercus berberidifolia*	California scrub oak	2	4	4	0	0	0	0	0	0	12	10	Fair	Fair	Native	Yes	Indirect	
2252	*Quercus berberidifolia*	California scrub oak	8	3	3	4	2	2	1	1	2	16	15	Fair	Fair	Undersized	Yes	Indirect	
2253	*Quercus berberidifolia*	California scrub oak	3	3	2	4	0	0	0	0	0	12	10	Good	Fair	Undersized	Yes	Indirect	
2254	*Quercus berberidifolia*	California scrub oak	4	2	3	1	1	0	0	0	0	18	15	Good	Fair	Undersized	Yes	Indirect	
2255	*Quercus berberidifolia*	California scrub oak	3	7	3	2	0	0	0	0	0	25	20	Fair	Fair	Native	Yes	Indirect	
2256	*Quercus berberidifolia*	California scrub oak	4	6	3	2	4	0	0	0	0	15	25	Fair	Fair	Native	Yes	Indirect	
2257	*Quercus berberidifolia*	California scrub oak	3	4	3	3	0	0	0	0	0	20	20	Good	Fair	Native	Yes	Indirect	

Appendix B - Chadwick Ranch - Tree Inventory Matrix

Tree No.	Botanical Name	Common Name	Number of Stems	Individual Stems (in.)								Height (ft.)	Canopy (ft.)	Health	Structure	Protected	Native	Disposition	Notes
				S1	S2	S3	S4	S5	S6	S7	S8								
2258	*Quercus berberidifolia*	California scrub oak	5	4	4	3	1	2	0	0	0	20	25	Fair	Fair	Native	Yes	Indirect	
2259	*Quercus berberidifolia*	California scrub oak	3	5	2	2	0	0	0	0	0	15	15	Good	Fair	Native	Yes	Indirect	
2260	*Quercus berberidifolia*	California scrub oak	6	3	2	2	3	1	2	0	0	10	15	Fair	Fair	Undersized	Yes	Indirect	
2261	*Quercus berberidifolia*	California scrub oak	3	6	2	2	0	0	0	0	0	20	15	Fair	Fair	Native	Yes	Indirect	
2262	*Quercus berberidifolia*	California scrub oak	7	4	4	3	2	3	2	1	0	20	25	Fair	Fair	Native	Yes	Indirect	
2263	*Quercus berberidifolia*	California scrub oak	5	4	3	4	2	1	0	0	0	15	15	Good	Fair	Native	Yes	Indirect	
2264	*Quercus berberidifolia*	California scrub oak	3	2	2	1	0	0	0	0	0	15	10	Fair	Fair	Undersized	Yes	Indirect	
2265	*Quercus berberidifolia*	California scrub oak	4	3	3	2	1	0	0	0	0	18	15	Fair	Fair	Undersized	Yes	Preserve in Place	
2266	*Quercus berberidifolia*	California scrub oak	5	4	3	2	3	1	0	0	0	20	12	Fair	Fair	Native	Yes	Indirect	
2267	*Quercus berberidifolia*	California scrub oak	2	5	2	0	0	0	0	0	0	12	10	Fair	Fair	Native	Yes	Indirect	
2268	*Quercus berberidifolia*	California scrub oak	3	4	3	1	0	0	0	0	0	18	15	Good	Fair	Native	Yes	Encroachment	
2269	*Quercus berberidifolia*	California scrub oak	6	4	2	2	3	1	1	0	0	20	20	Fair	Fair	Native	Yes	Indirect	
2270	*Quercus berberidifolia*	California scrub oak	4	4	4	1	2	0	0	0	0	15	12	Fair	Fair	Native	Yes	Preserve in Place	
2271	*Quercus berberidifolia*	California scrub oak	4	4	2	1	2	0	0	0	0	15	15	Good	Fair	Native	Yes	Encroachment	
2272	*Quercus berberidifolia*	California scrub oak	3	4	2	2	0	0	0	0	0	15	15	Fair	Fair	Native	Yes	Indirect	
2273	*Quercus berberidifolia*	California scrub oak	6	4	2	2	1	2	1	0	0	20	20	Fair	Fair	Native	Yes	Direct	
2276	*Quercus berberidifolia*	California scrub oak	1	5	0	0	0	0	0	0	0	20	8	Good	Fair	Native	Yes	Preserve in Place	Might be a duplicate
2277	*Quercus berberidifolia*	California scrub oak	3	4	3	4	0	0	0	0	0	15	10	Fair	Fair	Native	Yes	Preserve in Place	Might be a duplicate
2278	*Quercus berberidifolia*	California scrub oak	5	2	3	2	1	2	0	0	0	15	8	Good	Fair	Undersized	Yes	Preserve in Place	Might be a duplicate
2279	*Quercus berberidifolia*	California scrub oak	2	4	5	0	0	0	0	0	0	20	12	Fair	Fair	Native	Yes	Indirect	Might be a duplicate
2280	*Quercus berberidifolia*	California scrub oak	3	3	1	2	0	0	0	0	0	12	15	Good	Fair	Undersized	Yes	Indirect	Might be a duplicate
2281	*Quercus berberidifolia*	California scrub oak	1	4	0	0	0	0	0	0	0	20	10	Good	Fair	Native	Yes	Indirect	Might be a duplicate
2282	*Quercus berberidifolia*	California scrub oak	4	3	2	3	2	0	0	0	0	15	15	Fair	Fair	Undersized	Yes	Indirect	

APPENDIX C

Protected Tree Impact Exhibit



Disposition

- Preserve in Place (178)
- Indirect (596)
- Encroachment (106)
- Direct (1,357)
- Hazard (50)
- Property Boundary

Impact

- Permanent (2)
- Remedial (2)
- Zone B (2)
- Zone C (13)

SOURCE: AERIAL-BING MAPPING SERVICE 2019

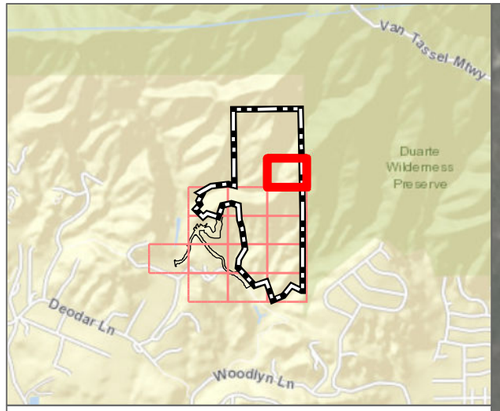
DUDEK

0 165 330 Feet

APPENDIX C

Protected Tree Impact Exhibit - Overview

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

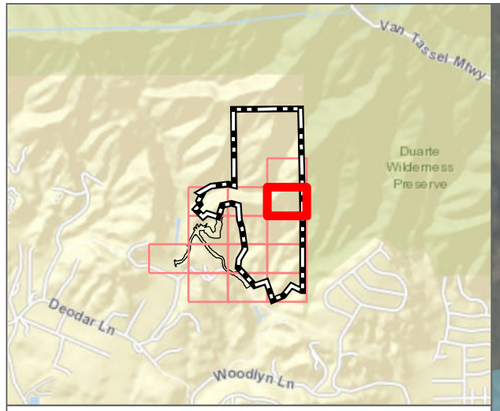
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 1

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

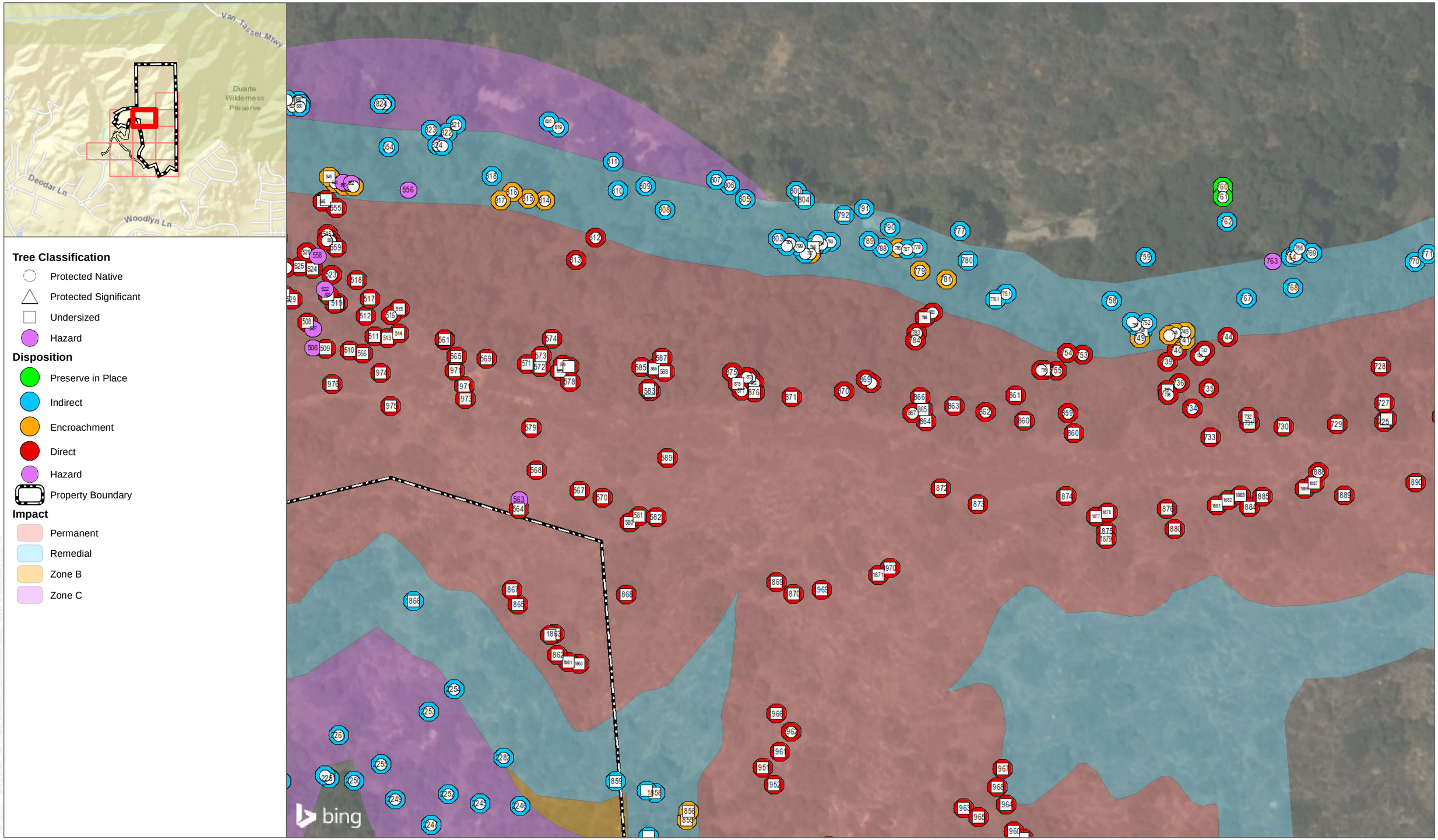
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 2

Chadwick Ranch Tree Preservation and Protection Plan



SOURCE: AERIAL-BING MAPPING SERVICE 2019

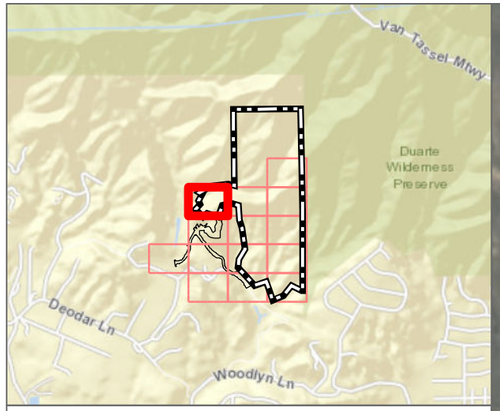
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 3

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

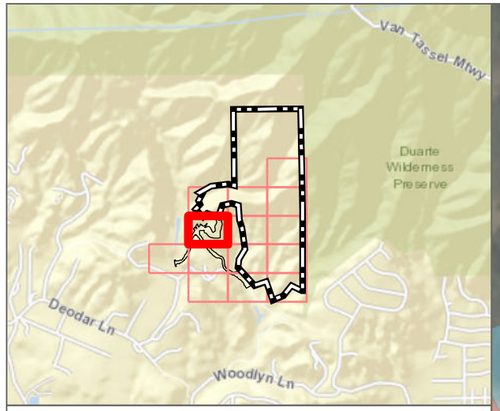
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 4

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

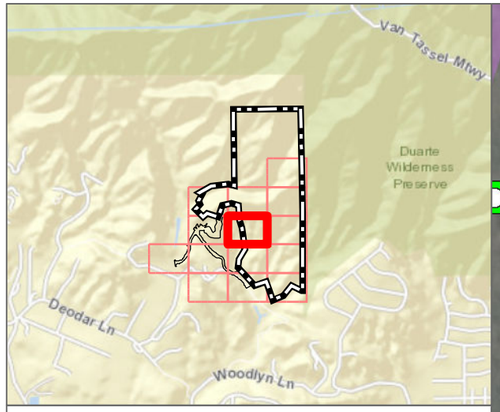
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 5

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

bing

SOURCE: AERIAL-BING MAPPING SERVICE 2019

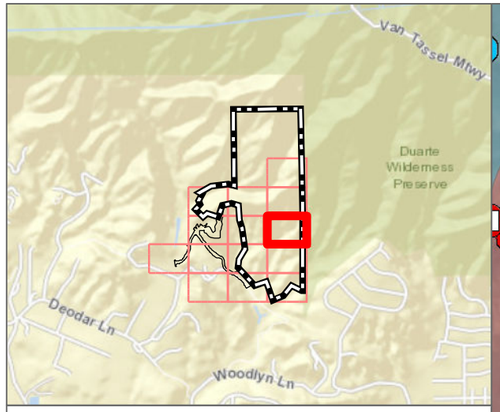
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 6

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

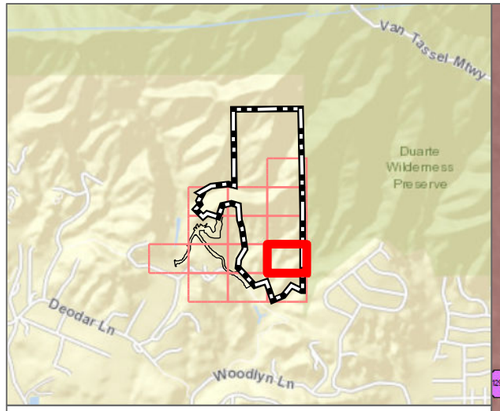
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 7

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

bing

SOURCE: AERIAL-BING MAPPING SERVICE 2019

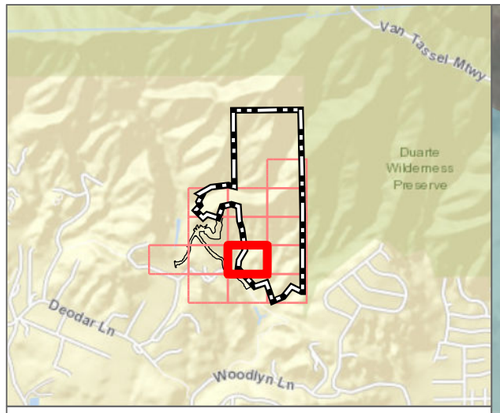
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 8

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

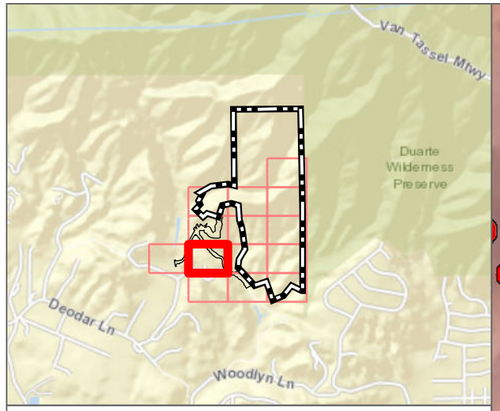
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 9

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

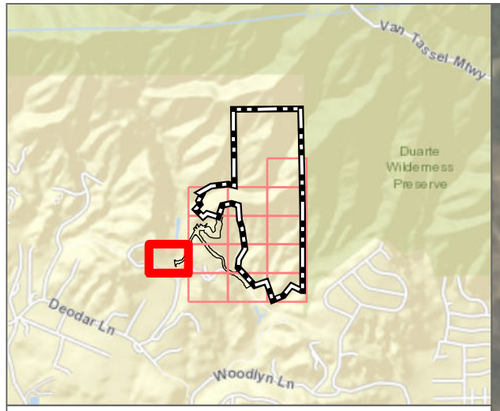
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 10

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

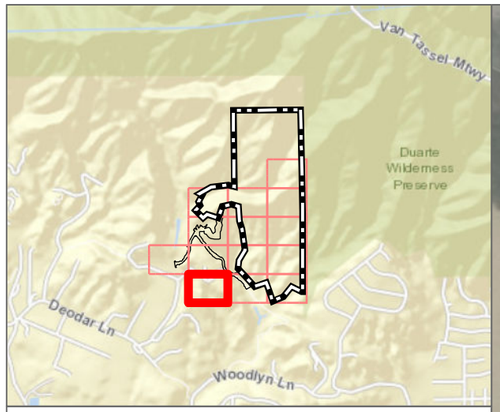
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 11

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

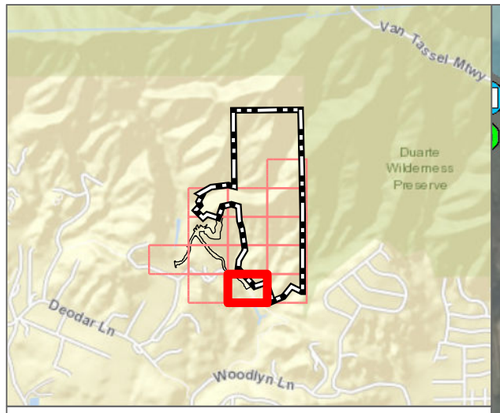
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 12

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

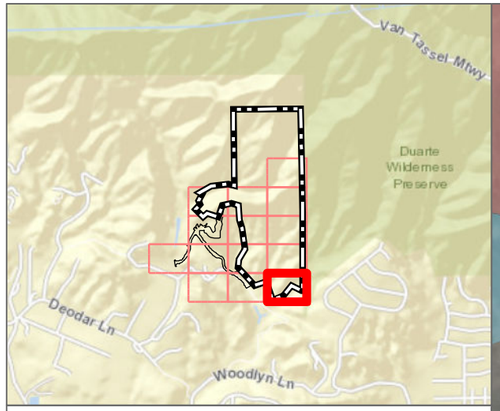
DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 13

Chadwick Ranch Tree Preservation and Protection Plan



Tree Classification

- Protected Native
- Protected Significant
- Undersized
- Hazard

Disposition

- Preserve in Place
- Indirect
- Encroachment
- Direct
- Hazard
- Property Boundary

Impact

- Permanent
- Remedial
- Zone B
- Zone C

SOURCE: AERIAL-BING MAPPING SERVICE 2019

DUDEK

0 30 60 Feet

APPENDIX C

Protected Tree Impact Exhibit - View 14

Chadwick Ranch Tree Preservation and Protection Plan

APPENDIX D

Tree Protection Measures

Appendix D – Tree Protection Measures

The following sections are included as general guidelines for tree protection from construction impacts. The measures presented should be monitored by arborists and enforced by contractors and developers for maximum benefit to the trees.

Tree Protection Measures Prior to Construction

Fencing: All remaining trees that will not be relocated or removed shall be preserved and protected in place. Trees within approximately 15 feet of proposed construction activity shall be temporarily fenced with chain link or other material satisfactory to City planning staff throughout grading and construction activities. The fencing shall be installed 3 feet outside of the dripline of each tree (or edge of canopy for cluster of trees), be 4 foot tall, and staked every 6 feet. The fenced area shall be considered the tree protection zone (TPZ) unless proximate construction required temporary removal.

Pre-Construction Meeting: A pre-construction meeting shall be held between all contractors (including grading, tree removal/pruning, builders, etc.) and the arborist. The arborist will instruct the contractors on tree protection practices and answer any questions. All equipment operators and spotters, assistants, or those directing operators from the ground, shall provide written acknowledgement of their receiving tree protection training. This training shall include information on the location and marking of protected trees, the necessity of preventing damage, and the discussion of work practices that will accomplish such.

Protection and Maintenance During Construction

Once construction activities have begun the following measures shall be adhered to:

Equipment Operation and Storage: Avoid heavy equipment operation around the trees. Operating heavy machinery around the root zones of trees will increase soil compaction, which decreases soil aeration and subsequently reduces water penetration in the soil. All heavy equipment and vehicles should, at minimum, stay out of the fenced tree protection zone, unless where specifically approved in writing and under the supervision of a Certified Arborist or as provided by the approved landscape plan.

Storage and Disposal: Do not store or discard any supply or material, including paint, lumber, concrete overflow, etc. within the protection zone. Remove all foreign debris within the protection zone; it is important to leave the duff, mulch, chips, and leaves around the retained trees for water retention and nutrients. Avoid draining or leakage of equipment fluids near retained trees. Fluids such as: gasoline, diesel, oils, hydraulics, brake and transmission fluids, paint, paint thinners, and glycol (anti-freeze) should be disposed of properly. Keep equipment parked at least 50 feet away from retained trees to avoid the possibility of leakage of equipment fluids into the soil. The effect of toxic equipment fluids on the retained trees could lead to decline and death.

Grade Changes: Grade changes, including adding fill, are not permitted within the tree protection zone without special written authorization and under supervision by a Certified Arborist or as provided by the approved landscape plan. Lowering the grade within this area will necessitate cutting main support and feeder roots, jeopardizing the health and structural integrity of the tree(s). Adding soil, even temporarily, on top of the existing grade will compact the soil further, and decrease both water and air availability to the trees' roots.

Moving Construction Materials: Care will be taken when moving equipment or supplies near the trees, especially overhead. Avoid damaging the tree(s) when transporting or moving construction materials and working around the tree (even outside of the fenced tree protection zone). Above ground tree parts that could be damaged (e.g., low limbs, trunks) should be flagged with red ribbon. If contact with the tree crown is unavoidable, prune the conflicting branch(es) using ISA standards.

Root Pruning: Except where specifically approved in writing or as provided in Attachment 3, all trenching shall be outside of the fenced protection zone. Roots primarily extend in a horizontal direction forming a support base to the tree similar to the base of a wineglass. Where trenching is necessary in areas that contain tree roots, prune the roots using a Dosko root pruner or equivalent. All cuts should be clean and sharp, to minimize ripping, tearing, and fracturing of the root system. The trench should be made no deeper than necessary.

Irrigation: Trees that have been substantially root pruned (30% or more of their root zone) will require irrigation for the first twelve months. The first irrigation should be within 48 hours of root pruning. They should be deep watered every two to four weeks during the summer and once a month during the winter (adjust accordingly with rainfall). One irrigation cycle should thoroughly soak the root zones of the trees to a depth of 3 feet. The soil should dry out between watering; avoid keeping a consistently wet soil. Designate one person to be responsible for irrigating (deep watering) the trees. Check soil moisture with a soil probe before irrigating. Irrigation is best accomplished by installing a temporary above ground micro-spray system that will distribute water slowly (to avoid runoff) and evenly throughout the fenced protection zone ***but never soaking the area located within 6- feet of the tree trunk, especially during warmer months***.

Pruning: Do not prune any of the trees until all construction is completed. This will help protect the tree canopies from damage. All pruning shall be completed under the direction of an ISA Certified Arborist and using ISA guidelines. Only dead wood shall be removed from tree canopies.

Washing: During construction in summer and autumn months, wash foliage of trees adjacent to the construction sites with a strong water stream every two weeks in early hours before 10:00 a.m. to control mite and insect populations.

Inspection: An ISA Certified Arborist shall inspect the impacted preserved trees on a monthly basis during construction. A report comparing tree health and condition to the original, pre-construction baseline shall be submitted following each inspection. Photographs of representative trees are to be included in the report on a minimum annual basis.

Maintenance After Construction

Once construction is complete the fencing may be removed and the following measures performed to sustain and enhance the vigor of the preserved trees.

Mulch: Provide a 4-inch mulch layer under the canopy of trees. Mulch should include clean, organic mulch that will provide long-term soil conditioning, soil moisture retention, and soil temperature control.

Pruning: The trees will not require regular pruning. Pruning should *only* be done to maintain clearance and remove broken, dead or diseased branches. Pruning shall only take place following a recommendation by an ISA Certified Arborist and performed under the supervision of an ISA Certified Arborist. No more than 20% of the canopy shall be removed at any one time. All pruning shall conform to International Society of Arboriculture standards.

Watering: The natural trees that are not disturbed should not require regular irrigation, other than the twelve months following substantial root pruning. However, soil probing will be necessary to accurately monitor moisture levels. Especially in years with low winter rainfall, supplemental irrigation for the trees that sustained root pruning and any newly planted trees may be necessary. The trees should be irrigated *only* during the winter and spring months.

Watering Adjacent Plant Material: All plants near the trees shall be compatible with water requirements of said trees. The surrounding plants should be watered infrequently with deep soaks and allowed to dry out in-between, rather than frequent light irrigation. The soil shall not be allowed to become saturated or stay continually wet. Irrigation spray shall not hit the trunk of any tree. A 60-inch dry-zone shall be maintained around all tree trunks. An above ground micro-spray irrigation system is recommended over typical underground pop-up sprays.

Washing: Periodic washing of the foliage is recommended during construction but no more than once every two weeks. Washing should include the upper and lower leaf surfaces and the tree bark. This should continue beyond the construction period at a less frequent rate with a high-powered hose only in the early morning hours. Washing will help control dirt/dust buildup that can lead to mite and insect infestations.

Spraying: If the trees are maintained in a healthy state, regular spraying for insect or disease control should not be necessary. If a problem does develop, an ISA Certified Arborist should be consulted; the trees may require application of insecticides to prevent the intrusion of bark-boring beetles and other invading pests. All chemical spraying should be performed by a licensed applicator under the direction of a licensed pest control advisor.

Inspection: All trees that were impacted during construction within the tree protection zone should be monitored by an ISA Certified Arborist for the first five years after construction completion. The Arborist shall submit an annual report, photograph each tree and compare tree health and condition to the original, pre-construction baseline.

APPENDIX E

Landscape Plan

PROPOSED PRIVATE HOMEOWNER MAINTAINED

PRIVATE HOMEOWNER SLOPE
HOMEOWNER MAINTAINED

FUEL MODIFICATION ZONE 'A' 30' FROM STRUCTURES & ROAD
HOMEOWNER MAINTAINED

PROPOSED HOMEOWNER'S ASSOCIATION MAINTAINED

HABITAT RESTORATION AREAS - TEMPORARILY IRRIGATED SLOPE
H.O.A. MAINTAINED AFTER 5 YR ESTABLISHMENT PERIOD (6.3 AC)

SPECIAL MAINTENANCE AREA: WATER QUALITY BASIN BOTTOM
H.O.A. MAINTAINED (0.4 AC)

FUEL MODIFICATION ZONE 'A' 30' FROM STRUCTURES & ROAD
H.O.A. MAINTAINED (15.8 AC)

FUEL MODIFICATION ZONE 'A' 30' FROM STRUCTURES & ROAD
H.O.A. MAINTAINED (H.O.A. MAINTENANCE EASEMENT)

FUEL MODIFICATION ZONE 'B' 70' AND NOT TO EXCEED 100' FROM STRUCTURES
H.O.A. MAINTAINED (10.7 AC)

FUEL MODIFICATION ZONE 'B' 70' AND NOT TO EXCEED 100' FROM STRUCTURES
H.O.A. MAINTAINED (H.O.A. MAINTENANCE EASEMENT)

FUEL MODIFICATION ZONE 'C' 100' AND NOT TO EXCEED 200' FROM STRUCTURES
H.O.A. MAINTAINED (14.6 AC)

FUEL MODIFICATION ZONE 'C' 100' AND NOT TO EXCEED 200' FROM STRUCTURES
H.O.A. MAINTAINED (H.O.A. MAINTENANCE EASEMENT)

L.A. COUNTY FLOOD CONTROL MAINTENANCE

DESILTING BASIN BOTTOM (0.9 AC)

WALL & FENCE LEGEND

5' HIGH MIN. FENCE OR WALL
HOMEOWNER MAINTAINED

6" WIDE CONCRETE MOW CURB

ACCESS GATE

EXISTING "PRESERVED IN PLACE" TREE LEGEND

- QUERCUS AGRIFOLIA - COAST LIVE OAK (QUANTITY - 30)
- SAMBUCUS CERULEA - BLUE ELDERBERRY (QUANTITY - 4)

EXISTING "INDIRECT IMPACT" TREE LEGEND

- CUPRESSUS SEMPERVIRENS - ITALIAN CYPRESS (QUANTITY - 4)
- HETEROMELES ARBUTIFOLIA - TOYON (QUANTITY - 61)
- PINUS CANARIENSIS - CANARY ISLAND PINE (QUANTITY - 3)
- PINUS HALEPENSIS - ALEPPO PINE (QUANTITY - 11)
- PLATANUS RACEMOSA - CALIFORNIA SYCAMORE (QUANTITY - 15)
- PRUNUS SALICINA 'SANTA ROSA' - SANTA ROSA PLUM (QUANTITY - 3)
- QUERCUS AGRIFOLIA - COAST LIVE OAK (QUANTITY - 160)
- QUERCUS BERBERIDIFOLIA - CALIFORNIA SCRUB OAK (QUANTITY - 180)
- QUERCUS ENGELMANNII - ENGELMANN OAK (QUANTITY - 1)
- QUERCUS VIRGINIANA - SOUTHERN LIVE OAK (QUANTITY - 1)
- SALIX LASIOLEPIS - ARROYO WILLOW (QUANTITY - 2)
- SAMBUCUS CERULEA - BLUE ELDERBERRY (QUANTITY - 34)

TREE LEGEND

- HETEROMELES ARBUTIFOLIA - TOYON (QUANTITY - 122)
- PLATANUS RACEMOSA - CALIFORNIA SYCAMORE (QUANTITY - 6)
- QUERCUS AGRIFOLIA - COAST LIVE OAK (QUANTITY - 269)
- QUERCUS BERBERIDIFOLIA - CALIFORNIA SCRUB OAK (QUANTITY - 197)
- SAMBUCUS CERULEA - BLUE ELDERBERRY (QUANTITY - 16)

CHADWICK RANCH
ENTRIES AND STREETSCAPES

Footnotes	Botanical Name	Common Name	WUCOLS	California Native
	Trees			
	Arbutus Marina	Strawberry Tree	L	
	Platanus Racemosa	Western Sycamore	M	X
	Prunus Ilicifolia SSP Ilicifolia	Hollyleaf Cherry	L	X
	Quercus Agrifolia	Coast Live Oak	L	X
	Quercus Berberidifolia	California Scrub Oak	L	X
	Shrubs			
	Arbutus Unedo 'Compacta'	Compact Strawberry Tree	L	
	Arctostaphylos Glauca	Big Berry Manzanita	VL	X
	Baccharis Pilularis 'Pigeon Point'	Dwarf Coyote Brush	L	NC
	Ceanothus Crassifolius	Hoaryleaf Ceanothus	L	X
	Ceanothus Cuneatus Var. Cuneatus	Buckbrush	L	X
+*	Cercocarpus Betuloides	Birch-Leaf Mountain Mahogany	VL	X
	Cistus Hybridus	White Rockrose	L	
	Cistus Purpurea	Orchid Rockrose	L	
	Cistus Salvifolius	Sageleaf Rockrose	L	
	Dendromecon Rigida	Bush Poppy	VL	X
	Encelia Californica	California Encelia	L	X
*	Eriogonum Fasciculatum 'Warriner Lytle'	Warriner Lytle' Buckwheat	VL	NC
	Euphorbia Rigida	Yellow Spurge	L	
	Hesperaloe Parviflora	Red Yucca	L	
	Heteromeles Arbutifolia	Toyon	L	X
	Leucophyllum Frutescens	Texas Sage	L	
*	Malosma Laurina	Laurel Sumac	L	X
	Rhamnus Crocea	Spiny Redberry	L	X
	Rhamnus Ilicifolia	Hollyleaf Redberry	L	X
	Rhus Integrifolia	Lemonadeberry	L	X
	Rosmarinus Officinalis Prostratus	Dwarf Rosemary	L	
*	Salvia Clevelandii	Cleveland Sage	L	X
+*	Salvia Columbariae	Chia	L	X
*	Salvia Leucophylla 'Point Sal Spreader'	Purple Point Sal Sage	L	X
*	Salvia Mellifera	Black Sage	L	X
	Westringia Fruticosa 'Morning Light'	Morning Light Coast Rosemary	L	
	Westringia Fruticosa 'Mundi'	Mundi' Coast Rosemary	L	
	Grasses			
+	Aristida Purpurea	Purple Threeawn	L	X
	Bouteloua Gracilis	Blue Grama Grass	L	X
	Juncus Patens	California Rush		X
	Muhlenbergia Dubia	Mexican Deergrass	L	
	Muhlenbergia Rigens	Deer Grass	M	X
	Succulents			
	Agave SPP	Agave	VL	
	Aloe SPP	Aloe	L	
	Opuntia Littoralis	Coast Prickly Pear	VL	X
	Yucca Whipplei	Our Lords Candle	VL	X
	Herbs / Wildflowers			
	Iris Douglasiana	Douglas Iris	M	X

Footnotes:
* Use as accent only limit 1-5 plants per group, 30' between groups, no mass plantings, no 'A' or 'B' zone plantings. Minimum 30' from structure. No restriction in non fuel modification revegetation areas.
+ Also used in hydroseed mixes

CHADWICK RANCH
PERIMETER SLOPES FUEL MOD WET ZONE (30' "A" ZONE AND 70' "B" ZONE) IRRIGATED

Footnotes	Botanical Name	Common Name	WUCOLS	California Native
	Trees			
	Platanus Racemosa	Western Sycamore	M	X
	Quercus Agrifolia	Coast Live Oak	L	X
	Quercus Berberidifolia	California Scrub Oak	L	X
	Sambucus Nigra SSP. Caerulea	Blue Elderberry	L	X
	Shrubs			
+*	Acmispon Glaber Var. Glaber	Glabrous Deerweed	VL	X
	Arctostaphylos Glauca	Big Berry Manzanita	VL	X
	Baccharis Pilularis 'Pigeon Point'	Dwarf Coyote Brush	L	NC
	Ceanothus Crassifolius	Hoaryleaf Ceanothus	L	X
	Ceanothus Cuneatus Var. Cuneatus	Buckbrush	L	X
	Cercocarpus Betuloides	Birch-Leaf Mountain Mahogany	VL	X
	Dendromecon Rigida	Bush Poppy	VL	X
	Encelia Californica	California Encelia	L	X
+	Eriodictyon Crassifolium	Thickleaf Yerba Santa	VL	X
	Heteromeles Arbutifolia	Toyon	L	X
+	Isocoma Menziesii	Coastal Goldenbush	VL	X
	Malacothamnus Fremontii	Fremont's Bush-Mallow	L	X
*	Malosma Laurina	Laurel Sumac	L	X
+	Mimulus Aurantiacus	Bush Monkeyflower	VL	X
	Prunus Ilicifolia	Holly Leaf Cherry	L	X
	Rhamnus Californica	Coffeeberry	L	X
	Rhamnus Crocea	Spiny Redberry	L	X
	Rhamnus Ilicifolia	Hollyleaf Redberry	L	X
	Rhus Integrifolia	Lemonadeberry	L	X
	Rhus Ovata	Sugar Bush	L	X
+	Trichostema Lanatum	Woolly Blue Curls	L	X
	Grasses			
+	Aristida Purpurea	Purple Threeawn	L	X
	Bouteloua Gracilis	Blue Grama Grass	L	X
+	Koeleria Macrantha	June Grass	L	X
+	Melica Imperfecta	Coast Range Onion Grass	L	X
	Muhlenbergia Rigens	Deer Grass	M	X
+	Nassella (Stipa) Lepida	Foothill Needlegrass	VL	X
+	Plantago Erecta	Dot Seed Plantain	L	X
	Succulents			
	Dudleya Lanceolata	Lance-Leaved Dudleya	VL	X
	Opuntia Littoralis	Coast Prickly Pear	VL	X
	Yucca Whipplei	Our Lords Candle	VL	X
	Herbs / Wildflowers			
+	Dichelostemma Capitatum	Blue Dicks	VL	X
+	Eriophyllum Confertiflorum	Golden Yarrow	VL	X
+	Eriophyllum Confertiflorum Var. Confertiflorum	Golden Woolly Sunflower	VL	X
+	Eschscholzia Californica	California Poppy	VL	X
+	Helianthus Gracilentus	Slender Sunflower	L	X
+	Lasthenia Californica	Goldfields	L	X
+	Lupinus Bicolor	Miniature Lupine	L	X
+	Phacelia Campanularia	California Blue Bell	VL	X
+	Phacelia Cicutaria	Caterpillar Phacelia	VL	X
+	Phacelia Distans	Wild Heliotrope Phacelia	VL	X
+	Phacelia Minor	Wild Canterbury Bells	VL	X
+	Pseudognaphalium Californicum	California Everlasting	VL	X

Footnotes:
* Use as accent only limit 1-5 plants per group, 30' between groups, no mass plantings, no 'A' or 'B' zone plantings. Minimum 30' from structure. No restriction in non fuel modification revegetation areas
+ Also used in hydroseed mixes
NC - Native cultivar - use on interior of project only

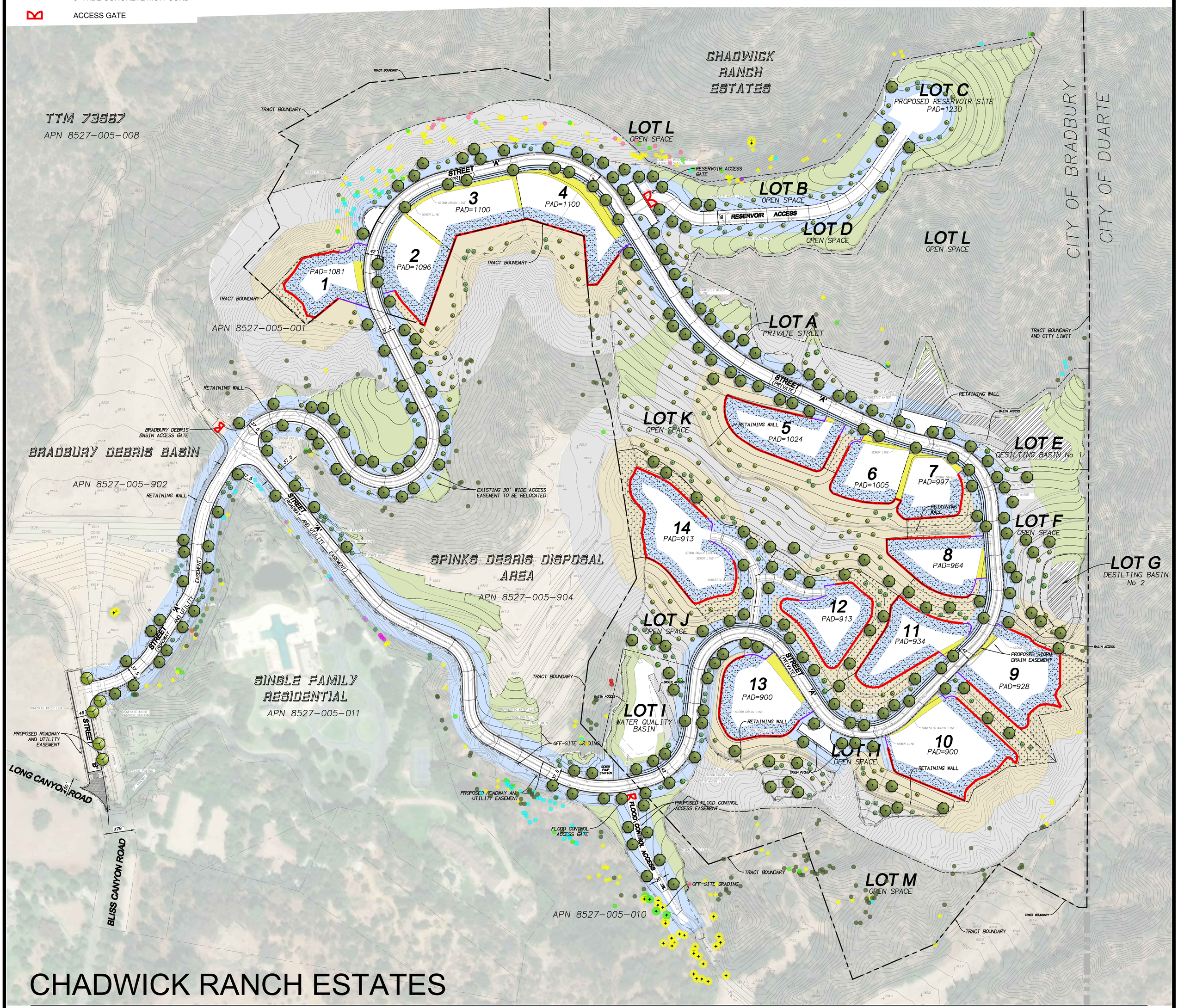
CHADWICK RANCH
TEMPORARY IRRIGATED SLOPES AND REVEGATION 100' "C" ZONE DRY FUEL MOD (THINNING FUEL MOD ZONE)

Footnotes	Botanical Name	Common Name	WUCOLS	California Native
	Trees			
	Prunus Ilicifolia SSP Ilicifolia	Hollyleaf Cherry	L	X
	Quercus Agrifolia	Coast Live Oak	L	X
	Quercus Berberidifolia	California Scrub Oak	L	X
	Sambucus Nigra SSP. Caerulea	Blue Elderberry	L	X
	Shrubs			
+*	Acmispon Glaber Var. Glaber	Glabrous Deerweed	VL	X
	Arctostaphylos Glauca	Big Berry Manzanita	VL	X
	Cercocarpus Betuloides	Birch-Leaf Mountain Mahogany	VL	X
	Dendromecon Rigida	Bush Poppy	VL	X
	Encelia Californica	California Encelia	L	X
+	Eriodictyon Crassifolium	Thickleaf Yerba Santa	VL	X
+*	Eriogonum Fasciculatum	California Buckwheat		
+	Gutierrezia Californica	California Matchweed	L	X
	Heteromeles Arbutifolia	Toyon	L	X
+	Isocoma Menziesii	Coastal Goldenbush	VL	X
+	Leptosyne Bigelovii	Bigelow's Tickseed	L	X
	Malacothamnus Fremontii	Fremont's Bush-Mallow	L	X
*	Malosma Laurina	Laurel Sumac	L	X
+	Mimulus Aurantiacus	Bush Monkeyflower	VL	X
	Prunus Ilicifolia	Holly Leaf Cherry	L	X
	Rhamnus Californica	Coffeeberry	L	X
	Rhamnus Crocea	Spiny Redberry	L	X
	Rhamnus Ilicifolia	Hollyleaf Redberry	L	X
	Rhus Integrifolia	Lemonadeberry	L	X
	Rhus Ovata	Sugar Bush	L	X
+*	Salvia Apiana	White Sage	L	X
*	Salvia Clevelandii	Cleveland Sage	L	X
+*	Salvia Columbariae	Chia	L	X
*	Salvia Leucophylla 'Point Sal Spreader'	Purple Point Sal Sage	L	X
*	Salvia Mellifera	Black Sage	L	X
+	Trichostema Lanatum	Woolly Blue Curls	L	X
	Grasses			
+	Koeleria Macrantha	June Grass	L	X
+	Melica Imperfecta	Coast Range Onion Grass	L	X
+	Nassella (Stipa) Lepida	Foothill Needlegrass	VL	X
+	Plantago Erecta	Dot Seed Plantain	L	X
	Succulents			
	Dudleya Lanceolata	Lance-Leaved Dudleya	VL	X
	Opuntia Littoralis	Coast Prickly Pear	VL	X
	Yucca Whipplei	Our Lords Candle	VL	X
	Herbs / Wildflowers			
+	Dichelostemma Capitatum	Blue Dicks	VL	X
+	Eriophyllum Confertiflorum	Golden Yarrow	VL	X
+	Eriophyllum Confertiflorum Var. Confertiflorum	Golden Woolly Sunflower	VL	X
+	Eschscholzia Californica	California Poppy	VL	X
+	Helianthus Gracilentus	Slender Sunflower	L	X
+	Lasthenia Californica	Goldfields	L	X
+	Lupinus Bicolor	Miniature Lupine	L	X
+	Phacelia Campanularia	California Blue Bell	VL	X
+	Phacelia Cicutaria	Caterpillar Phacelia	VL	X
+	Phacelia Distans	Wild Heliotrope Phacelia	VL	X
+	Phacelia Minor	Wild Canterbury Bells	VL	X
+	Pseudognaphalium Californicum	California Everlasting	VL	X

Footnotes:
* Use as accent only limit 1-5 plants per group, 30' between groups, no mass plantings, no 'A' or 'B' zone plantings. Minimum 30' from structure. No restriction in non fuel modification revegetation areas.
+ Also used in hydroseed mixes

CHADWICK RANCH
WQ BASIN SLOPE AND BOTTOM

Footnotes	Botanical Name	Common Name	WUCOLS	California Native
	Trees			
	Platanus Racemosa	Western Sycamore	M	X
	Quercus Agrifolia	Coast Live Oak	L	X
	Sambucus Nigra SSP. Caerulea	Blue Elderberry	L	X
	Shrubs			
	Encelia Californica	California Encelia	L	X
	Heteromeles Arbutifolia	Toyon	L	X
+	Mimulus Aurantiacus	Bush Monkeyflower	L	X
	Rhamnus Californica	Coffeeberry	L	X
	Rhamnus Crocea	Spiny Redberry	L	X
	Rhamnus Ilicifolia	Hollyleaf Redberry	L	X
	Rhus Integrifolia	Lemonadeberry	L	X
	Ribes Viburnifolium	Catalina Perfume	L	X
	Grasses			
+	Aristida Purpurea	Purple Threeawn	L	X
B +	Elymus Triticoides	Creeping Wild Rye		X
B	Juncus Patens	California Rush		X
+	Koeleria Macrantha	June Grass	L	X
	Leymus Condensatus	California Wild Rye	L	X
B +	Melica Imperfecta	Coast Range Onion Grass	L	X
	Muhlenbergia Rigens	Deer Grass	M	X
	Nassella (Stipa) Lepida	Foothill Needlegrass	VL	X
	Herbs / Wildflowers			
	Eriophyllum Confertiflorum	Golden Yarrow	VL	X
	Eriophyllum Confertiflorum Var. Confertiflorum	Golden Woolly Sunflower	VL	X
	Eschscholzia Californica	California Poppy	VL	X
+	Lasthenia Californica	Goldfields	L	X
+	Lupinus Bicolor	Miniature Lupine	L	X
+	Phacelia Campanularia	California Blue Bell	VL	X
+	Pseudognaphalium Californicum	California Everlasting	VL	X
	Footnotes:			
	* Use as accent only limit 1-5 plants per group, 30' between groups, no mass plantings, no 'A' or 'B' zone plantings. Minimum 30' from structure. No restriction in non fuel modification revegetation areas.			
	+ - Also used in hydroseed mixes			
	B - Basin bottom and vegetated swale bottom			



CHADWICK RANCH ESTATES

PRELIMINARY LANDSCAPE EXHIBIT

TTM 82349

0 50' 100' 200'

NORTH

SEPTEMBER 9, 2020

GLENN LUKOS ASSOCIATES

Regulatory Services

August 14, 2017

Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

SUBJECT: Submittal Report for Coastal California Gnatcatcher Surveys for the Chadwick Ranch Property, Located in Bradbury, Los Angeles County, California.

Dear Ms. Love:

This letter report summarizes the methodology and findings of presence/absence surveys conducted by Glenn Lukos Associates, Inc. (GLA) for the federally listed as Threatened coastal California gnatcatcher (***Polioptila californica californica***) conducted) within the above referenced property located in Bradbury, Los Angeles County, California.

Focused surveys were conducted at the property from April 11, 2017 to June 21, 2017 in all areas of potentially suitable habitat in accordance with U.S. Fish and Wildlife Service (USFWS) guidelines. The total amount of suitable habitat at the property is less than 80 acres, and so the Study Area constituted one survey polygon per the U.S. Fish and Wildlife Service (USFWS) guidelines. The coastal California gnatcatcher was not detected at the site.

1.0 SITE LOCATION AND DESCRIPTION

The Chadwick Ranch property is located in the City of Bradbury, Los Angeles County, California [Exhibit 1 – Regional Map]. The property is located in the northeastern portion of the Bradbury Estates, past the terminus of Bliss Canyon Road at the intersection with Long Canyon Road. The property is depicted on the U.S. Geological Survey (USGS) topographic map Azusa, California (dated 1966 and photorevised in 1972) at Section 19, Township 1 North, Range 10 West [Exhibit 2 – Vicinity Map]. The Universal Transverse Mercator (UTM) coordinates approximately corresponding to the study area are 411407 mE and 3779912 mN (Zone 11S). Elevations at the property range from approximately 800 feet above mean sea level (amsl) to approximately 2,000 feet amsl.

29 Orchard ▪ Lake Forest ▪ California 92630-8300
Telephone: (949) 837-0404 Facsimile: (949) 837-5834

The majority of the property supports mixed chaparral with inclusions of coastal sage scrub. The dominant plant species include laurel sumac (***Malosma laurina***), scrub oak (***Quercus berberidifolia***), chamise (***Adenostoma fasciculatum***), spiny redberry (***Rhamnus crocea***), toyon (***Heteromeles arbutifolia***), coastal sagebrush (***Artemisia californica***), California buckwheat (***Eriogonum fasciculatum***), black sage (***Salvia mellifera***), white sage (***Salvia apiana***), and deerweed (***Acmispon glaber***). Adjacent land uses include residential development to the west, south, and southeast; open space to the east (Duarte Wilderness Preserve); and open space to the north, including the Angeles National Forest.

Focused gnatcatcher surveys were conducted within all areas of suitable habitat located within the property [Exhibit 3 – Aerial Map], although suitable pockets of coastal sage scrub are scattered amongst dominant areas of mixed chaparral. The study area does not occur within Critical Habitat for the gnatcatcher.

2.0 METHODOLOGY

Protocol surveys for the coastal California gnatcatcher were conducted in accordance with the 1997 USFWS guidelines, which stipulate that during the breeding season, six surveys shall be conducted in all areas of suitable habitat with at least seven days between site visits. The USFWS survey guidelines also stipulate that no more than 80 acres of suitable habitat shall be surveyed per biologist per day. The survey area contained less than 80 acres of suitable habitat for the gnatcatcher. As such, the site consisted of one survey polygon requiring one "survey-day" per week.

GLA biologist David Moskovitz (TE-084606-3) conducted all six of the surveys, including April 11 and 25, May 2, 9, and 16, and June 27, 2017. Mr. Moskovitz was accompanied by Zack West (non-permitted) on three of the survey visits (April 25, and May 9 and 16), and by Jeff Ahrens (TE-052159-5) on one of the visits (May 2, 2017).

Areas of suitable habitat were surveyed by walking slowly and methodically throughout areas of suitable habitat. The presence/absence of coastal California gnatcatchers was determined through vocalization and visual identification. A combination of gnatcatcher vocalization recordings and "pishing" sounds were used (as needed depending on the vegetation density and topography) to elicit responses from gnatcatchers.

Weather conditions during the surveys were conducive to a high level of bird activity. All surveys were conducted during the morning hours and were completed before 12:00 P.M. No surveys were conducted during extreme weather conditions (i.e., winds exceeding 15 miles per

hour, rain, or temperatures in excess of 35ºC). Table 1 summarizes the survey dates/times and weather conditions.

Table 1. Summary of Survey Dates and Weather Data.

Survey Date	Surveyor	Start/End Time	Temp ºF (start/end)	Start/End Wind Speed (mph)	Cloud Cover
4/11/17	DM	0700/1200	58/76	1-3/1-3	Clear
4/25/17	DM/ZW	0730/1145	62/74	0-2/1-3	Pt. Cloudy
5/2/17	DM/JA	0800/1100	66/81	1-3/2-4	Clear
5/9/17	DM/ZW	0745/1200	65/70	0-2/0-3	Overcast
5/16//17	DM/ZW	0830/1145	59/64	0-2/0-2	Pt. Cloudy
6/27/17	DM	0815/1145	68/81	1-3/0-2	Clear

DM = David Moskovitz, ZW = Zack West (non-permitted), JA = Jeff Ahrens

3.0 RESULTS

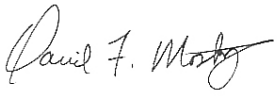
The coastal California gnatcatcher was not detected at the property during the focused surveys.

Birds observed during the surveys included the following: wrentit (***Chamaea fasciata***), house wren (***Troglodytes aedon***), Bewick's wren (***Thryomanes bewickii***), spotted towhee (***Pipilo maculatus***), California towhee (***Pipilo crissalis***), bushtit (***Psaltriparus minim***us), house finch (***Carpodacus mexicanus***), northern mockingbird (***Mimus polyglottos***), lesser goldfinch (***Spinus psaltria***), black-headed grosbeak (***Pheucticus melanocephalus***), turkey vulture (***Cathartes aura***), American crow (***Corvus brachyrhynchos***), Anna's hummingbird (***Calypte anna***), mourning dove (***Zenaida macroura***), California scrub- jay (***Aphelocoma californica***), phainopepla (***Phainopepla nitens***), blue-gray gnatcatcher (***Polioptila caerulea***), California thrasher (***Toxostoma redivivum***), Pacific-slope flycatcher (***Empidonax difficilis***), yellow warbler (***Setophaga petechia***), Nuttall's woodpecker (***Picoides nuttallii***), and oak titmouse (***Baeolophus inornatus***). See Appendix A for a complete list of birds observed on site.

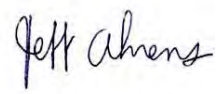
If you have any questions regarding the methodology or findings of this report, please contact David Moskovitz at (949) 340-2562, or at dmoskovitz@wetlandpermitting.com.

I certify that the information in this survey report and attached exhibits fully and accurately represents the work performed.

GLENN LUKOS ASSOCIATES, INC.



	TE-084606-3	August 14, 2017
David F. Moskovitz Senior Biologist	Permit #	Date



	TE-052159-5	August 14, 2017
Jeff Ahrens Biologist	Permit #	Date

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APPENDIX A

AVIAN COMPENDIUM

The avian compendium lists bird species identified on the Site.

* = non-native species

ACCIPITERIDAE	**Hawks, Old World Vultures and Harriers**
Accipiter cooperii	Cooper's hawk
Buteo jamaicensis	red-tailed hawk
Buteo lineatus	red-shouldered hawk
AEGITHALIDAE	**Bushtit**
Psaltriparus minimus	bushtit
ALAUDIDAE	**Larks**
Eremophila alpestris actia	California horned lark
CARDINALIDAE	**Cardinals and Tanagers**
Pheucticus melanocephalus	black-headed grosbeak
CHARADRIIDAE	**Plovers And Relatives**
Charadrius vociferus	killdeer
COLUMBIDAE	**Pigeons and Doves**
Columba livia	rock pigeon
Patagioenas fasciata	band-tailed pigeon
* ***Streptopelia decaocto***	Eurasian collared-dove
Zenaida macroura	mourning dove
CORVIDAE	**Jays, Magpies and Crows**
Aphelocoma californica	California scrub-jay
Corvus brachyrhynchos	American crow
EMBERIZIDAE	**Emberizines**
Melospiza melodia	song sparrow
Melozone crissalis	California towhee
Zonotrichia leucophrys	white-crowned sparrow
FRINGILLIDAE	**Finches**
Carduelis psaltria	lesser goldfinch
Carpodacus mexicanus	house finch
Spinus tristis	American goldfinch

HIRUNDINIDAE	**Swallows**
Hirundo rustica	barn swallow
Petrochelidon pyrrhonota	cliff swallow
ICTERIDAE	**Blackbirds and Allies**
Molothrus ater	brown-headed cowbird
MIMIDAE	**Mockingbirds and Thrashers**
Mimus polyglottos	northern mockingbird
MOTACILLIDAE	**Pipits and Wagtails**
Anthus rubescens	American pipit
PARIDAE	**Titmice and Chickadees**
Baeolophus inornatus	oak titmouse
PARULIDAE	**Wood Warblers and Relatives**
Geothlypis trichas	common yellowthroat
Setophaga coronate	yellow-rumped warbler
Setophaga petechia	yellow warbler
PICIDAE	**Woodpeckers**
Picoides nuttallii	Nuttall's woodpecker
PSITTACIDAE	**Lories, Parakeets, Macaws, and Parrots**
**** Amazona viridigenalis***	red-crowned parrot
PTILOGONATIDAE	**Silky Flycatcher**
Phainopepla nitens	phainopepla
REGULIDAE	**Kinglets**
Regulus calendula	ruby-crowned kinglet
STURNIDAE	**Starlings and Allies**
* ***Sturnus vulgaris***	European starling
SYLVIIDAE	**Old World Warblers**
Chamaea fasciata	wrentit
TROCHILIDAE	**Hummingbirds**
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
TROGLODYTIDAE	**Wrens**
Thryomanes bewickii	Bewick's wren

Troglodytes aedon	house wren

TYRANNIDAE	**Tyrant Flycatchers**
Empidonax difficilis	Pacific-slope flycatcher
Sayornis nigricans	black phoebe
Tyrannus verticalis	western kingbird

Source: ESRI World Street Map

N

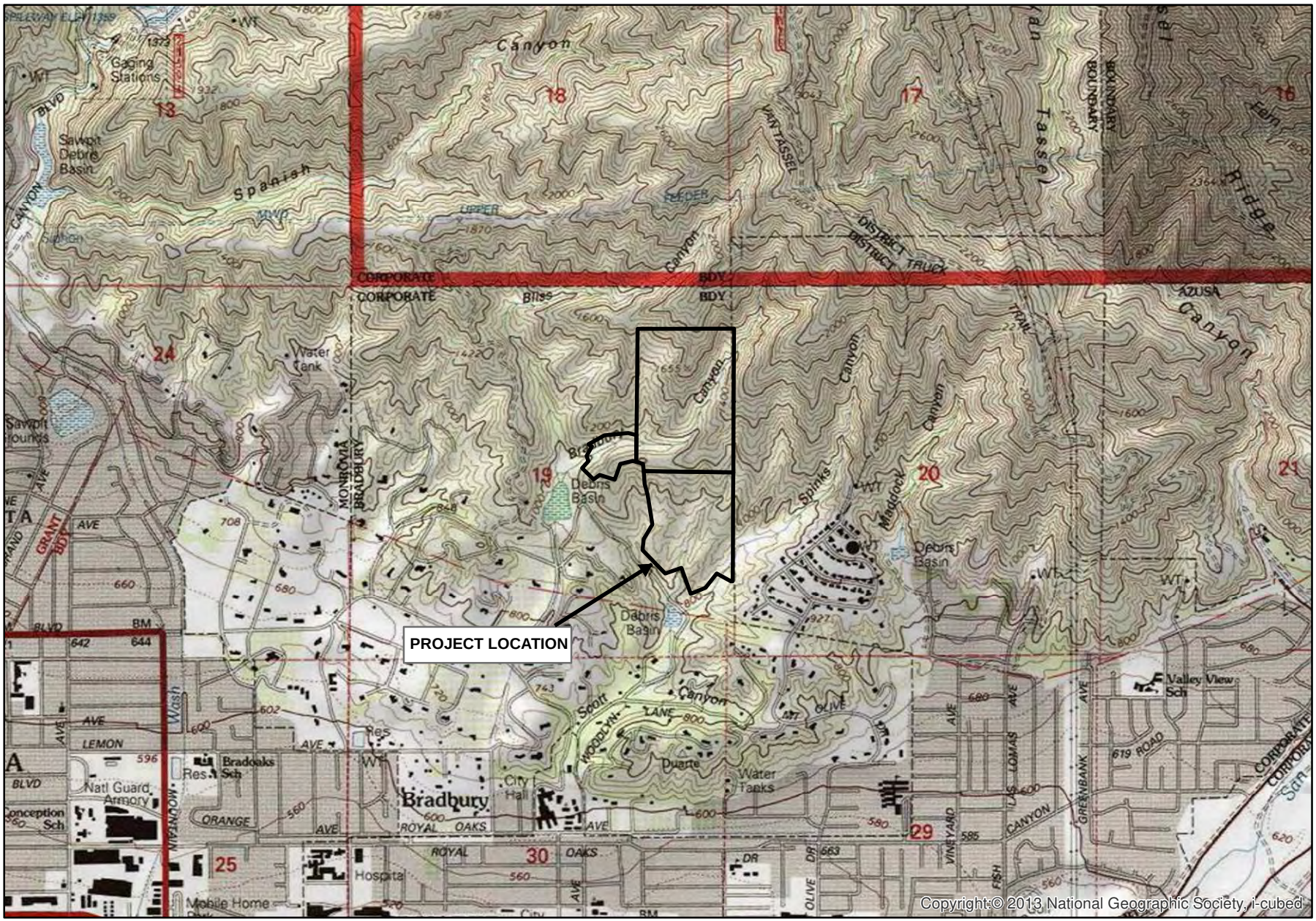
0 2 4 8 Miles

CHADWICK RANCH PROPERTY

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Azusa, CA quadrangle

N

0 1,000 2,000 4,000 Feet

CHADWICK RANCH PROPERTY

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Project Boundary

N

0 150 300 600

Feet

1 inch = 300 feet

CAHDWICK RANCH

Aerial Map

GLENN LUKOS ASSOCIATES

Exhibit 3

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GLENN LUKOS ASSOCIATES
Regulatory Services

July 17, 2020

Mike Cho
TRG Land
898 Production Place
Newport Beach, California 92663

SUBJECT: Jurisdictional Delineation of the Chadwick Ranch Estates Project, City of Bradbury, Los Angeles County, California

Dear Mr. Cho:

This letter report summarizes our preliminary findings of U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), and California Department of Fish and Wildlife (CDFW) jurisdiction for the above-referenced property.[1]

The Chadwick Ranch Estates Project in Los Angeles County [Exhibit 1], consists of the 111.8-acre Specific Plan and the offsite improvement area (22.83 acres) and contains three blue-line drainages (as depicted on the U.S. Geological Survey (USGS) topographic map Azusa, California [dated 1966 and photorevised in 1972]) [Exhibit 2]. On April 25, May 9 and 16, 2017, and March 5, 2018, regulatory specialists of Glenn Lukos Associates, Inc. (GLA) examined the project site to determine the presence and limits of (1) Corps jurisdiction pursuant to Section 404 of the Clean Water Act, (2) Regional Board jurisdiction pursuant to Section 401 of the CWA and Section 13260 of the California Water Code (CWC), and (3) CDFW jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the Fish and Game Code. Enclosed are 300-scale map [Exhibit 3] that depicts the areas of Corps, Regional Board and CDFW jurisdiction. Photographs to document the topography, vegetative communities, and general widths of each of the waters are provided as Exhibit 4.

The overall Study Area (including the Specific Plan and offsite improvement area) contains approximately 1.55 acres of drainage features exhibiting characteristics associated with waters of

[1] This report presents our best effort at estimating the subject jurisdictional boundaries using the most up-to-date regulations and written policy and guidance from the regulatory agencies. Only the regulatory agencies can make a final determination of jurisdictional boundaries.

the U.S. and that may be regulated by the Corps, none of which consist of jurisdictional wetlands.

Regional Board jurisdiction at the site totals approximately 1.55 acres, none of which consists of jurisdictional wetlands.

The overall Study Area (including the Specific Plan and offsite improvement area) contains approximately 13.57 acres of CDFW jurisdiction, including 11.30 acres within the Specific Plan and 2.27 acres within the offsite improvement area. Of the 13.57 acres of total CDFW jurisdiction, approximately 12.71 acres consist of riparian vegetation.

I. METHODOLOGY

Prior to beginning the field delineation, a color aerial photograph, a topographic base map of the property, the previously cited USGS topographic map, and a soils map were examined to determine the locations of potential areas of Corps, Regional Board, and CDFW jurisdiction. Suspected jurisdictional areas were field checked for evidence of stream activity and/or wetland vegetation, soils and hydrology. Where applicable, reference was made to the 2008 Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (OWHM Manual)[2] to identify the width of Corps jurisdiction and suspected federal wetland habitats on the site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[3] (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Supplement (Arid West Supplement).[4] Reference was also made to the 2019 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Board Wetland Definition and Procedures) to identify suspected State wetland habitats.[5] While in the field the potential limits of jurisdiction were recorded with a sub-meter Trimble GPS device in conjunction with a color aerial photograph using visible landmarks.

The National Cooperative Soil Survey (NCSS) has mapped the following soil types as occurring in the general vicinity of the project site:

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[2] U.S. Army Corps of Engineers. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States

[3] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

[4] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

[5] State Water Resources Control Board. 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State.

Trigo Family, Granitic Substratum, 60 to 90 Percent Slopes

Trigo Family soils are somewhat excessively drained loam and gravelly sandy loam soils associated with mountain slopes and ridges.

Urban land-Palmview-Tujunga, Gravelly Complex, 2 to 9 Percent Slopes

The Palmview-Tujunga complex consists of well drained, sandy loam soils associated with alluvial fans.

Padova-Walong Complex, 30 to 85 Percent Slopes

The Padova-Walong complex consists of well drained, sandy loam soils associated with hillslopes.

Soboba and Tujunga Soils, 0 to 5 Percent Slopes, Frequently Flooded

The Soboba and Tujunga soils consist of somewhat excessively drained loam, sand, and very gravelly sand soils associated with washes, stream terraces, inset fans, and debris flows.

II. JURISDICTION

A. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The term "waters of the United States" is defined in Corps regulations at 33 CFR Part 328.3(a), pursuant to the *Navigable Waters Protection Rule*[6] (NWPR), as:

(a) Jurisdictional waters. For purposes of the Clean Water Act, 33 U.S.C. 1251 *et seq.* and its implementing regulations, subject to the exclusions in paragraph (b) of this section, the term ‘‘waters of the United States’’ means:

> *(1) The territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;*
> *(2) Tributaries;*

[6] U.S. Environmental Protection Agency & Department of Defense. 2020. Federal Register / Vol. 85, No. 77 / Tuesday, April 21, 2020 / Rules and Regulations.

(3) Lakes and ponds, and impoundments of jurisdictional waters; and
(4) Adjacent wetlands.

(b) Non-jurisdictional waters. The following are not ‘‘waters of the United States’’:
(1) Waters or water features that are
not identified in paragraph (a)(1), (2), (3), or (4) of this section;
(2) Groundwater, including groundwater drained through subsurface drainage systems;
(3) Ephemeral features, including ephemeral streams, swales, gullies, rills, and pools;
(4) Diffuse stormwater run-off and directional sheet flow over upland;
(5) Ditches that are not waters identified in paragraph (a)(1) or (2) of this section, and those portions of ditches constructed in waters identified in paragraph (a)(4) of this section that do not satisfy the conditions of paragraph (c)(1) of this section;
(6) Prior converted cropland;
(7) Artificially irrigated areas, including fields flooded for agricultural production, that would revert to upland should application of irrigation water to that area cease;
(8) Artificial lakes and ponds, including water storage reservoirs and farm, irrigation, stock watering, and log cleaning ponds, constructed or excavated in upland or in non-jurisdictional waters, so long as those artificial lakes and ponds are not impoundments of jurisdictional waters that meet the conditions of paragraph (c)(6) of this section;
(9) Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel;
(10) Stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater runoff;
(11) Groundwater recharge, water reuse, and wastewater recycling structures, including detention, retention, and infiltration basins and ponds, constructed or excavated in upland or in non-jurisdictional waters; and
(12) Waste treatment systems.

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(e) as:

...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as 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 areas.

1. Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions." In 1987 the Corps published the Wetland Manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the Wetland Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the Wetland Manual and Arid West Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

- More than 50 percent of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the Arid West 2016 Regional Wetland Plant List[7],[8]);

- Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and

- Whereas the Wetland Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year, the Arid West Supplement does not include a quantitative criteria with the exception for areas with "problematic hydrophytic vegetation", which require a minimum of 14 days of ponding to be considered a wetland.

B. <u>Regional Water Quality Control Board</u>

The State Water Resource Control Board and each of its nine Regional Boards regulate the discharge of waste (dredged or fill material) into waters of the United States[9] and waters of the

[7] Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. Arid West 2016 Regional Wetland Plant List. Phytoneuron 2016-30: 1-17. Published 28 April 2016.
[8] Note the Corps also publishes a National List of Plant Species that Occur in Wetlands (Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016.); however, the Regional Wetland Plant List should be used for wetland delineations within the Arid West Region.
[9] Therefore, wetlands that meet the current definition, or any historic definition, of waters of the U.S. are waters of the state. In 2000, the State Water Resources Control Board determined that all waters of the U.S. are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the U.S.

State. Waters of the United States are defined above in Section II.A and waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050[e]).

Section 401 of the CWA requires certification for any federal permit or license authorizing impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as Section 404 of the CWA and Section 10 of the Safe Rivers and Harbors Act, to ensure that the impacts do not violate state water quality standards. When a project could impact waters outside of federal jurisdiction, the Regional Board has the authority under the Porter-Cologne Water Quality Control Act to issue Waste Discharge Requirements (WDRs) to ensure that impacts do not violate state water quality standards. Clean Water Act Section 401 Water Quality Certifications, WDRs, and waivers of WDRs are also referred to as orders or permits.

1. State Wetland Definition

The State Board Wetland Definition and Procedures define an area as wetland as follows: ***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 following wetlands are waters of the State:

1. ***Natural wetlands;***
2. ***Wetlands created by modification of a surface water of the state;[10] and***
3. ***Artificial wetlands[11] that meet any of the following criteria:***

(California Code or Regulations title 23, section 3831(w)). This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state includes features that have been determined by the U.S. Environmental Protection Agency (U.S. EPA) or the U.S. Army Corps of Engineers (Corps) to be "waters of the U.S." in an approved jurisdictional determination; "waters of the U.S." identified in an aquatic resource report verified by the Corps upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of "waters of the U.S." or any current or historic federal regulation defining "waters of the U.S." under the federal Clean Water Act.

[10] "Created by modification of a surface water of the state" means that the wetland that is being evaluated was created by modifying an area that was a surface water of the state at the time of such modification. It does not include a wetland that is created in a location where a water of the state had existed historically, but had already been completely eliminated at some time prior to the creation of the wetland. The wetland being evaluated does not become a water of the state due solely to a diversion of water from a different water of the state.

[11] Artificial wetlands are wetlands that result from human activity.

a. Approved by an agency as compensatory mitigation for impacts to other waters of the state, except where the approving agency explicitly identifies the mitigation as being of limited duration;
b. Specifically identified in a water quality control plan as a wetland or other water of the state;
c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not waters of the state unless they also satisfy the criteria set forth in 2, 3a, or 3b):

i. Industrial or municipal wastewater treatment or disposal,
ii. Settling of sediment,
iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
iv. Treatment of surface waters,
v. Agricultural crop irrigation or stock watering,
vi. Fire suppression,
vii. Industrial processing or cooling,
viii. Active surface mining – even if the site is managed for interim wetlands functions and values,
ix. Log storage,
x. Treatment, storage, or distribution of recycled water, or
xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
xii. Fields flooded for rice growing.[12]

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the state. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a water of the state.

[12] Fields used for the cultivation of rice (including wild rice) that have not been abandoned due to five consecutive years of non-use for the cultivation of rice (including wild rice) that are determined to be a water of the state in accordance with these Procedures shall not have beneficial use designations applied to them through the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, except as otherwise required by federal law for fields that are considered to be waters of the United States. Further, agricultural inputs legally applied to fields used for the cultivation of rice (including wild rice) shall not constitute a discharge of waste to a water of the state. Agricultural inputs that migrate to a surface water or groundwater may be considered a discharge of waste and are subject to waste discharge requirements or waivers of such requirements pursuant to the Water Board's authority to issue or waive waste discharge requirements or take other actions as applicable.

C. California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW also defines a stream as "a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators."

It is important to note that the Fish and Game Code defines fish and wildlife to include: all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45 and Division 2, Chapter 1 section 711.2(a) respectively). Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

III. RESULTS

The Project site contains portions of six drainage features (Drainages A through F) that are subject to the jurisdictions of the Corps, Regional Board, and/or CDFW. The six drainage features are part of two separate drainage systems, both of which have been modified at the downstream end for flood protection. Five of the six drainage features (B through F) are identified in the USFWS National Wetland Inventory (NWI). Although the NWI references can be useful in performing jurisdictional delineations, the designations themselves do not convey a regulatory status to the drainage features, including as wetlands protected pursuant to CEQA. Determination of the presence wetlands and other riparian habitat were made based on criteria of the Corps, Regional Board, and/or CDFW.

Drainage E represents Bradbury Canyon, the majority of which is located within proposed Open Space areas of the Specific Plan, although part of the natural portion of Bradbury Canyon is located within proposed remedial grading and fuel modifications areas of the development footprint. A portion of the Bradbury Canyon Flood Control channel is located within Project's offsite improvement area. Bradbury Canyon originates offsite to the northeast, flowing generally

southwest before entering a large debris basin. Flows from the basin enter a concrete-lined flood control channel via a standpipe and a spillway. The Project's permanent grading footprint does not include the natural streambed of Bradbury Canyon, but does include a portion of the flood control channel where the proposed access road will cross the channel. In addition, the remedial grading footprint includes a small portion of the natural bottom of Bradbury Canyon and the fuel modification zone includes portions of the southern slope of the canyon. Drainage A consists of a relatively short (200 linear feet) ephemeral drainage that due to flood control modifications no longer has a streambed connection to Bradbury Canyon. However, some flows from Drainage A are expected to run into the debris basin. The majority of Bradbury Canyon is identified by the NWI as a Freshwater Forested/Shrub Wetland, with the Bradbury Debris Basin identified as a Freshwater Pond and Freshwater Emergent Wetland.

Spinks Canyon is located east of the Project. A small portion of the property boundary overlaps with a jurisdictional portion of the Spinks Canyon (identified here as Drainage F); however, this portion will not be directly impacted by the Project. The NWI identifies this portion of Spinks Canyon as a Riverine System.

Drainages B, C, and D are part of a larger overall drainage complex within the Project site that is tributary to Spinks Canyon. Spinks Canyon flows into a large debris basin to the southeast of the Project site. Drainage B originates onsite in the north-central portion of the site, flowing south and the southeast before entering a corrugated pipe culvert under the flood control access road before entering the Spinks Canyon debris basin. The upper part of Drainage B is vegetated with Scrub Oak Chaparral and Mixed Chaparral, with the lower portion supporting the California Sycamore/Coast Live Oak Woodland. The western portion of the watershed for Drainage has been modified to construct several smaller debris basins (Spinks Debris Disposal Area) that protect properties to the south and moderate runoff into the Spinks Canyon debris basin. Drainage C and D generally originate onsite and both connect to a smaller, offsite debris basin before entering a pipe and extending under the flood control access road to the Spinks Canyon debris basin. The NWI identifies Drainage B as a Freshwater Forested/Shrub Wetland. Drainages C and D are identified by the NWI and Riverine System.

A. Corps Jurisdiction

The overall Study Area (including the Specific Plan and offsite improvement area) contains approximately 1.55 acres of drainage features exhibiting characteristics associated with waters of the U.S. and that may be regulated by the Corps [Exhibit 7 – Corps/RWQCB Jurisdictional Delineation/Impact Map]. However, pursuant to the recent ***Navigable Waters Protection Rule***, it is possible that some of the drainage features within the Study Area (including proposed impact areas) might not meet the updated definitions of waters of the U.S. upon further review by the Corps. As such, this report acknowledges a maximum of 1.55 acres of waters of the U.S., which

might become reduced during coordination with the Corps to obtain a CWA Section 404 permit. A separate Jurisdictional Delineation Report is attached as Appendix A.

The portions of the delineation areas that were observed directly in the field (Specific Plan development footprint and the offsite improvement area) do not contain jurisdictional wetlands. GLA accessed portions of Bradbury Canyon within the proposed open space that did not exhibit wetland indicators; however, other portions of Bradbury Canyon within the open space may support wetlands since GLA observed flowing water in upper portions of the Canyon.

Of the 1.55 acres of potential Corps jurisdiction, approximately 1.34 acres are associated with the Specific Plan (Table 1), with 0.21 acres associated with the offsite improvement area (Table 2).

Table 1. Summary of Corps Jurisdiction for the Specific Plan

Drainage	Non-Wetland Waters	Wetlands	Total
B	0.17	0	0.17
C	0.13	0	0.13
D	0.08	0	0.08
E (Bradbury Canyon)	0.93	0	0.93
F (Spinks Canyon)	0.03	0	0.03
Total	**1.34**	**0**	**1.34**

Table 2. Summary of Corps Jurisdiction for the Offsite Improvement Areas

Drainage	Non-Wetland Waters	Wetlands	Total
A	0.01	0	**0.01**
B	0.11	0	**0.11**
E (Flood Control)	0.09	0	**0.09**
Total	**0.21**	**0**	**0.21**

B. Regional Water Quality Control Board Jurisdiction

The same areas identified as potential waters of the U.S. (i.e. Corps jurisdiction) would be regulated by the Regional Board either pursuant to CWA Section 401 or Section 13050[e] of the California Water Code 13050, depending on the status of drainage features as waters of the U.S. Regardless, the Study Area contains approximately 1.55 acres of waters regulated by the Regional Board, including 1.34 acres within the Specific Plan area, and 0.21 acres within the offsite improvement [Exhibit 3A – Corps/RWQCB Jurisdictional Delineation/Impact Map]. Tables 3 and 4 summarize Regional Board jurisdiction for the Specific Plan and offsite improvement area, respectively.

Table 3. Summary of Regional Board Jurisdiction for the Specific Plan

Drainage	Non-Wetland Waters	Wetlands	Total
B	0.17	0	0.17
C	0.13	0	0.13
D	0.08	0	0.08
E (Bradbury Canyon)	0.93	0	0.93
F (Spinks Canyon)	0.03	0	0.03
Total	**1.34**	**0**	**1.34**

Table 4. Summary of Regional Board Jurisdiction for the Offsite Improvement Area

Drainage	Non-Wetland Waters	Wetlands	Total
A	0.01	0	**0.01**
B	0.11	0	**0.11**
E (Flood Control)	0.09	0	**0.09**
Total	**0.21**	**0**	**0.21**

C. CDFW Jurisdiction

The overall Study Area (including the Specific Plan and offsite improvement area) contains approximately 13.57 acres of CDFW jurisdiction, including 11.30 acres within the Specific Plan and 2.27 acres within the offsite improvement area [Exhibit 3B – CDFW Jurisdictional Delineation/Impact Map]. Approximately 12.71 acres of riparian vegetation has been mapped within the Study Area based on field observations, including 10.54 acres within the Specific Plan and 2.17 acres within the offsite improvement area. Additional riparian vegetation might be present within portions of the open space that were not accessed for the field studies. However, these areas would not be impacted by the Project (direct or indirect) and therefore the amount of riparian vegetation in these avoided areas (or the lack thereof) is not relevant to the analysis. Tables 5 and 6 summarize CDFW jurisdiction for the Specific Plan and offsite improvement area, respectively.

Table 5. Summary of CDFW Jurisdiction for the Specific Plan

Drainage	Unvegetated Streambed	Riparian Vegetation	Total
B	0.23	0.04	**0.27**
C	0.13	0	**0.13**
D	0.08	0	**0.08**
E (Bradbury Canyon)	0.29	10.50	**10.79**
F (Spinks Canyon)	0.03	0	**0.03**
Total	**0.76**	**10.54**	**11.30**

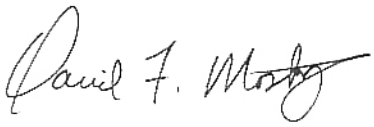
Table 6. Summary of CDFW Jurisdiction for the Offsite Improvement Area

Drainage	Unvegetated Streambed	Riparian Vegetation	Total
A	0.01	0	**0.01**
B	0	2.17	**2.17**
E (Flood Control)	0.09	0	**0.09**
Total	**0.10**	**2.17**	**2.27**

If you have any questions about this letter report, please contact David Moskovitz at (949) 340-2562 or at dmoskovitz@wetlandpermitting.com.

Sincerely,

GLENN LUKOS ASSOCIATES, INC.



David F. Moskovitz
Regulatory Specialist

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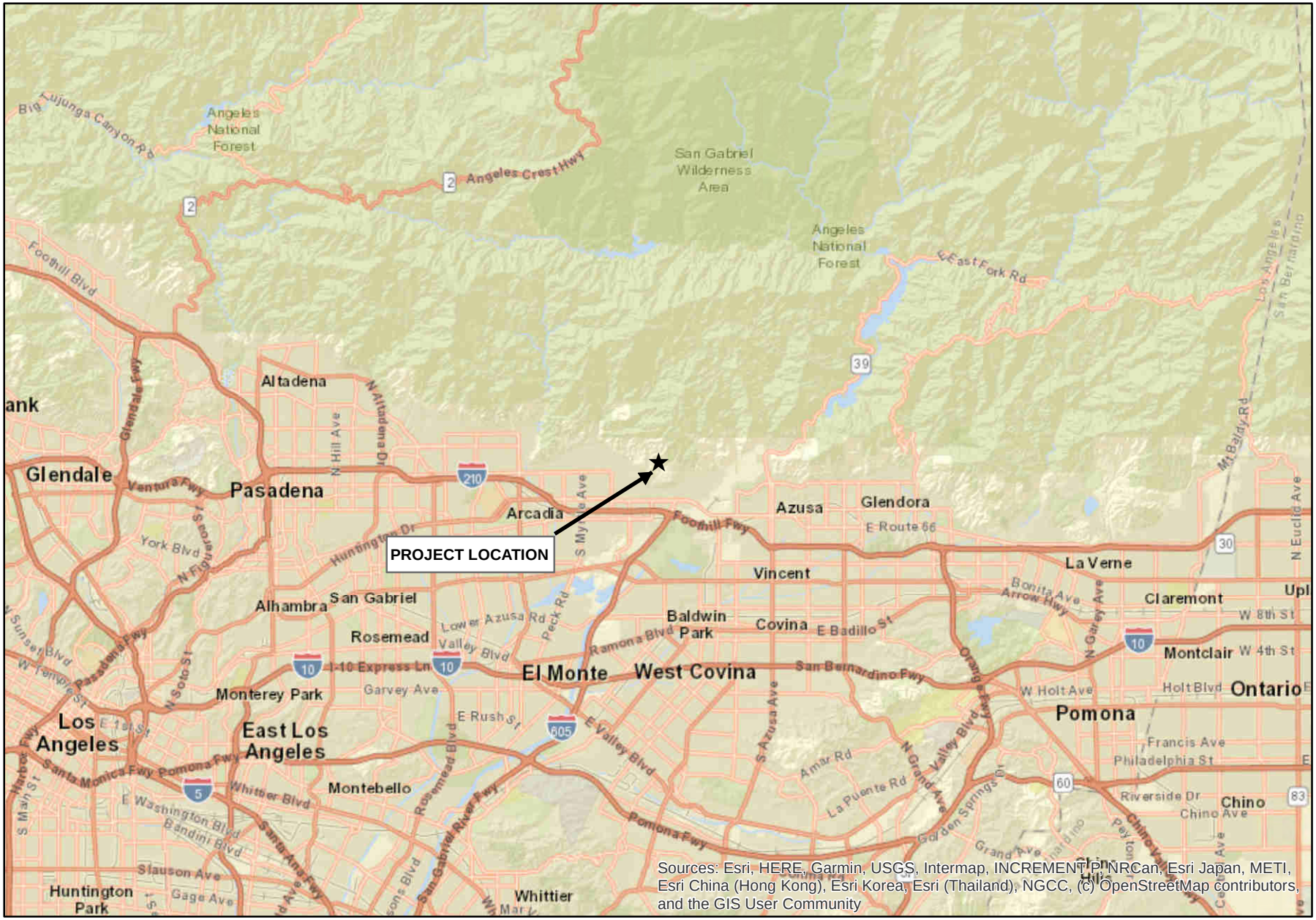


Source: ESRI World Street Map

N

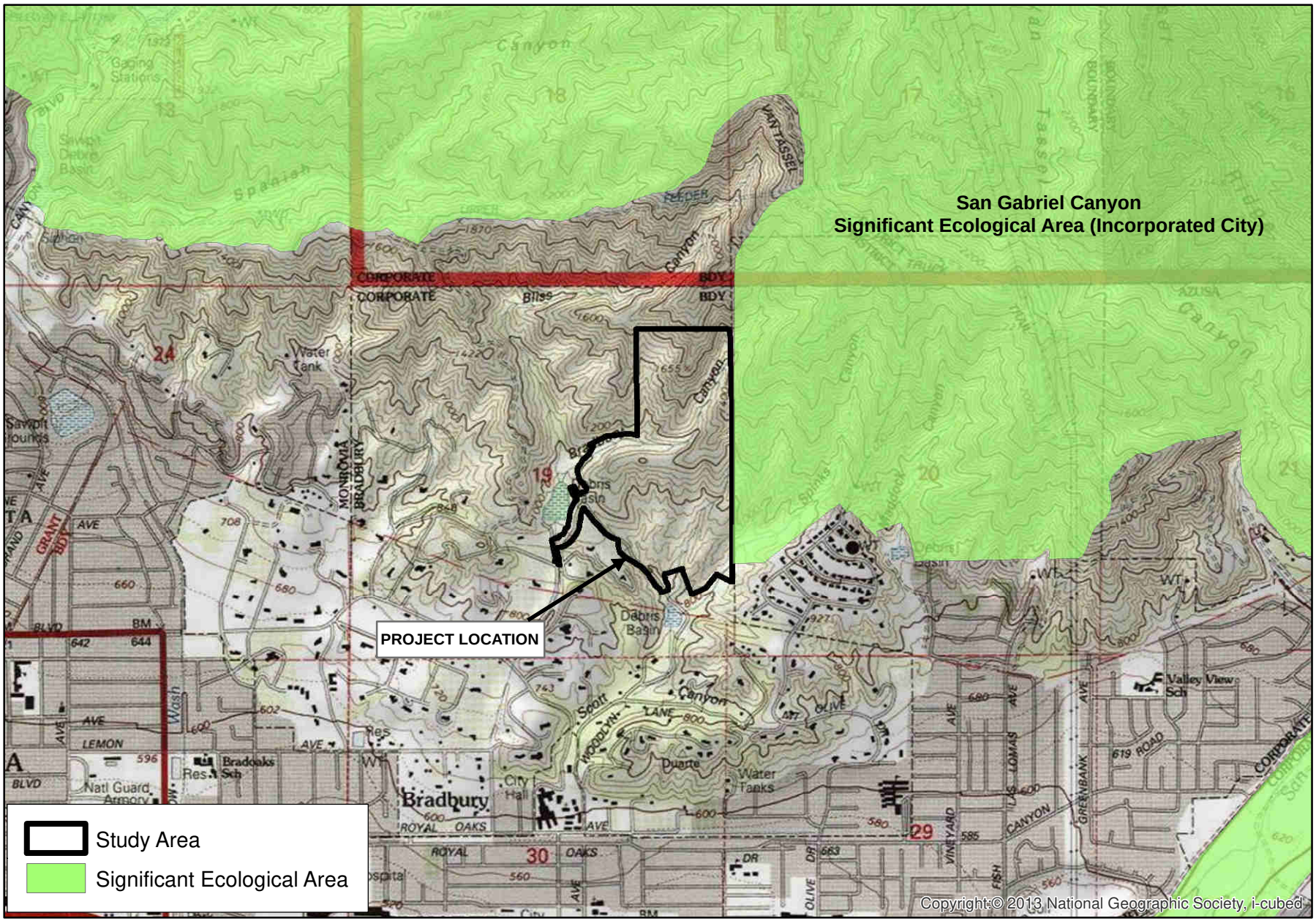
0 2 4 8 Miles

CHADWICK RANCH ESTATES

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS Azusa, CA quadrangle

N

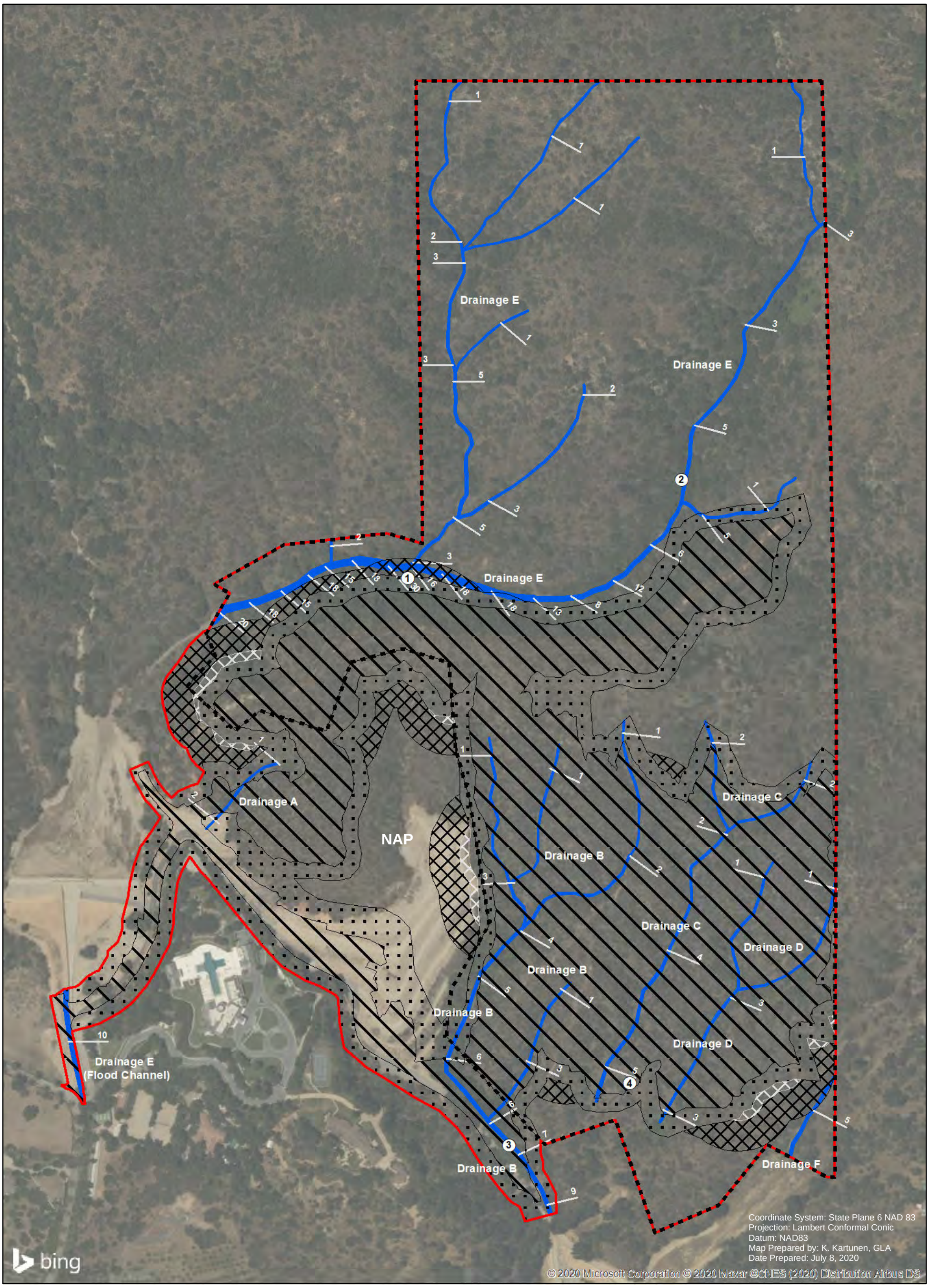
0 1,000 2,000 4,000 Feet

CHADWICK RANCH ESTATES

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2



Study Area Boundary

Property Boundary

Corps/RWQCB Non-Wetland Waters

3 Width in Feet

① Photo Location

Permanent Impact Limits

Remedial Grading

Fuel Modification Zone B

Fuel Modification Zone C

0 150 300 600

Feet

1 inch = 300 feet

N

CHADWICK RANCH ESTATES

Corps/RWQCB Jurisdictional Delineation/Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 3A

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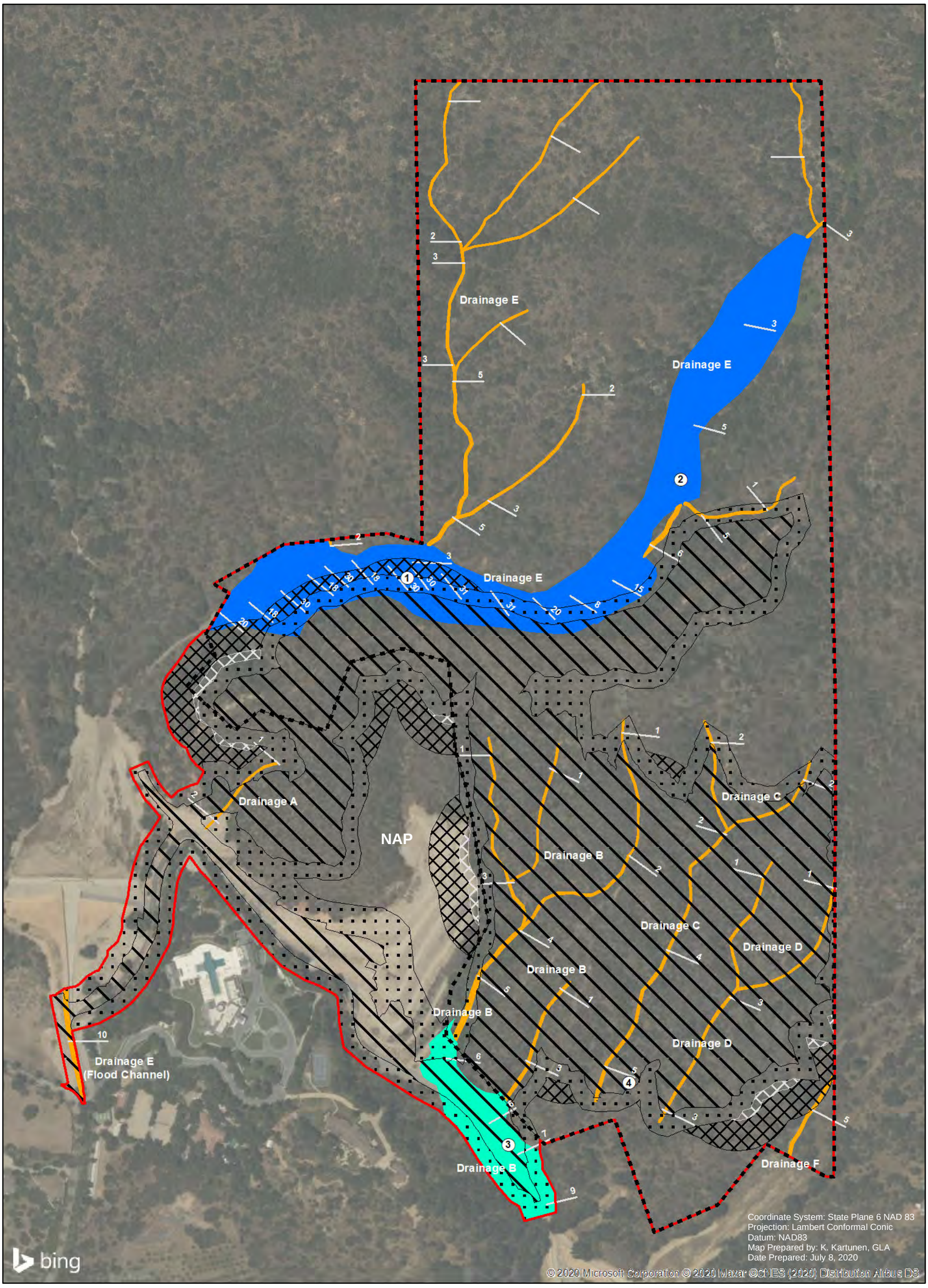

Study Area Boundary
Property Boundary
Non-Riparian Streambed
Coast Live Oak Riparian Forest
Sycamore/Oak Riparian Forest
3 Width of Streambed in Feet
① Photo Location

Permanent Impact Limits
Remedial Grading
Fuel Modification Zone B
Fuel Modification Zone C

0 150 300 600
Feet

1 inch = 300 feet

N

CHADWICK RANCH ESTATES

CDFW Jurisdictional Delineation/Impact Map

GLENN LUKOS ASSOCIATES

Exhibit 3B

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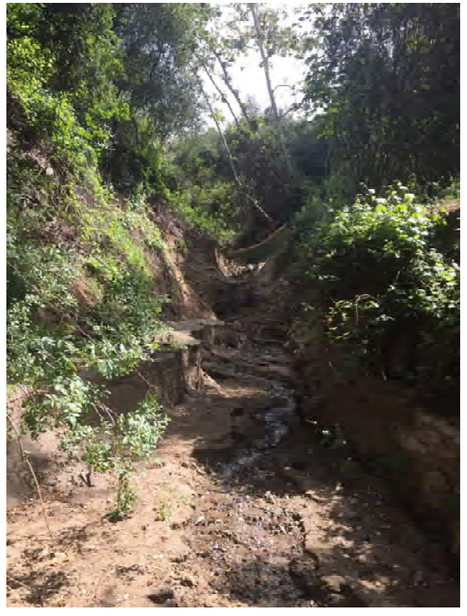
Photograph 1. View of Bradbury Canyon looking east.



Photograph 2. View of Bradbury Canyon looking east depicting the area where the flows terminated.

Photograph 3: View from the southern portion of the offsite improvement area looking at Drainage B.

Photograph 4. View from the southeastern portion of the Project site looking at Drainage C.

GLENN LUKOS ASSOCIATES

Exhibit 4

CHADWICK RANCH ESTATES

Site Photographs

APPENDIX M-2

LANDSCAPE PLAN

PROPOSED PRIVATE HOMEOWNER MAINTAINED

PRIVATE HOMEOWNER SLOPE
HOMEOWNER MAINTAINED

FUEL MODIFICATION ZONE 'A' 30' FROM STRUCTURES & ROAD
HOMEOWNER MAINTAINED

PROPOSED HOMEOWNER'S ASSOCIATION MAINTAINED

HABITAT RESTORATION AREAS - TEMPORARILY IRRIGATED SLOPE
H.O.A. MAINTAINED AFTER 5 YR ESTABLISHMENT PERIOD (6.3 AC)

SPECIAL MAINTENANCE AREA: WATER QUALITY BASIN BOTTOM
H.O.A. MAINTAINED (0.4 AC)

FUEL MODIFICATION ZONE 'A' 30' FROM STRUCTURES & ROAD
H.O.A. MAINTAINED (15.8 AC)

FUEL MODIFICATION ZONE 'A' 30' FROM STRUCTURES & ROAD
H.O.A. MAINTAINED (H.O.A. MAINTENANCE EASEMENT)

FUEL MODIFICATION ZONE 'B' 70' AND NOT TO EXCEED 100' FROM STRUCTURES
H.O.A. MAINTAINED (10.7 AC)

FUEL MODIFICATION ZONE 'B' 70' AND NOT TO EXCEED 100' FROM STRUCTURES
H.O.A. MAINTAINED (H.O.A. MAINTENANCE EASEMENT)

FUEL MODIFICATION ZONE 'C' 100' AND NOT TO EXCEED 200' FROM STRUCTURES
H.O.A. MAINTAINED (14.6 AC)

FUEL MODIFICATION ZONE 'C' 100' AND NOT TO EXCEED 200' FROM STRUCTURES
H.O.A. MAINTAINED (H.O.A. MAINTENANCE EASEMENT)

L.A. COUNTY FLOOD CONTROL MAINTENANCE

DESILTING BASIN BOTTOM (0.9 AC)

WALL & FENCE LEGEND

5' HIGH MIN. FENCE OR WALL
HOMEOWNER MAINTAINED

6" WIDE CONCRETE MOW CURB

ACCESS GATE

EXISTING TREE LEGEND

- CUPRESSUS SEMPERVIRENS - ITALIAN CYPRESS
- EUCALYPTUS CAMALDULENSIS - RIVER RED GUM
- HETEROMELES ARBUTIFOLIA - TOYON
- PINUS CANARIENSIS - CANARY ISLAND PINE
- PINUS HALEPENSIS - ALEPPO PINE
- PLATANUS RACEMOSA - CALIFORNIA SYCAMORE
- PRUNUS SALICINA 'SANTA ROSA' - SANTA ROSA PLUM
- QUERCUS AGRIFOLIA - COAST LIVE OAK
- QUERCUS BERBERIDIFOLIA - CALIFORNIA SCRUB OAK
- QUERCUS ENGELMANNII - ENGELMANN OAK
- QUERCUS VIRGINIANA - SOUTHERN LIVE OAK
- SALIX LASIOLEPIS - ARROYO WILLOW
- SAMBUCUS CERULEA - BLUE ELDERBERRY
- SCHINUS MOLLE - CALIFORNIA PEPPER

TREE LEGEND

- HETEROMELES ARBUTIFOLIA - TOYON
- PLATANUS RACEMOSA - CALIFORNIA SYCAMORE
- QUERCUS AGRIFOLIA - COAST LIVE OAK
- QUERCUS BERBERIDIFOLIA - CALIFORNIA SCRUB OAK
- SAMBUCUS CERULEA - BLUE ELDERBERRY

CHADWICK RANCH
ENTRIES AND STREETSCAPES

Footnotes	Botanical Name	Common Name	WUCOLS	California Native
	Trees			
	Arbutus Marina	Strawberry Tree	L	
	Platanus Racemosa	Western Sycamore	M	X
	Prunus Ilicifolia SSP Ilicifolia	Hollyleaf Cherry	L	X
	Quercus Agrifolia	Coast Live Oak	L	X
	Quercus Berberidifolia	California Scrub Oak	L	X
	Shrubs			
	Arbutus Unedo 'Compacta'	Compact Strawberry Tree	L	
	Arctostaphylos Glauca	Big Berry Manzanita	VL	X
	Baccharis Pilularis 'Pigeon Point'	Dwarf Coyote Brush	L	NC
	Ceanothus Crassifolius	Hoaryleaf Ceanothus	L	X
	Ceanothus Cuneatus Var. Cuneatus	Buckbrush	L	X
+*	Cercocarpus Betuloides	Birch-Leaf Mountain Mahogany	VL	X
	Cistus Hybridus	White Rockrose	L	
	Cistus Purpurea	Orchid Rockrose	L	
	Cistus Salvifolius	Sageleaf Rockrose	L	
	Dendromecon Rigida	Bush Poppy	VL	X
	Encelia Californica	California Encelia	L	X
*	Eriogonum Fasciculatum 'Warriner Lytle'	Warriner Lytle' Buckwheat	VL	NC
	Euphorbia Rigida	Yellow Spurge	L	
	Hesperaloe Parviflora	Red Yucca	L	
	Heteromeles Arbutifolia	Toyon	L	X
	Leucophyllum Frutescens	Texas Sage	L	
*	Malosma Laurina	Laurel Sumac	L	X
	Rhamnus Crocea	Spiny Redberry	L	X
	Rhamnus Ilicifolia	Hollyleaf Redberry	L	X
	Rhus Integrifolia	Lemonadeberry	L	X
	Rosmarinus Officinalis Prostratus	Dwarf Rosemary	L	
*	Salvia Clevelandii	Cleveland Sage	L	X
+*	Salvia Columbariae	Chia	L	X
*	Salvia Leucophylla 'Point Sal Spreader'	Purple Point Sal Sage	L	X
*	Salvia Mellifera	Black Sage	L	X
	Westringia Fruticosa 'Morning Light'	Morning Light Coast Rosemary	L	
	Westringia Fruticosa 'Mundi'	Mundi' Coast Rosemary	L	
	Grasses			
+	Aristida Purpurea	Purple Threeawn	L	X
	Bouteloua Gracilis	Blue Grama Grass	L	X
	Juncus Patens	California Rush		X
	Muhlenbergia Dubia	Mexican Deergrass	L	
	Muhlenbergia Rigens	Deer Grass	M	X
	Succulents			
	Agave SPP	Agave	VL	
	Aloe SPP	Aloe	L	
	Opuntia Littoralis	Coast Prickly Pear	VL	X
	Yucca Whipplei	Our Lords Candle	VL	X
	Herbs / Wildflowers			
	Iris Douglasiana	Douglas Iris	M	X

Footnotes:
* Use as accent only limit 1-5 plants per group, 30' between groups, no mass plantings, no 'A' or 'B' zone plantings. Minimum 30' from structure. No restriction in non fuel modification revegetation areas.
+ Also used in hydroseed mixes

CHADWICK RANCH
PERIMETER SLOPES FUEL MOD WET ZONE (30' "A" ZONE AND 70' "B" ZONE) IRRIGATED

Footnotes	Botanical Name	Common Name	WUCOLS	California Native
	Trees			
	Platanus Racemosa	Western Sycamore	M	X
	Quercus Agrifolia	Coast Live Oak	L	X
	Quercus Berberidifolia	California Scrub Oak	L	X
	Sambucus Nigra SSP. Caerulea	Blue Elderberry	L	X
	Shrubs			
+*	Acmispon Glaber Var. Glaber	Glabrous Deerweed	VL	X
	Arctostaphylos Glauca	Big Berry Manzanita	VL	X
	Baccharis Pilularis 'Pigeon Point'	Dwarf Coyote Brush	L	NC
	Ceanothus Crassifolius	Hoaryleaf Ceanothus	L	X
	Ceanothus Cuneatus Var. Cuneatus	Buckbrush	L	X
	Cercocarpus Betuloides	Birch-Leaf Mountain Mahogany	VL	X
	Dendromecon Rigida	Bush Poppy	VL	X
	Encelia Californica	California Encelia	L	X
+	Eriodictyon Crassifolium	Thickleaf Yerba Santa	VL	X
	Heteromeles Arbutifolia	Toyon	L	X
+	Isocoma Menziesii	Coastal Goldenbush	VL	X
	Malacothamnus Fremontii	Fremont's Bush-Mallow	L	X
*	Malosma Laurina	Laurel Sumac	L	X
+	Mimulus Aurantiacus	Bush Monkeyflower	VL	X
	Prunus Ilicifolia	Holly Leaf Cherry	L	X
	Rhamnus Californica	Coffeeberry	L	X
	Rhamnus Crocea	Spiny Redberry	L	X
	Rhamnus Ilicifolia	Hollyleaf Redberry	L	X
	Rhus Integrifolia	Lemonadeberry	L	X
	Rhus Ovata	Sugar Bush	L	X
+	Trichostema Lanatum	Woolly Blue Curls	L	X
	Grasses			
+	Aristida Purpurea	Purple Threeawn	L	X
	Bouteloua Gracilis	Blue Grama Grass	L	X
+	Koeleria Macrantha	June Grass	L	X
+	Melica Imperfecta	Coast Range Onion Grass	L	X
	Muhlenbergia Rigens	Deer Grass	M	X
+	Nassella (Stipa) Lepida	Foothill Needlegrass	VL	X
+	Plantago Erecta	Dot Seed Plantain	L	X
	Succulents			
	Dudleya Lanceolata	Lance-Leaved Dudleya	VL	X
	Opuntia Littoralis	Coast Prickly Pear	VL	X
	Yucca Whipplei	Our Lords Candle	VL	X
	Herbs / Wildflowers			
+	Dichelostemma Capitatum	Blue Dicks	VL	X
+	Eriophyllum Confertiflorum	Golden Yarrow	VL	X
+	Eriophyllum Confertiflorum Var. Confertiflorum	Golden Woolly Sunflower	VL	X
+	Eschscholzia Californica	California Poppy	VL	X
+	Helianthus Gracilentus	Slender Sunflower	L	X
+	Lasthenia Californica	Goldfields	L	X
+	Lupinus Bicolor	Miniature Lupine	L	X
+	Phacelia Campanularia	California Blue Bell	VL	X
+	Phacelia Cicutaria	Caterpillar Phacelia	VL	X
+	Phacelia Distans	Wild Heliotrope Phacelia	VL	X
+	Phacelia Minor	Wild Canterbury Bells	VL	X
+	Pseudognaphalium Californicum	California Everlasting	VL	X

Footnotes:
* Use as accent only limit 1-5 plants per group, 30' between groups, no mass plantings, no 'A' or 'B' zone plantings. Minimum 30' from structure. No restriction in non fuel modification revegetation areas
+ Also used in hydroseed mixes
NC - Native cultivar - use on interior of project only

CHADWICK RANCH
TEMPORARY IRRIGATED SLOPES AND REVEGATION 100' "C" ZONE DRY FUEL MOD (THINNING FUEL MOD ZONE)

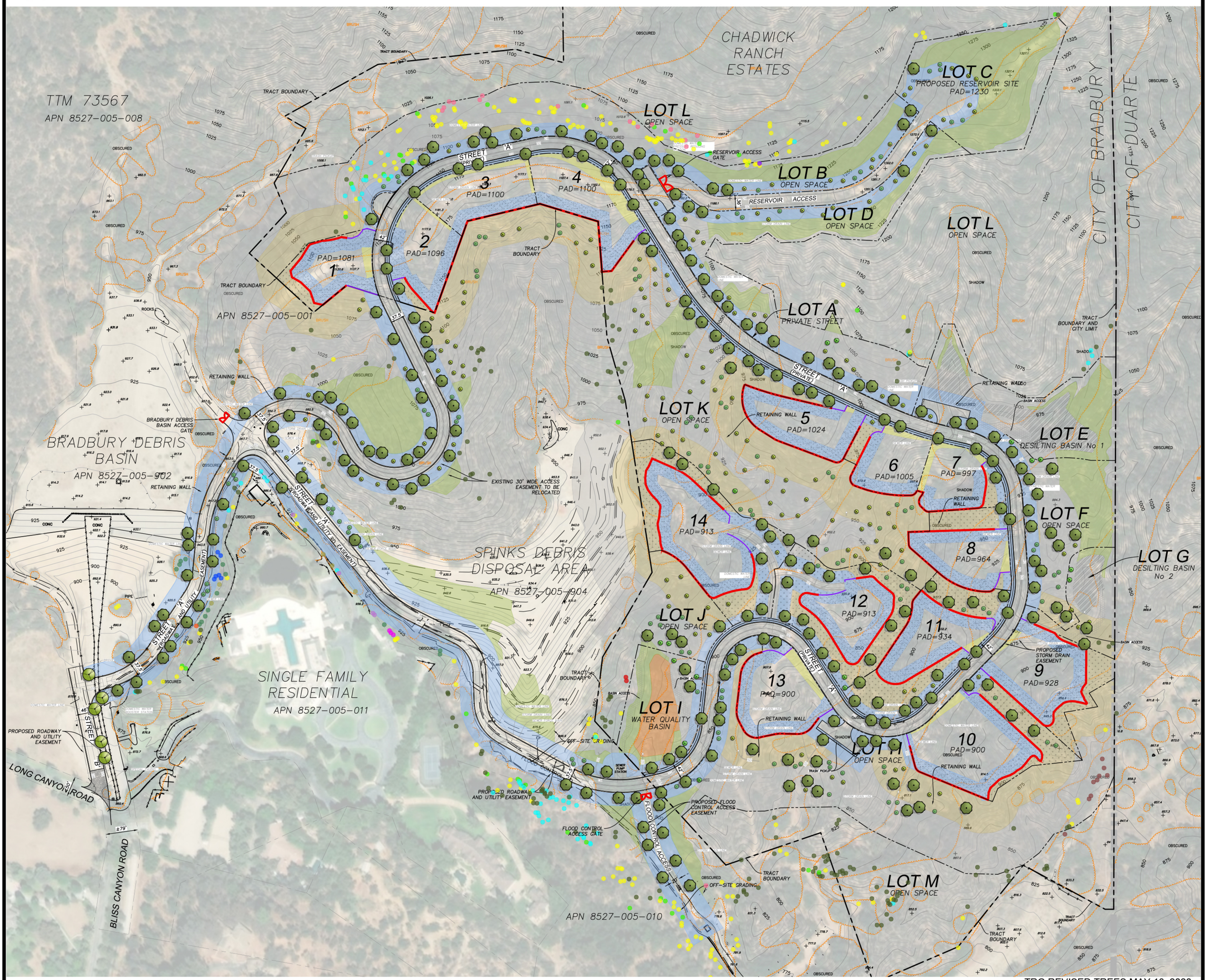
Footnotes	Botanical Name	Common Name	WUCOLS	California Native
	Trees			
	Prunus Ilicifolia SSP Ilicifolia	Hollyleaf Cherry	L	X
	Quercus Agrifolia	Coast Live Oak	L	X
	Quercus Berberidifolia	California Scrub Oak	L	X
	Sambucus Nigra SSP. Caerulea	Blue Elderberry	L	X
	Shrubs			
+*	Acmispon Glaber Var. Glaber	Glabrous Deerweed	VL	X
	Arctostaphylos Glauca	Big Berry Manzanita	VL	X
	Cercocarpus Betuloides	Birch-Leaf Mountain Mahogany	VL	X
	Dendromecon Rigida	Bush Poppy	VL	X
	Encelia Californica	California Encelia	L	X
+	Eriodictyon Crassifolium	Thickleaf Yerba Santa	VL	X
+*	Eriogonum Fasciculatum	California Buckwheat		
+	Gutierrezia Californica	California Matchweed	L	X
	Heteromeles Arbutifolia	Toyon	L	X
+	Isocoma Menziesii	Coastal Goldenbush	VL	X
+	Leptosyne Bigelovii	Bigelow's Tickseed	L	X
	Malacothamnus Fremontii	Fremont's Bush-Mallow	L	X
*	Malosma Laurina	Laurel Sumac	L	X
+	Mimulus Aurantiacus	Bush Monkeyflower	VL	X
	Prunus Ilicifolia	Holly Leaf Cherry	L	X
	Rhamnus Californica	Coffeeberry	L	X
	Rhamnus Crocea	Spiny Redberry	L	X
	Rhamnus Ilicifolia	Hollyleaf Redberry	L	X
	Rhus Integrifolia	Lemonadeberry	L	X
	Rhus Ovata	Sugar Bush	L	X
+*	Salvia Apiana	White Sage	L	X
*	Salvia Clevelandii	Cleveland Sage	L	X
+*	Salvia Columbariae	Chia	L	X
*	Salvia Leucophylla 'Point Sal Spreader'	Purple Point Sal Sage	L	X
*	Salvia Mellifera	Black Sage	L	X
+	Trichostema Lanatum	Woolly Blue Curls	L	X
	Grasses			
+	Koeleria Macrantha	June Grass	L	X
+	Melica Imperfecta	Coast Range Onion Grass	L	X
+	Nassella (Stipa) Lepida	Foothill Needlegrass	VL	X
+	Plantago Erecta	Dot Seed Plantain	L	X
	Succulents			
	Dudleya Lanceolata	Lance-Leaved Dudleya	VL	X
	Opuntia Littoralis	Coast Prickly Pear	VL	X
	Yucca Whipplei	Our Lords Candle	VL	X
	Herbs / Wildflowers			
+	Dichelostemma Capitatum	Blue Dicks	VL	X
+	Eriophyllum Confertiflorum	Golden Yarrow	VL	X
+	Eriophyllum Confertiflorum Var. Confertiflorum	Golden Woolly Sunflower	VL	X
+	Eschscholzia Californica	California Poppy	VL	X
+	Helianthus Gracilentus	Slender Sunflower	L	X
+	Lasthenia Californica	Goldfields	L	X
+	Lupinus Bicolor	Miniature Lupine	L	X
+	Phacelia Campanularia	California Blue Bell	VL	X
+	Phacelia Cicutaria	Caterpillar Phacelia	VL	X
+	Phacelia Distans	Wild Heliotrope Phacelia	VL	X
+	Phacelia Minor	Wild Canterbury Bells	VL	X
+	Pseudognaphalium Californicum	California Everlasting	VL	X

Footnotes:
* Use as accent only limit 1-5 plants per group, 30' between groups, no mass plantings, no 'A' or 'B' zone plantings. Minimum 30' from structure. No restriction in non fuel modification revegetation areas.
+ Also used in hydroseed mixes

CHADWICK RANCH
WQ BASIN SLOPE AND BOTTOM

Footnotes	Botanical Name	Common Name	WUCOLS	California Native
	Trees			
	Platanus Racemosa	Western Sycamore	M	X
	Quercus Agrifolia	Coast Live Oak	L	X
	Sambucus Nigra SSP. Caerulea	Blue Elderberry	L	X
	Shrubs			
	Encelia Californica	California Encelia	L	X
	Heteromeles Arbutifolia	Toyon	L	X
+	Mimulus Aurantiacus	Bush Monkeyflower	L	X
	Rhamnus Californica	Coffeeberry	L	X
	Rhamnus Crocea	Spiny Redberry	L	X
	Rhamnus Ilicifolia	Hollyleaf Redberry	L	X
	Rhus Integrifolia	Lemonadeberry	L	X
	Rosa Californica	California Wild Rose	L	X
	Grasses			
+	Aristida Purpurea	Purple Threeawn	L	X
B +	Distichlis Spicata	Salt Grass		X
B +	Elymus Triticoides	Creeping Wild Rye		X
B	Juncus Patens	California Rush		X
+	Koeleria Macrantha	June Grass	L	X
	Leymus Condensatus	California Wild Rye	L	X
B +	Melica Imperfecta	Coast Range Onion Grass	L	X
	Muhlenbergia Rigens	Deer Grass	M	X
	Nassella (Stipa) Lepida	Foothill Needlegrass	VL	X
	Herbs / Wildflowers			
	Eriophyllum Confertiflorum	Golden Yarrow	VL	X
	Eriophyllum Confertiflorum Var. Confertiflorum	Golden Woolly Sunflower	VL	X
	Eschscholzia Californica	California Poppy	VL	X
+	Lasthenia Californica	Goldfields	L	X
+	Lupinus Bicolor	Miniature Lupine	L	X
+	Phacelia Campanularia	California Blue Bell	VL	X
+	Pseudognaphalium Californicum	California Everlasting	VL	X

Footnotes:
* Use as accent only limit 1-5 plants per group, 30' between groups, no mass plantings, no 'A' or 'B' zone plantings. Minimum 30' from structure. No restriction in non fuel modification revegetation areas.
+ - Also used in hydroseed mixes
B - Basin bottom and vegetated swale bottom



TRG REVISED TREES MAY 18, 2020

CHADWICK RANCH ESTATES

PRELIMINARY LANDSCAPE EXHIBIT

TTM 82349

0 50' 100' 200'

NORTH

APRIL 3, 2020