

Appendix C:
Biological Resources Assessment

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Biological Resources Assessment Del Hombre Apartments Project Contra Costa County, California

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Table of Contents

Section 1: Introduction	1
1.1 - Project Site Location and History	1
1.2 - Project Description	1
Section 2: Regulatory Setting	7
2.1 - Federal	7
2.2 - State	8
Section 3: Methods	15
3.1 - Literature Review	15
3.2 - Field Survey	16
Section 4: Results	19
4.1 - Environmental Setting	19
4.2 - Vegetation Communities	19
4.3 - Wildlife	20
4.4 - Trees	25
Section 5: Sensitive Biological Resources	27
5.1 - Special-Status Plant Communities	27
5.2 - Special-Status Plant Species	27
5.3 - Special-Status Wildlife Species	27
5.4 - Nesting Birds	28
5.5 - Wildlife Movement Corridors	28
5.6 - Trees	28
5.7 - Jurisdictional Waters and Wetlands	29
5.8 - Habitat Conservation Plan	29
Section 6: Impact Analysis and Recommendations	31
6.1 - Special-Status Wildlife Species	31
6.2 - Nesting Birds	32
6.3 - Trees	33
Section 7: References	37
 Appendix A: Database Searches	
Appendix B: Sensitive Species Tables	
B.1 - Special-Status Plant Species Table	
B.2 - Special-Status Wildlife Species Table	
 Appendix C: Tree Inventory Report	

List of Exhibits

Exhibit 1: Regional Location Map.....	3
Exhibit 2: Local Vicinity Map, Aerial Base	5
Exhibit 3: Soils Map.....	21
Exhibit 4: Biological Resources.....	23

SECTION 1: INTRODUCTION

At the request of the Hanover Company, FirstCarbon Solutions (FCS) conducted a biological resources assessment (BRA) on the proposed 284-unit six-story podium apartment community. The project site is approximately 2.37-acres and is located in central Contra Costa County, adjacent to the Pleasant Hill/Contra Costa Centre Bay Area Rapid Transit (BART) Station in unincorporated Walnut Creek (Exhibit 1). The survey was performed at the request of the Hanover Company to meet compliance with Federal, State, and local jurisdictions to determine if development of the property could potentially affect sensitive biological resources located on or adjacent to the property. This report analyzes potential effects on sensitive biological resources and jurisdictional areas associated from the proposed project as described below.

1.1 - Project Site Location and History

The 2.37-acre project site is located at 3010, 3018, 3050, 3070 Del Hombre Lane and 112 Roble Road on the southeast corner of Del Hombre Lane and Roble Road (Exhibit 2). The site consists of 5 parcels and is bound by Del Hombre Lane to the west as well as the Iron Horse Regional Trail (just west of Del Hombre Lane), Roble Road to the north, Avalon Walnut Ridge apartments to the east, and Honey Trail to the south. The project site is heavily wooded and contains several areas of uneven terrain, but the vast majority of the project site is relatively flat. The project site is located in the United States Geological Survey (USGS) Walnut Creek 7.5' Quadrangle (Latitude 37°55'44.864"N, Longitude 122°2'6.143"W).

The site currently contains two residential buildings, various fences, pole-mounted electrical lighting, and telecommunication lines throughout the project site. It is largely undeveloped besides the two single-family homes with one attached garage.

1.2 - Project Description

The proposed project includes the demolition of the existing residential buildings and three new-construction primary components: 284 multi-family residential units, including 36 affordable units; 9,442 square feet of amenity and recreational space; and 380 vehicle parking spaces and 75 bicycle parking spaces.

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Source: Census 2000 Data, The CaSIL

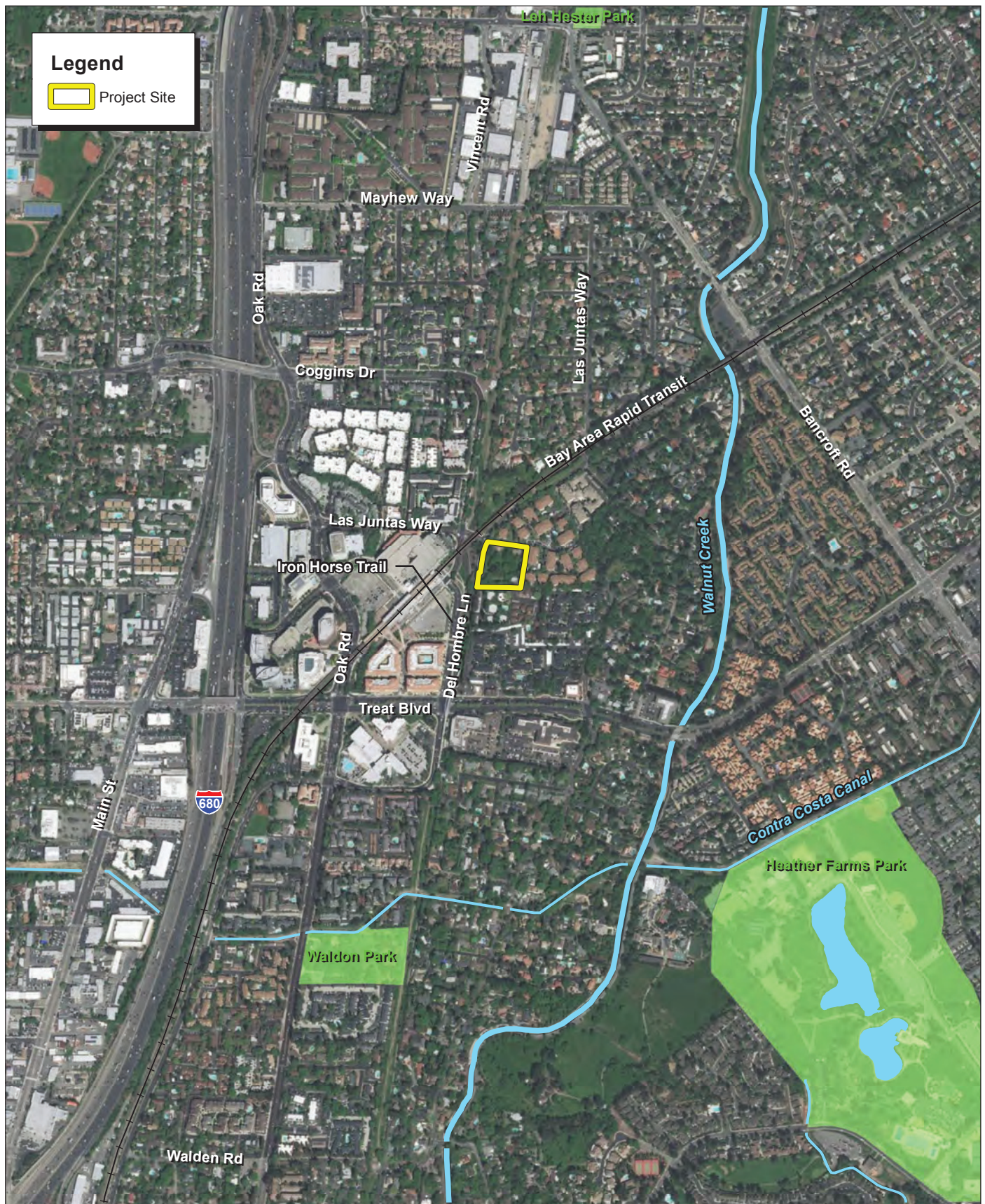
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Exhibit 1 Regional Location Map

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Source: ESRI Aerial Imagery.

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Exhibit 2 Local Vicinity Map Aerial Base

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SECTION 2: REGULATORY SETTING

2.1 - Federal

2.1.1 - Endangered Species Act

The United States Fish and Wildlife Service (USFWS) has jurisdiction over species listed as threatened or endangered under the Federal Endangered Species Act (FESA). Section 9 of FESA protects listed species from “take,” which is broadly defined as actions taken to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” FESA protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; these species are usually treated by resource agencies as if they were actually listed during the environmental review process. Procedures for addressing impacts to federally listed species follow two principal pathways, both of which require consultation with the USFWS, which administers the FESA for all terrestrial species. The first pathway is the Section 10(a) incidental take permit, which applies to situations where a non-federal government entity must resolve potential adverse impacts to species protected under FESA. The second pathway is Section 7 consultation, which applies to projects directly undertaken by a federal agency or private projects requiring a federal permit or approval.

2.1.2 - Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the US and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the Fish and Game Code (FGC). All raptors and their nests are protected from take or disturbance under the MBTA (16 United States Code [USC] § 703, et seq.) and California statute (FGC § 3503.5). The golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*) are also afforded additional protection under the Eagle Protection Act, amended in 1973 (16 USC § 669, et seq.) and the Bald and Golden Eagle Protection Act (16 USC §668–668d).

2.1.3 - Clean Water Act

Section 404

The United States Army Corps of Engineers (USACE) administers Section 404 of the federal Clean Water Act (CWA), which regulates the discharge of dredge and fill material into waters of the United States. The USACE has established a series of nationwide permits that authorize certain activities in waters of the United States, if a proposed activity can demonstrate compliance with standard conditions. Normally, USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the United States. Projects that result in impacts to less than 0.5 acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. The USACE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.5 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

Section 401

As stated in Section 401 of the CWA, “any applicant for a federal permit for activities that involve a discharge to waters of the State, shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.” Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB).

2.2 - State

2.2.1 - CEQA Guidelines

The following California Environmental Quality Act (CEQA) Guidelines serve as thresholds of significance for determining the potential impacts to the biological resources identified in this report:

- Has a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or USFWS.
- Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites.
- Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

2.2.2 - California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to FESA but pertains to State-listed endangered and threatened species. CESA requires State agencies to consult with the CDFW, formerly California Department of Fish and Game, when preparing CEQA documents. The purpose is to ensure that the State lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (FGC § 2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the State’s

prohibition against take of a listed species if the “take” of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (FGC § 2081).

2.2.3 - California Fish and Game Code

Under CESA, the CDFW has the responsibility for maintaining a list of endangered and threatened species (FGC § 2070). Sections 2050 through 2098 of the FGC outline the protection provided to California’s rare, endangered, and threatened species. Section 2080 of the FGC prohibits the taking of plants and animals listed under the CESA. Section 2081 established an incidental take permit program for state-listed species. CDFW maintains a list of “candidate species,” which it formally notices as being under review for addition to the list of endangered or threatened species.

In addition, the Native Plant Protection Act of 1977 (NPPA) (FGC § 1900, et seq.) prohibits the taking, possessing, or sale within the State of any plants with a state designation of rare, threatened, or endangered (as defined by CDFW). An exception to this prohibition in the NPPA allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. (FGC § 1913 exempts from “take” prohibition “the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way.”) Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

CDFW also maintains lists of “Species of Special Concern” that serve as species “watch lists.” The CDFW has identified many Species of Special Concern. Species with this status have limited distribution or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under CEQA and thereby warrant specific protection measures.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. CEQA Guidelines Section 15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (Rare or Endangered Species) provides for the assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the California Native Plant Society’s (CNPS’s) Lists 1A, 1B, and 2 would typically be considered under CEQA.

Sections 3500 to 5500 of the FGC outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Under Section 3503.5 of the FGC, it is unlawful to take, possess, or destroy any birds in the orders of *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any

such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. To comply with the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project study area and determine whether the proposed project will have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of CESA. “Take” of protected species incidental to otherwise lawful management activities may be authorized under FGC Section 206.591. Authorization from CDFW would be in the form of an Incidental Take Permit.

Section 1602 of the FGC requires any entity to notify CDFW before beginning any activity that “may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake” or “deposit debris, waste, or other materials that could pass into any river, stream, or lake.” “River, stream, or lake” includes waters that are episodic and perennial; and ephemeral streams, desert washes, and watercourses with a subsurface flow. A Lake or Streambed Alteration Agreement will be required if CDFW determines that project activities may substantially adversely affect fish or wildlife resources through alterations to a covered body of water.

2.2.4 - California Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (Water Code § 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. “Waters of the State” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code § 13050(e)).

2.2.5 - California Department of Fish and Wildlife Species of Concern

In addition to formal listing under FESA and CESA, species receive additional consideration by CDFW and local lead agencies during the CEQA process. Species that may be considered for review are included on a list of “Species of Special Concern,” developed by the CDFW. It tracks species in California whose numbers, reproductive success, or habitat may be threatened. In addition to Species of Special Concern, the CDFW identifies animals that are tracked by the California Natural Diversity Database (CNDDB), but warrant no federal interest and no legal protection. These species are identified as California Special Animals.

2.2.6 - California Native Plant Society

The CNPS maintains a rank of plant species native to California that has low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS ranks:

- **Rank 1A:** Plants presumed Extinct in California
- **Rank 1B:** Plants Rare, Threatened, or Endangered in California and elsewhere
- **Rank 2:** Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- **Rank 3:** Plants about which we need more information—A Review List
- **Rank 4:** Plants of limited distribution—A Watch List

All plants appearing on the CNPS List ranked 1 or 2 are considered to meet the CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA.

2.2.7 - Habitat Conservation Plan

The project site does not fall within any Habitat Conservation Plan, regional or local, and will not have to follow any rules or regulations of any other Habitat Conservation Plan. The closest such plan is the East Contra Costa County Habitat Conservation Plan.

2.2.8 - Regional and Local

The proposed project development will have to abide by all local and regional ordinances and regulations. Specifically, the following:

Contra Costa County General Plan

The purpose of the Contra Costa County General Plan is to express the broad goals and policies, and specific implementation measures, which will guide decisions on future growth, development, and the conservation of resources through the year 2020. The following are the applicable General Plan goals and policies most pertinent to the project with regard to protection and preservation of the natural resources in the area.

- **8-A.** To preserve and protect the ecological resources of the County.
- **8-B.** To conserve the natural resources of the County through control of the direction, extent and timing of urban growth.
- **8-D.** To protect ecologically significant lands, wetlands, plant, and wildlife habitats.
- **8-E.** To protect rare, threatened and endangered species of fish, wildlife, and plants, significant plant communities, and other resources which stand out as unique because of their scarcity, scientific value, aesthetic quality or cultural significance. Attempt to achieve a significant net increase in wetland values and functions within the County over the life of the General Plan. The definition of rare, threatened, and endangered includes those definitions provided by the Federal Endangered Species Act, the California Endangered Species Act, the California Native Plant Protection Act, and the California Environmental Quality Act.
- **8-1.** Resource utilization and development shall be planned within a framework of maintaining a healthy and attractive environment.
- **8-3.** Watersheds, natural waterways, and areas important for the maintenance of natural vegetation and wildlife populations shall be preserved and enhanced.
- **8-6.** Significant trees, natural vegetation, and wildlife populations generally shall be preserved.

- **8-7.** Important wildlife habitats which would be disturbed by major development shall be preserved, and corridors for wildlife migration between undeveloped lands shall be retained.
- **8-9.** Areas determined to contain significant ecological resources, particularly those containing endangered species, shall be maintained in their natural state and carefully regulated to the maximum legal extent. Acquisition of the most ecologically sensitive properties within the County by appropriate public agencies shall be encouraged.
- **8-10.** Any development located or proposed within significant ecological resource areas shall ensure that the resource is protected.
- **8-12.** Natural woodlands shall be preserved to the maximum extent possible in the course of land development.
- **8-13.** The critical ecological and scenic characteristics of rangelands, woodlands, and wildlands shall be recognized and protected.
- **8-14.** Development on hillsides shall be limited to maintain valuable natural vegetation, especially forests and open grasslands, and to control erosion. Development on open hillsides and significant ridgelines throughout the County shall be restricted, and hillsides with a grade of 26 percent or greater shall be protected through implementing zoning measures and other appropriate actions.
- **8-15.** Existing vegetation, both native and non-native, and wildlife habitat areas shall be retained in the major open space areas sufficient for the maintenance of a healthy balance of wildlife populations.
- **8-17.** The ecological value of wetland areas, especially the salt marshes and tidelands of the bay and delta, shall be recognized. Existing wetlands in the County shall be identified and regulated. Restoration of degraded wetland areas shall be encouraged and supported whenever possible.
- **8-21.** The planting of native trees and shrubs shall be encouraged in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native wildlife, and ensure that a maximum number and variety of well-adapted plants are sustained in urban areas.
- **8-22.** Applications of toxic pesticides and herbicides shall be kept at a minimum and applied in accordance with the strictest standards designed to conserve all the living resources of the County. The use of biological and other non-toxic controls shall be encouraged.
- **8-24.** The County shall strive to identify and conserve remaining upland habitat areas which are adjacent to wetlands and are critical to the survival and nesting of wetland species.
- **8-27.** Seasonal wetlands in grassland areas of the County shall be identified and protected.
- **8-28.** Efforts shall be made to identify and protect the County's mature native oak, bay, and buckeye trees.
- **9-A.** To preserve and protect the ecological, scenic, cultural/historic, and recreational resource lands of the county.
- **9-C.** To achieve a balance of open space and urban areas to meet the social, environmental, and economic needs of the county now and for the future.

Contra Costa County Municipal Code

- Chapter 82-1—65/35 Land Preservation Plan
 - Chapter 82-1 covers the implementation of the general plan and the various regulations regarding development in urban and undeveloped areas.
- **Section 816-6.** Lists the protected trees, permit requirements, and the application process for tree removal.

A protected tree is any one of the following:

- (1) On all properties within the unincorporated area of the county:
 - (A) Where the tree to be cut down, destroyed or trimmed by topping is adjacent to or part of a riparian, foothill woodland or oak savanna area, or part of a stand of four or more trees, measures twenty inches or larger in circumference (approximately 6.5 inches in diameter) as measured four and one-half feet from ground level, and is included in the following list of indigenous trees: *Acer macrophyllum* (Bigleaf Maple), *Acer negundo* (Box Elder), *Aesculus californica* (California Buckeye), *Alnus Rhombifolia* (White Alder), *Arbutus menziesii* (Madrone), *Heteromeles arbutifolia* (Toyon), *Juglans Hindsii* (California Black Walnut), *Juniperus californica* (California Juniper), *Lithocarpus densiflora* (Tanoak or Tanbark Oak), *Pinus attenuata* (Knobcone Pine), *Pinus sabiniana* (Digger Pine), *Platanus Racemosa* (California Sycamore), *Populus fremontii* (Fremont Cottonwood), *Populus trichocarpa* (Black Cottonwood), *Quercus agrifolia* (California or Coast Live Oak), *Quercus chrysolepis* (Canyon Live Oak), *Quercus douglasii* (Blue Oak), *Quercus kelloggii* (California Black Oak), *Quercus lobata* (Valley Oak), *Quercus wislizenii* (Interior Live Oak), *Salix lasiandra* (Yellow Willow), *Salix laevigata* (Red Willow), *Salix lasiolepis* (Arroyo Willow), *Sambucus callicarpa* (Coast Red Elderberry), *Sequoia sempervirens* (Coast Redwood), *Umbellularia californica* (California Bay or Laurel);
 - (B) Any tree shown to be preserved on an approved tentative map, development or site plan or required to be retained as a condition of approval;
 - (C) Any tree required to be planted as a replacement for an unlawfully removed tree.
- (2) On any of the properties specified in subsection (3) of this section:
 - (A) Any tree measuring twenty inches or larger in circumference (approximately six and one-half inches diameter), measured four and one-half feet from ground level including the oak trees listed above;
 - (B) Any multistemmed tree with the sum of the circumferences measuring forty inches or larger, measured four and one-half feet from ground level;
 - (C) And any significant grouping of trees, including groves of four or more trees.
- (3) Specified properties referred to in subsection (2) of this section includes:
 - (A) Any developed property within any commercial, professional office or industrial district;
 - (B) Any undeveloped property within any district;
 - (C) Any area designated on the general plan for recreational purposes or open space;
 - (D) Any area designated in the county general plan open space element as visually significant riparian or ridge line vegetation and where the tree is adjacent to or part of a riparian, foothill woodland or oak savanna area

- Any person proposing to trench, grade or fill within the dripline of any protected tree or cut down, destroy, trim by topping or remove any protected tree shall apply to the department for a tree permit, not less than ten days prior to the proposed tree removal or tree alterations.
- “Tree removal” means the destruction of any protected tree by cutting, regrading, girdling, interfering with water supply, applying chemicals or by other means.
- A heritage tree is defined as a tree that is 72 inches or more in circumference measured four and one-half feet above the natural grade; or any tree or a group of trees particularly worthy of protection, and specifically designated as a heritage tree by the board of supervisors pursuant to the provisions of this chapter, because of:
 - a) Having historical or ecological interest or significance, or
 - b) Being dependent upon each other for health or survival, or
 - c) Being considered an outstanding specimen of its species as to such factors as location, size, age, rarity, shape, or health.
- The Contra Costa County Heritage Tree Ordinance (Chapter 816-4, Ordinance 88-83, Contra Costa County Code) protects trees that have been designated as a heritage tree by the planning commission or board. A tree permit must be filed to remove a heritage tree, including application for a building, grading, or demolition permit.

SECTION 3: METHODS

3.1 - Literature Review

The literature review provides a baseline from which to evaluate the biological resources potentially occurring on the project site, as well as the surrounding area.

3.1.1 - Existing Documentation

As part of the literature review, an FCS biologist examined existing environmental documentation for the project site and local vicinity. This documentation included biological studies for the area; literature pertaining to habitat requirements of special-status species potentially occurring in the vicinity of the site; and federal register listings, protocols, and species data provided by the USFWS and CDFW. These and other documents are listed in the references section of this report.

3.1.2 - Topographic Maps and Aerial Photographs

An FCS biologist reviewed current USGS 7.5-minute topographic quadrangle map(s) and aerial photographs as a preliminary analysis of the existing conditions within the project site and immediate vicinity. Information obtained from the review of the topographic maps included elevation range, general watershed information, and potential drainage feature locations (USGS 1986). Aerial photographs provide a perspective of the most current site conditions relative to on-site and off-site land use, plant community locations, and potential locations of wildlife movement corridors.

3.1.3 - Soil Surveys

The United States Department of Agriculture (USDA) has published soil surveys that describe the soil series (i.e., group of soils with similar profiles) occurring within a particular area (USDA 1980). These profiles include major horizons with similar thickness, arrangement, and other important characteristics. These series are further subdivided into soil mapping units that provide specific information regarding soil characteristics. Many special-status plant species have a limited distribution based exclusively on soil type. Therefore, pertinent USDA soil survey maps were reviewed to determine the existing soil mapping units within the project site and to establish if soil conditions on-site are suitable for any special-status plant species (Soil Survey Staff 2019).

3.1.4 - Special-Status Species Database Search

An FCS biologist compiled a list of threatened, endangered, and otherwise special-status species previously recorded within the general project vicinity. The list was based on a search of the CDFW's CNDDDB (CDFW 2019), a special-status species and plant community account database, and the CNPS's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California database (CNPS 2019) for the Walnut Creek California USGS 7.5-minute topographic quadrangle map.

The CNDDDB Biogeographic Information and Observation System (BIOS 5; CDFW 2019) database was used to determine the distance between known recorded occurrences of special-status species and the project site (Appendix A).

3.1.5 - Trees

Prior to conducting the reconnaissance-level survey, FCS's biologist reviewed any applicable City and County ordinances pertaining to tree preservation and protective measures and their tree replacement conditions or permits required. Species listed in any applicable ordinances identified on-site were noted and the location was recorded using a handheld GPS unit and identified on a topographic map. In addition, FCS biologist reviewed the previously completed Tree Inventory Report by Hort Sciences Inc. The Tree Inventory Report was published in May 2019, and can be found in its entirety in Appendix C.

3.1.6 - Jurisdictional Waters and Wetlands

Prior to conducting the reconnaissance-level survey, FCS's biologists reviewed USGS topographic maps and aerial photography to identify any potential natural drainage features and water bodies. In general, all surface drainage features identified as blue-line streams on USGS maps and linear patches of vegetation are expected to exhibit evidence of flows and considered potentially subject to state and federal regulatory authority as "waters of the United States and/or State." A preliminary assessment was conducted to determine the location of any existing drainages and limits of project-related grading activities, to aid in determining if a formal delineation of waters of the United States or State is necessary.

3.2 - Field Survey

FCS Biologist, Joaquin Pacheco, conducted the reconnaissance-level field survey on January 7, 2019. Weather conditions during the field survey were partially cloudy with light rain occurring towards the start of the survey and a temperature of 57° degrees Fahrenheit.

The object of the survey was not to extensively search for every species occurring within the project site, but to ascertain general site conditions and identify potentially suitable habitat areas for various special-status plant and wildlife species. Special-status or unusual biological resources identified during the literature review were ground-truthed during the reconnaissance-level survey for mapping accuracy. Special attention was paid to sensitive habitats and areas potentially supporting special-status floral and faunal species.

3.2.1 - Vegetation

Common plant species observed during the reconnaissance-level survey were identified by visual characteristics and morphology in the field and recorded in a field notebook. Uncommon and less familiar plants were identified off-site with the use of taxonomical guides, such as Clarke et al. (2007), Hitchcock (1971), McAuley (1996), and Munz (1974). Taxonomic nomenclature used in this study follows Baldwin et al. (2012). Common plant names, when not available from Baldwin et al. (2012), were taken from other regionally specific references. Vegetation types and boundaries were noted on aerial photos and through field observation, and digitized using ESRI ArcGIS software® ArcMap 10.0. By incorporating collected field data and interpreting aerial photography, a map of habitat types, land cover types, and other biological resources within the project site was prepared. Habitat types were based on the classification system from *A Guide to Wildlife Habitats of California*

(CDFW 1988). Vegetation community and land cover types used to help classify habitat types are based on Holland (1986) and Oberbauer (1996) and cross-referenced with CDFW's Natural Communities List (2010).

3.2.2 - Wildlife

Wildlife species detected during the reconnaissance-level survey by sight, calls, tracks, scat, or other signs were recorded in a field notebook. Notations were made regarding suitable habitat for those special-status species determined to potentially occur within the project site (CDFW 2019). Appropriate field guides were used to assist with species identification during surveys, such as Peterson (2010), Reid (2006), and Stebbins (2003).

3.2.3 - Wildlife Movement Corridors

Wildlife movement corridors link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. Urbanization and the resulting fragmentation of open space areas create isolated "islands" of wildlife habitat, forming separated populations. Corridors act as an effective link between populations.

The project site was evaluated for evidence of a wildlife movement corridor during the reconnaissance-level survey. However, the scope of the biological resources study did not include a formal wildlife movement corridor study utilizing track plates, camera stations, scent stations, or snares. Therefore, the focus of this study was to determine if the change of current land use of the project site may have significant impacts on the regional movement of wildlife. These conclusions are made based on the information compiled during the literature review, including aerial photographs, USGS topographic maps and resource maps for the vicinity, the field survey conducted, and professional knowledge of desired topography and resource requirements for wildlife potentially utilizing the project site and vicinity.

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SECTION 4: RESULTS

The reconnaissance-level field survey was conducted by FCS Biologist, Joaquin Pacheco, on January 7, 2019. Weather conditions during the field survey were partially cloudy with light rain occurring towards the start of the survey and a temperature of 57°.

4.1 - Environmental Setting

The 2.37-acre site consists of non-native grassland, mixed oak woodland, and urban and developed land. The project site is largely devoid of shrubs and low-growing vegetation and is primarily comprised of invasive grass species. There are several human-made barriers, such as wooden fencing and chicken wire, throughout the project site and along most of the project site boundaries, mainly surrounding the two residential buildings on-site. There is an unmaintained concrete path and several electrical poles within the project boundaries. The site is bound by three paved, lightly trafficked roads, apartment complexes, and residential housing developments on eastern side of the site.

4.1.1 - Topography

There are areas within the project site that depict concave and convex topography, but the vast majority of the project site is relatively flat.

4.1.2 - Soils

The USDA Natural Resources Conservation Service indicates that the soils on the site consist of one soil type, Clear Lake Clay (Exhibit 3).

- The Clear Lake clay consists of very deep, poorly drained soils that formed in fine textured alluvium derived from mixed rock sources. They are poorly drained and negligible to high runoff. Additionally, they have slow to very slow permeability.

4.2 - Vegetation Communities

A search of the USFWS Critical Habitat Portal revealed that the project does not contain identified critical habitat for any federally listed species (USFWS 2011). The project will have no impacts on any USFWS designated Critical Habitat, and there are no designated refuges within the project boundaries.

4.2.1 - Non-Native Grassland

Non-native annual grassland typically occurs in the open areas of valleys and foothills throughout California. Species observed during the field survey include non-native species such as Irish ivy (*Hedera hibernica*), lily of the Nile (*Agapanthus* spp.), oleander (*Nerium oleander*), bristly oxtongue (*Helminthotheca echinoides*), and an ornamental blue aloe plant (*Aloe vera* spp.).

4.2.2 - Mixed Oak Woodland

There are several oak species located within the project site, including valley oak and coast live oak, in conjunction with a variety of other mature, adult tree species. This community has a relatively dense tree canopy, open sub-canopy, and grassy understory. The tree canopy is dominated by valley oak, but also contains coast redwood, blue gum (*Eucalyptus globulus*), and glossy privet (*Ligustrum lucidum*) in order of abundance.

The understory supports several non-native annual grass species. The project site lacks low-level vegetation, as much of the shrubbery on site is concentrated along the project boundaries. The relatively dense clusters of trees in conjunction with the limited amount of understory vegetation provide limited foraging habitat for wildlife.

4.2.3 - Urban/Developed Land

Urban/Developed land is classified as areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported and retains no soil substrate. Developed land is characterized by permanent or semi-permanent structures, pavement, or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident because a large amount of debris or other materials have been placed upon it may also be considered urban/developed (e.g., car recycling plant, quarry). Characteristic vegetation includes un-vegetated or landscaped with a variety of ornamental (usually non-native) plants. This portion of the site contains the two residential structures currently present on the project site as well as a gravel road (Exhibit 4).

4.3 - Wildlife

The vegetation community and land cover types discussed above provide habitat for numerous local wildlife species. Wildlife activity was low during the field survey and consisted of primarily avian species and one mammal species. The following are brief discussions of wildlife species observed within the project site during the field survey, separated into taxonomic groups. Each discussion contains representative examples of a particular taxonomic group either observed on-site or expected to occur.

4.3.1 - Birds

Various species of songbirds, such as chickadees and sparrows, were audible during the field survey. Additionally, California towhee (*Melospiza crissalis*), black-capped chickadee (*Parus atricapillus*), black phoebe (*Sayornis nigricans*), and American crow (*Corvus brachyrhynchos*) were all visually observed and recorded during the field survey.

4.3.2 - Mammals

One California ground squirrel (*Otospermophilus beecheyi*) was visually observed during the site visit.



Source: ESRI Aerial Imagery. USDA Soils Contra Costa County Data

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Exhibit 3 Soils Map

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Source: ESRI Aerial Imagery.



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4.4 - Trees

As previously mentioned in Section 3.1.5, the Tree Inventory Report completed by Hort Sciences, Inc. in May 2019 recorded 189 individual trees, representing 27 species on-site. The assessment included all trees 6-inch and greater, located within and adjacent to the project area. Valley oak is by far the dominant species in the project area, representing over 48 percent (90 trees) of all trees on-site. Other common species include glossy privet, coast redwood, blue gum, and coast live oak.

Contra Costa County ordinance protects all trees 6.5 inches in diameter or greater on properties that have remaining development potential. Protected trees cannot be removed and construction cannot occur within the dripline without a permit; 172 trees on the project site meet the criteria of this ordinance. Within the boundaries of the property itself, 161 trees will need to be removed of which 145 are protected. Twenty-eight trees will remain and be potentially impacted; 27 of which are protected.

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SECTION 5: SENSITIVE BIOLOGICAL RESOURCES

The following section discusses the existing site conditions and potential for special-status biological resources to occur within the project site.

5.1 - Special-Status Plant Communities

Special-status plant communities are considered sensitive biological resources based on federal, State, or local laws regulating their development, limited distributions, and habitat requirements of special-status plant or wildlife species that occur within them. The urban context of the site and several developed areas within project boundaries preclude the presence of special-status plant communities. Additionally, the soil community present is dominated by clear lake loam, which is not conducive to the growth rare plant species. There are no special-status plant communities within the project boundaries.

5.2 - Special-Status Plant Species

The Special-Status Plant Species Table (Appendix B) identifies 18 special-status plant species and CNPS sensitive species that have been recorded to occur within the Walnut Creek, California topographic quadrangle (USGS 1986), as recorded by the CNDDDB and CNPSEI (CDFW 2018; CNPS 2019). The table also includes the species' status, required habitat, and potential to occur within the project site. All special-status plant species that have been determined unlikely to occur on-site, primarily based on the absence of suitable habitat and no recorded occurrence within 5 miles of the project site. All plant species have also been included in the table, in order to justify their exclusion from further discussion.

All special-status plant species have been determined unlikely to occur on-site based upon the results of the species review and the reconnaissance-level field assessment. The project site lacks suitable habitat conditions, most notably aquatic features or suitable soil conditions, to support any special-status plant species; further, no special-status plant species were found on the project site. The high level of disturbance within and surrounding the project site further precludes the presence of special-status plant species. Because of the project site lacks the potential for special-status plant species, this issue is not addressed in the impact analysis and recommendations section of this document.

5.3 - Special-Status Wildlife Species

The Special-Status Wildlife Species Table (Appendix B) identifies 9 federal and State listed threatened and/or endangered wildlife species, and State Species of Special Concern that have been recorded in the CNDDDB (CDFW 2019) as occurring within the Walnut Creek, California topographic quadrangle (USGS 1986). The table also includes the species' status, required habitat, and potential to occur within the project site. Of these, two special-status wildlife species have the potential to occur at the project site: the pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*). All other special-status wildlife species have been determined unlikely to

occur on-site, primarily based on the absence of suitable habitat and a lack of recorded occurrences near the project site.

The pallid bat and Townsend's big-eared bat both are California Species of Special Concern that have the potential, albeit low, to occur within the project site due to the marginal roosting habitat in the form of trees and buildings. No focused surveys were conducted for either species, and they were not found during field surveys. Both of these species are highly sensitive to loud auditory disturbances and thus, prefer roosting habitat not located with an urban context. Due to the high level of disturbance surrounding the project site, there is low potential for this species to occur on the project site.

5.4 - Nesting Birds

There are varieties of mature trees, both ornamental and native woodland species throughout the project site. These trees may provide suitable nesting habitat for non-special-status migratory raptors and passerine birds species protected under the MBTA.

Construction activities could disturb nesting and breeding birds in trees and shrubs within and around the construction site. Potential impacts on special-status and migratory birds that could result from the construction and operation of the project include the destruction of eggs or occupied nests, mortality of young, and the abandonment of nests with eggs or young birds prior to fledging. If these species were found to be present, impacts to these species would be significant. The project would likely be required to conduct pre-construction nesting bird surveys to reduce impacts to nesting birds to a less than significant level

5.5 - Wildlife Movement Corridors

No wildlife movement corridors are present on-site. The project site is surrounded by residential buildings, actively trafficked roads, and walking paths. There are barriers around the majority of the project site boundaries. There are several fences within the project site partially surrounding the two residential buildings on-site, consisting, of both chicken wire and wooden fencing. These barriers, in conjunction with the urban context of the project site and lack of surface waters on the project site, further impede wildlife and fish species movement through and within the project site. As such, the project will not interfere substantially with the movement of native resident or migratory fish or wildlife species or impede the use of wildlife nursery sites and no impacts would occur. Because of the lack of wildlife movement corridors, this issue is not addressed in the impact analysis and recommendations section of this document.

5.6 - Trees

As previously mentioned, the Tree Inventory Report conducted for the project site in May 2019 provides an inventory and preliminary evaluation of all trees over 6 inches in diameter within the project site. Trees were surveyed were numbered, tagged, identified, measured, and evaluated. The species, diameter at breast height, health status and likelihood of preservation is found in the Tree Inventory Report (Appendix C).

5.7 - Jurisdictional Waters and Wetlands

An assessment of potentially jurisdictional features was conducted as part of the literature review and reconnaissance-level survey for the project site. The project site does not contain any wetlands or other areas designated as waters of the US and no further studies or regulatory permitting would be required. Therefore, the project would not have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the CWA. Lastly, because no jurisdictional features or riparian habitat are within project boundaries, these issues are not addressed in the impact analysis and recommendations section of this document.

5.8 - Habitat Conservation Plan

The project site does not fall within the coverage area of a habitat conservation plan or natural community conservation plan. The project site is roughly 1 mile away from the nearest habitat conservation plan area, the East Contra Costa County Habitat Conservation Plan area. Therefore, there would be no construction impact related to consistency with a conservation plan and these issues are not addressed in the impact analysis and recommendations section of this document.

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SECTION 6: IMPACT ANALYSIS AND RECOMMENDATIONS

The following discussion addresses potential impacts to special-status biological resources resulting from the proposed project and recommends mitigation measures, where appropriate, to minimize those impacts to a level of “less than significant” under CEQA.

6.1 - Special-Status Wildlife Species

The pallid bat prefers to roost in forests and grasslands in open, dry habitat with rocky areas for nesting. The two residential buildings and large amount of mature trees on the project site provide marginal roosting habitat for this species. Townsend’s big-eared bat roosts in the open, often from walls and ceilings. Similarly, the buildings on site provide marginal roosting habitat in the form of rooftop overhangs. As the species is very sensitive to disturbances, there is a low potential for this species to occur on the project site, as the immediate surrounding area is highly trafficked with vehicles and persons. Thus, there is potential for these two special-status species to occur on site and, thus, to be disturbed during project construction. This represents a potentially significant impact.

To ensure there are no negative impacts to both the pallid bat and Townsend’s big-eared bat, it is recommended the project applicant abide by the following steps.

Conduct Pre-construction Special-status Bat Surveys

The following measures shall be implemented prior to construction work related to building, other structure, or mature tree removal or modification:

- A qualified wildlife biologist shall conduct surveys for special-status bats during the appropriate time of day to maximize detectability to determine if bat species are roosting near the work area no less than 7 days and no more than 14 days prior to tree removal, beginning ground disturbance and/or construction. Survey methodology may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (Anabat, etc.). Visual surveys shall include trees within 0.25 mile of project construction activities. The type of survey will depend on the condition of the potential roosting habitat. If no bat roosts are found, then no further study is required.
- If evidence of bat use is observed, the number and species of bats using the roost will be determined. Bat detectors may be used to supplement survey efforts.
- If roosts are determined to be present and must be removed, the bats shall be excluded from the roosting site before the facility is removed. A mitigation program addressing compensation, exclusion methods, and roost removal procedures shall be developed prior to implementation. Exclusion methods may include use of one-way doors at roost entrances (bats may leave but cannot reenter), or sealing roost entrances when the site can be confirmed to contain no bats. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young).

- If roosts cannot be avoided or it is determined that construction activities may cause roost abandonment, such activities shall not commence until permanent, elevated bat houses have been installed outside of, but near the construction area. Placement and height shall be determined by a qualified wildlife biologist, but the height of the bat house will be at least 15 feet. Bat houses will be multi-chambered and will be purchased or constructed in accordance with CDFW standards. The number of bat houses required will be dependent upon the size and number of colonies found, but at least one bat house will be installed for each pair of bats (if occurring individually), or of sufficient number to accommodate each colony of bats to be relocated.

6.2 - Nesting Birds

As noted in section 5.4 above, the project site and its adjacent areas contains trees and vegetation that may provide potential habitat for non-special-status migratory raptors and passerine bird species protected by the MBTA. Impacts to these birds may be considered significant under CEQA. As such, implementation of the following mitigation measure as it relates to nesting birds would reduce impacts to a “less than significant” level. The following mitigation measures are recommended to comply with the MBTA:

Avoid Active Migratory Bird Nests During Construction

The following measures shall be implemented for construction work during the nesting season (February 15 through August 31):

- If construction or tree removal is proposed during the breeding/nesting season for migratory birds (typically February 15 through August 31), a qualified biologist shall conduct pre-construction surveys for northern harrier, pallid bat, Townsend’s big-ear bat, and other migratory birds within the construction area, including a survey buffer determined by a qualified biologist based on professional experience, no more than 14 days prior to the start of ground disturbing activities in the construction area.
- If an active nest is located during pre-construction surveys, USFWS and/or CDFW (as appropriate) shall be notified regarding the status of the nest. Furthermore, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or a qualified biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius of 300 feet around an active raptor nest and 50-foot radius around an active migratory bird nest) or alteration of the construction schedule.
- A qualified biologist shall delineate the buffer using nest buffer signs, ESA fencing, pin flags, and or flagging tape. The buffer zone shall be maintained around the active nest site(s) until the young have fledged and are foraging independently.

6.3 - Trees

Of the 189 trees that were evaluated, the proposed project would remove 161 trees (145 protected) and 28 trees (27 protected) would remain on the project site and potentially be impacted by the project. The trees retained on-site could be subject to injury during construction or could be inadequately maintained during construction. The response of individual trees would depend on the amount of excavation and grading, and the care and construction methods in which demolition is undertaken. Tree removal and possible injury to protected trees during construction would represent a potentially significant impact.

To ensure compliance with the Contra Costa County Tree Protection and Preservation Ordinance, tree permits would be required prior to the removal of protected trees. In addition, the remaining trees proposed for preservation on the project site would be protected through the implementation of the following tree protection guidelines, also outlined in the project site-specific Tree Inventory Report.

Obtain Tree Removal Permits Prior to Construction

- Prior to commencement of construction activities, the applicant shall obtain the necessary permits related to certain tree removal. The required changes (if applicable) shall be incorporated into the tree plan for the proposed project.

Implement Tree Protection Guidelines During Construction

The following tree protection guidelines shall be implemented during construction through the clearing, grading, and construction phases.

Tree Protection Zone

- A tree protection zone shall be identified for each tree to be preserved. The tree protection zone along the southern and eastern boundary will be 10 feet from the property line.
- Fence all trees to be retained to completely enclose the tree protection zone prior to demolition, grubbing or grading. Fences shall be 6-foot chain link with posts sunk into the ground or equivalent as approved by the County.
- Fences must be installed prior to beginning demolition and must remain until construction is complete. The Consulting Arborist shall inspect Tree Protection Fencing prior to demolition or construction activities.
- No grading, excavation, construction or storage or dumping of materials shall occur within the tree protection zone.
- No underground services including utilities, sub-drains, water or sewer shall be placed in the tree protection zone.

Design Recommendations

- Any changes to the plans affecting the trees shall be reviewed by the Consulting Arborist with regard to tree impacts. These include, but are not limited to, site plans, improvement plans, utility and drainage plans, grading plans, landscape and irrigation plans and demolition.

- Avoid designs that would require pruning more than 20 percent of a tree's canopy.
- Irrigation systems must be designed so that no trenching severs roots larger than 1 inch in diameter within the Tree Protection Zone.
- Tree Preservation Guidelines prepared by the Consulting Arborist, which include specifications for tree protection during demolition and construction, should be included on all plans.
- Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.
- No liming of the subsoils shall be permitted within 50 feet of any tree.
- As trees withdraw water from the soil, expansive soils may shrink within the root area. Therefore, foundations, footings, and pavements on expansive soils near trees should be designed to withstand differential displacement.
- Adequate but not excessive water shall be provided for trees; in most cases, occasional irrigation will be required. Avoid directing runoff toward trees.

Pre-Demolition and Pre-Construction Treatments and Recommendations

- The demolition and construction superintendents shall meet with the Consulting Arborist before beginning work to review all work procedures, access routes, storage areas and tree protection measures.
- Fence all trees to be retained to completely enclose the Tree Protection Zone prior to demolition, grubbing or grading. Fences shall be 6-foot chain link. Fences are to remain until all grading and construction is completed.
- Apply and maintain 4-6 inch wood chip mulch within the Tree Protection Zone. Keep the mulch 2 feet from the base of tree trunks.
- Branches extending into the work area that can remain following demolition shall be tied back and protected from damage.
- Fences are to remain until all grading and construction is completed. Where demolition must occur close to trees, such as removing curb and pavement, trunk protection devices such as winding silt sock wattling shall be installed around trunks or stacking hay bales around tree trunks.
- Prune trees to be preserved to clean the crown of dead branches 1 inch and larger in diameter and raise canopies as needed for construction activities:
 - All pruning shall be done by a State of California Licensed Tree Contractor (C61/D49). All pruning shall be done by a Certified Arborist or Certified Tree Worker in accordance with the Best Management Practices for Pruning (International Society of Arboriculture, 2002) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300).
 - The Consulting Arborist shall provide pruning specifications prior to site demolition.
 - Branches extending into the work area that can remain following demolition shall be tied back and protected from damage.

- While in the tree, the Arborist shall perform an aerial inspection to identify any defects, weak branch and trunk attachments and decay not visible from the ground. Any additional work needed to mitigate defects shall be reported to the property owner.
- Trees to be removed that have branches extending into the canopy of the trees or located within the Tree Protection Zone of trees to remain shall be removed by a Certified Arborist or Certified Tree Worker and not by the demolition contractor. The Certified Arborist or Certified Tree Worker shall remove the trees in a manner that causes no damage to the trees and understory to remain. Stumps shall be ground below grade.
- Trees to be removed shall be felled so as to fall away from the Tree Protection Zone and avoid pulling and breaking of roots of trees to remain. If roots are entwined, the Consulting Arborist may require first severing the major woody root mass before extracting the tree(s), or grinding the stump below ground.
- All down brush and trees shall be removed from the Tree Protection Zone either by hand, or with equipment sitting outside the Tree Protection Zone. Extraction shall occur by lifting the material out, not by skidding across the ground. Brush shall be chipped and spread beneath the trees within the Tree Protection Zone.
- Structures and underground features to be removed within the Tree Protection Zone shall use equipment that will minimize damage to trees above and below ground and operate from outside the Tree Protection Zone. Tie back branches and wrap trunks with protective materials to protect from injury as directed by the Consulting Arborist. The Consulting Arborist shall be on-site during all operations within the Tree Protection Zone to monitor demolition activity.
- All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. To the extent feasible, tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work. Qualified Biologists should be involved in establishing work buffers for active nests.

Tree Protection During Construction

- Any approved grading, construction, demolition or other work within the Tree Protection Zone should be monitored by the Consulting Arborist.
- All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved.
- Tree protection devices are to remain until all site work has been completed within the work area. Fences or other protection devices may not be relocated or removed without permission of the Consulting Arborist.
- Construction trailers, traffic and storage areas must remain outside the Tree Protection Zone at all times.

- Any root pruning required for construction purposes shall receive the prior approval of and be supervised by the Consulting Arborist. Roots should be cut with a saw to provide a flat and smooth cut. Removal of roots greater than 2 inches in diameter should be avoided.
- If roots 2 inches and greater in diameter are encountered during site work and must be cut to complete the construction, the Consulting Arborist must be consulted to evaluate effects on the health and stability of the tree and recommend treatment.
- Any brush clearing required within the Tree Protection Zone shall be accomplished with hand-operated equipment.
- All down brush and trees shall be removed from the Tree Protection Zone either by hand, or with equipment sitting outside the Tree Protection Zone. Extraction shall occur by lifting the material out, not by skidding across the ground.
- Prior to grading or trenching, trees may require root pruning outside the Tree Protection Zone. Any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the Consulting Arborist.
- Spoil from trench, footing, utility or other excavation shall not be placed within the Tree Protection Zone, neither temporarily nor permanently.
- All grading within the dripline of trees shall be done using the smallest equipment possible. The equipment shall operate perpendicular to the tree and operate from outside the Tree Protection Zone. Any modifications must be approved and monitored by the Consulting Arborist.
- All trees shall be irrigated on a schedule to be determined by the Consulting Arborist (every 3 to 6 weeks is typical). Each irrigation shall wet the soil within the Tree Protection Zone to a depth of 18 inches.
- If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
- No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the Tree Protection Zone.
- Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist or Certified Tree Worker and not by construction personnel.

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Appendix A: Database Searches

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Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Walnut Creek (3712281))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Alameda whipsnake <i>Masticophis lateralis euryxanthus</i>	ARADB21031	Threatened	Threatened	G4T2	S2	
Antioch Dunes evening-primrose <i>Oenothera deltooides ssp. howellii</i>	PDONA0C0B4	Endangered	Endangered	G5T1	S1	1B.1
big tarplant <i>Blepharizonia plumosa</i>	PDAST1C011	None	None	G1G2	S1S2	1B.1
burrowing owl <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S3	SSC
California red-legged frog <i>Rana draytonii</i>	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California tiger salamander <i>Ambystoma californiense</i>	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Carquinez goldenbush <i>Isocoma arguta</i>	PDAST57050	None	None	G1	S1	1B.1
Congdon's tarplant <i>Centromadia parryi ssp. congdonii</i>	PDAST4R0P1	None	None	G3T2	S2	1B.1
Contra Costa goldfields <i>Lasthenia conjugens</i>	PDAST5L040	Endangered	None	G1	S1	1B.1
Diablo helianthella <i>Helianthella castanea</i>	PDAST4M020	None	None	G2	S2	1B.2
foothill yellow-legged frog <i>Rana boylei</i>	AAABH01050	None	Candidate Threatened	G3	S3	SSC
fragrant fritillary <i>Fritillaria liliacea</i>	PMLIL0V0C0	None	None	G2	S2	1B.2
Hall's bush-mallow <i>Malacothamnus hallii</i>	PDMAL0Q0F0	None	None	G2	S2	1B.2
hoary bat <i>Lasiurus cinereus</i>	AMACC05030	None	None	G5	S4	
Mt. Diablo fairy-lantern <i>Calochortus pulchellus</i>	PMLIL0D160	None	None	G2	S2	1B.2
northern California legless lizard <i>Anniella pulchra</i>	ARACC01020	None	None	G3	S3	SSC
obscure bumble bee <i>Bombus caliginosus</i>	IIHYM24380	None	None	G4?	S1S2	
oval-leaved viburnum <i>Viburnum ellipticum</i>	PDCPR07080	None	None	G4G5	S3?	2B.3
pallid bat <i>Antrozous pallidus</i>	AMACC10010	None	None	G5	S3	SSC
San Joaquin spearscale <i>Extriplex joaquinana</i>	PDCHE041F3	None	None	G2	S2	1B.2



Selected Elements by Common Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
slender silver moss <i>Anomobryum julaceum</i>	NBMUS80010	None	None	G5?	S2	4.2
slender-leaved pondweed <i>Stuckenia filiformis ssp. alpina</i>	PMPOT03091	None	None	G5T5	S2S3	2B.2
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	AMACC08010	None	None	G3G4	S2	SSC
western bumble bee <i>Bombus occidentalis</i>	IIHYM24250	None	None	G2G3	S1	
western pond turtle <i>Emys marmorata</i>	ARAAD02030	None	None	G3G4	S3	SSC

Record Count: 25



Plant List

Inventory of Rare and Endangered Plants

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

Search Criteria

California Rare Plant Rank is one of [1B, 2B], FESA is one of [Endangered, Threatened], CESA is one of [Endangered, Threatened, Rare], Found in Quads 3812212, 3812211, 3812118, 3712282, 3712281, 3712188, 3712272 3712271 and 3712178;

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Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Arctostaphylos pallida	pallid manzanita	Ericaceae	perennial evergreen shrub	Dec-Mar	1B.1	S1	G1
Chloropyron molle ssp. molle	soft bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Nov	1B.2	S1	G2T1
Clarkia franciscana	Presidio clarkia	Onagraceae	annual herb	May-Jul	1B.1	S1	G1
Erysimum capitatum var. angustatum	Contra Costa wallflower	Brassicaceae	perennial herb	Mar-Jul	1B.1	S1	G5T1
Holocarpha macradenia	Santa Cruz tarplant	Asteraceae	annual herb	Jun-Oct	1B.1	S1	G1
Oenothera deltoides ssp. howellii	Antioch Dunes evening-primrose	Onagraceae	perennial herb	Mar-Sep	1B.1	S1	G5T1

Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 02 January 2019].

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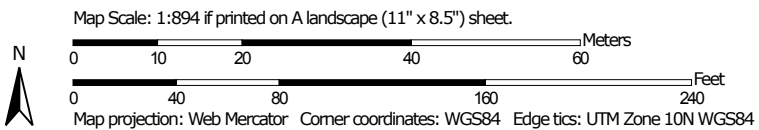
Questions and Comments

rareplants@cnps.org

Soil Map—Contra Costa County, California



Soil Map may not be valid at this scale.



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey


1/2/2019
Page 1 of 3


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Contra Costa County, California

Survey Area Data: Version 15, Sep 14, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 11, 2015—Jun 17, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cc	Clear Lake clay, 0 to 15 percent slopes, MLRA 15	2.6	100.0%
Totals for Area of Interest		2.6	100.0%

Appendix B: Sensitive Species Tables

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B.1 - Special-Status Plant Species Table

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Table 1: Special-status Plant Species Potentially Occurring within the Project

Scientific Name Common Name	Status			Habitat Description ⁴	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS ¹	CDFW ²	CNPS ³			
Antioch Dunes evening-primrose <i>Oenothera deltoides</i> ssp. <i>howellii</i>	FE	SE	1B.2	Interior dunes. Remnant river bluffs and sand dunes east of Antioch. 1–15 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of sand dunes on site.	No
Carquinez goldenbush <i>Isocoma arguta</i>	—	—	1B.1	Valley and foothill grassland. Alkaline soils, flats, lower hills. On low benches near drainages & on tops & sides of mounds in swale habitat. 1–50 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of suitable soil and drainages on site.	No
Big tarplant <i>Blepharizonia plumosa</i>	—	—	1B.1	Valley and foothill grassland. Dry hills & plains in annual grassland. Clay to clay-loam soils; usually on slopes and often in burned areas. 60–505 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of clay soil and dry hills on site	No
Congdon's tarplant <i>Centromadia parryi</i> ssp. <i>congdonii</i>	—	—	1B.1	Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. 0–230 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of alkaline soils on site.	No
Contra Costa goldfields <i>Lasthenia conjugens</i>	FE	—	1B.1	Valley and foothill grassland, vernal pools, alkaline playas, cismontane woodland, swales, low depressions, in open grassy areas. 1–450 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of vernal pools and cismontane woodlands onsite.	No
Diablo helianthella <i>Helianthella castanea</i>	—	—	1B.2	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky, azonal soils. Often in partial shade. 45–1070 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of upland forest and chaparral habitat onsite.	No

Table 1 (cont.): Special-status Plant Species Potentially Occurring within the Project

Scientific Name Common Name	Status			Habitat Description ⁴	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS ¹	CDFW ²	CNPS ³			
Hall's bush-mallow <i>Malacothamnus hallii</i>	—	—	1B.2	Chaparral, coastal scrub. Some populations on serpentine soils. 10–735 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of chaparral and coastal scrub onsite.	No
Fragrant fritillary <i>Fritillaria liliacea</i>	—	—	1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. 3–385 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of coastal scrub and coastal prairie habitat on site.	No
Mt. Diablo fairy-lantern <i>Calochortus pulchellus</i>	—	—	1B.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. On wooded and brushy slopes. 45–915 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of chaparral and cismontane woodland onsite.	No
San Joaquin spearscale <i>Extriplex joaquinana</i>	—	—	1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with <i>Distichlis spicata</i> , <i>Frankenia</i> , etc. 0–800 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of chenopod scrub and alkali soils and sinks.	No
oval-leaved viburnum <i>Viburnum ellipticum</i>	—	—	2B.3	Chaparral, cismontane woodland, lower montane coniferous forest. 215–1400 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of chaparral and cismontane woodland habitat onsite	No
slender silver moss <i>Anomobryum julaceum</i>	—	—	4.2	Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest. Moss which grows on damp rocks and soil; acidic substrates. Usually seen on roadcuts. 100–1000 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of upland forest and montane forest onsite.	No

Table 1 (cont.): Special-status Plant Species Potentially Occurring within the Project

Scientific Name Common Name	Status			Habitat Description ⁴	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS ¹	CDFW ²	CNPS ³			
slender-leaved pondweed <i>Stuckenia filiformis</i> ssp. <i>alpina</i>	—	—	2B.2	Marshes and swamps. Shallow, clear water of lakes and drainage channels. 5–2325 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of marshes and swamps onsite.	No
Contra Costa wallflower <i>Erysimum capitatum</i> var. <i>angustatum</i>	FE	SE	1B.1	Inland dunes. Stabilized dunes of sand and clay near Antioch along the San Joaquin River. 3–20 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of dunes on site.	No
pallid manzanita <i>Arctostaphylos pallida</i>	FT	SE	1B.1	Broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub. Grows on uplifted marine terraces on siliceous shale or thin chert. May require fire. 180–460 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of upland and coniferous forest onsite.	No
soft bird's-beak <i>Chloropyron molle</i> ssp. <i>molle</i>	FE	CR	1B.2	Coastal salt marsh with <i>Distichlis</i> , <i>Salicornia</i> , <i>Frankenia</i> , etc. 0–5 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of coastal salt marsh onsite.	No
Presidio clarkia <i>Clarkia franciscana</i>	FE	SE	1B.1	Coastal scrub, valley and foothill grassland. Serpentine outcrops in grassland or scrub. 20–305 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of coastal scrub and serpentine outcrops onsite.	No
Santa Cruz tarplant <i>Holocarpha macradenia</i>	FT	SE	1B.1	Coastal prairie, coastal scrub, valley and foothill grassland. Light, sandy soil or sandy clay; often with nonnatives. 10–220 m.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of coastal prairie and scrub onsite.	No

Table 1 (cont.): Special-status Plant Species Potentially Occurring within the Project

Scientific Name Common Name	Status			Habitat Description ⁴	Potential to Occur and Rationale	Included in Impact Analysis			
	USFWS ¹	CDFW ²	CNPS ³						
Code Designations									
¹ Federal Status: 2015 USFWS Listing							² State Status: 2015 CDFW Listing		
ESU = Evolutionary Significant Unit is a distinctive population. FE = Listed as endangered under the FESA. FT = Listed as threatened under the FESA. FC = Candidate for listing (threatened or endangered) under FESA. FD = Delisted in accordance with the FESA. FPD = Federally Proposed to be Delisted. MBTA = protected by the Migratory Bird Treaty Act — = Not federally listed							SE = Listed as endangered under the CESA. ST = Listed as threatened under the CESA. SSC = Species of Special Concern as identified by the CDFW. FP = Listed as fully protected under FGC. CFG = FGC =protected by FGC 3503.5 CR = Rare in California. — = Not state listed		
³ Habitat description: Habitat description adapted from CNDDB (CDFW 2015a).									

B.2 - Special-Status Wildlife Species Table

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Table 2: Special-status Wildlife Species Potentially Occurring within the Project

Scientific Name Common Name	Status		Habitat Description ³	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS ¹	CDFW ²			
Reptiles					
Alameda whipsnake <i>Masticophis lateralis euryxanthus</i>	FT	ST	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Specifically, mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of chaparral and scrub habitat onsite.	No
Northern California legless lizard <i>Anniella pulchra</i>	—	SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of sandy or loose loamy soils onsite.	No
western pond turtle <i>Emys marmorata</i>	—	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. No standing or running water on site.	No
Birds					
burrowing owl <i>Athene cunicularia</i>	—	SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. The site has experience infill, removing the potential for nests to occur in certain areas.	No
Mammals					
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	—	SSC	Throughout California in a wide variety of habitats. Most common in areas associated with mixed conifer forest, desert scrub, or pine forest habitat. Roosts in caves mines, and buildings. Extremely sensitive to human disturbance.	Low Potential to Occur: There are buildings throughout the project site offer suitable roosting habitat for this species.	Yes

Table 2 (cont.): Special-status Wildlife Species Potentially Occurring within the Project

Scientific Name Common Name	Status		Habitat Description ³	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS ¹	CDFW ²			
Pallid bat <i>Antrozous pallidus</i>	—	SSC	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures and include trees and buildings. Species is very sensitive to disturbance of roosting sites.	Low Potential to Occur: The numerous trees and associated buildings throughout the project site offer marginal roosting habitat for this species.	Yes
Amphibians					
California red-legged frog <i>Rana draytonii</i>	—	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. No deep pools or aquatic habitat is present on the project site.	No
California tiger salamander <i>Ambystoma californiense</i>	FT	ST	Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. Lack of underground refuges within or nearby project boundaries.	No
foothill yellow-legged frog <i>Rana boylei</i>	—	CT	Foothill yellow-legged frogs are found in or near rocky streams in a variety of habitats. Unlike most other ranid frogs in California, this species is rarely encountered (even on rainy nights) far from permanent water.	Unlikely to Occur: Lack of suitable habitat and extremely high level of disturbance at site preclude presence. There is a lack of perennial water on the project site, coupled with a lack of recorded sightings within or nearby project site.	No

Table 2 (cont.): Special-status Wildlife Species Potentially Occurring within the Project

Scientific Name Common Name	Status		Habitat Description ³	Potential to Occur and Rationale	Included in Impact Analysis		
	USFWS ¹	CDFW ²					
Code Designations							
¹ Federal Status: 2015 USFWS Listing						² State Status: 2015 CDFW Listing	
ESU = Evolutionary Significant Unit is a distinctive population. FE = Listed as endangered under the FESA. FT = Listed as threatened under the FESA. FC = Candidate for listing (threatened or endangered) under FESA. FD = Delisted in accordance with the FESA. FPD = Federally Proposed to be Delisted. MBTA = protected by the Migratory Bird Treaty Act — = Not federally listed						SE = Listed as endangered under the CESA. ST = Listed as threatened under the CESA. SSC = Species of Special Concern as identified by the CDFW. FP = Listed as fully protected under FGC. CFG = FGC =protected by FGC 3503.5 CR = Rare in California. — = Not state listed	
³ Habitat description: Habitat description adapted from CNDDb (CDFW 2015a).							

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Appendix C: Tree Inventory Report

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Arborist Report

Del Hombre Lane
Contra Costa County, CA

PREPARED FOR:
The Hanover Company
156 Diablo Road, Suite 220
Danville, CA 94526

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

May 9, 2019

**Arborist Report
Del Hombre Lane
Contra Costa County, CA**

Table of Contents

	Page
Executive Summary	1
Introduction and Overview	2
Tree Assessment Methods	2
Description of Trees	3
Suitability for Preservation	6
Evaluation of Impacts and Recommendations	7
Tree Preservation Guidelines	8

List of Tables

Table 1. Condition ratings and frequency of occurrence of trees	3
Table 2. Tree suitability for preservation	7

Exhibits

***Tree Assessment Plan
Tree Assessment
Tree Disposition***

Arborist Report Del Hombre Lane Contra Costa County, CA

Executive Summary

The Hanover Company is planning to develop a mostly vacant lot with two single family homes on Del Hombre Lane in Contra Costa County, CA. The site currently is largely forested with a mix of native and non-native trees. Trees were assessed on March 19, 2018 and January 29, 2019. Trees were tagged with #160-348. The assessment included all trees 6" and greater, located within and adjacent to the project area.

One hundred eighty-nine (189) trees representing 27 species were evaluated (Table 1). For all species combined, trees were in fair condition (63%) with 21% of trees in good condition and 15% of trees in poor condition. Eighteen (18) off-site trees (#271-288) and 12 property line trees (#205, 206, 211, 213-217, 219, 312, 313 and 346) were included in the assessment.

Valley oak was by far the most common species assessed (90 trees, 48% of population). The majority of the valley oaks were in typical oak woodland form where they grow relatively densely with multiple, sinuous trunks. The valley oaks growing along the southern boundary of the property were the largest with wide spreading crowns typical of open grown oaks.

Contra Costa County protects all trees 7" in diameter or greater on properties which have remaining development potential (172 trees). *Protected* trees cannot be removed or construction occurring within the dripline without a permit.

Based on my evaluation of the plans:

- One hundred sixty-one (161) trees will be removed (145 *Protected*).
- Twenty-eight (28) trees will be potentially preserved (27 *Protected*).

The entire site will be graded and developed. Most on-site trees are within the grading footprint and will be removed. Additionally, three property line trees will be removed:

Off-site trees (18 trees) and trees on (9 trees) or near (#257) the property line are the only trees that can potentially be preserved. These trees will be impacted to varying degrees by the planned construction. Grading near the property line, building fences, pruning for clearance and constructing pathways will impact trees. Contra Costa County regulates construction within the dripline of *Protected* trees and permission should be secured prior to construction.

I recommend establishing Tree Protection Zones and following the Tree Preservation Guidelines.

Introduction and Overview

The Hanover Company is planning to develop a mostly vacant lot with two single family homes on Del Hombre Lane in Contra Costa County, CA. The site currently is largely forested with a mix of native and non-native trees. HortScience | Bartlett Consulting was asked to prepare an **Arborist Report** for the site as part of the application to Contra Costa County.

This report provides the following information:

1. Assessment of the health and structural condition of the trees within the proposed project area based on a visual inspection from the ground.
2. Evaluation of the impacts to trees based on development plans.
3. Guidelines for tree preservation during the design, construction and maintenance phases of development.

Tree Assessment Methods

Trees were assessed on March 19, 2018 and January 29, 2019. Trees were tagged with #160-348. The assessment included all trees 6" and greater, located within and adjacent to the project area. Off-site trees with canopies extending over the property line were included in the assessment. The assessment procedure consisted of the following steps:

1. Identifying the tree species.
2. Tagging each tree with an identifying number and recording its location on a map; off-site trees were not tagged.
3. Measuring the trunk diameter at a point 54" above grade; diameters for off-site trees were estimated.
4. Evaluating the health and structural condition using a scale of 0 – 5 based on a visual inspection from the ground:
 - 5 - A healthy, vigorous tree, reasonably free of signs and symptom of disease, with good structure and form typical of the species.
 - 4 - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
 - 3 - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
 - 2 - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
 - 1 - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.
 - 0 - Tree is dead.
5. Rating the suitability for preservation as "high", "moderate" or "low". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come:

High: Trees with good health and structural stability that have the potential for longevity at the site.

Moderate: Trees with somewhat declining health and/or structural defects that can be abated with treatment. The tree will require more intense management and monitoring, and may have a shorter life span than those in the "high" category.

Low: Trees in poor health or with significant structural defects that cannot be mitigated. Tree is expected to continue to decline, regardless of treatment. The species or individual may have characteristics that are undesirable for landscapes and generally are unsuited for use areas.

Description of Trees

One hundred eighty-nine (189) trees representing 27 species were evaluated (Table 1). For all species combined, trees were in fair condition (63%) with 21% of trees in good condition and 15% of trees in poor condition. Eighteen (18) off-site trees (#271-288) and 12 property line trees (#205, 206, 211, 213-217, 219, 312, 313 and 346) were included in the assessment.

Descriptions of each tree can be found in the **Tree Assessment**, and approximate locations are plotted on the **Tree Assessment Plan** (see Exhibits).

**Table 1. Condition ratings and frequency of occurrence of trees
Del Hombre Lane, Contra Costa County, CA**

Common Name	Scientific Name	Condition			Total
		Poor (1-2)	Fair (3)	Good (4-5)	
Blackwood acacia	<i>Acacia melanoxydon</i>	1	-	-	1
California buckeye	<i>Aesculus californica</i>	1	-	-	1
Incense cedar	<i>Calocedrus decurrens</i>	1	-	-	1
Grapefruit	<i>Citrus x paradisi</i>	-	-	1	1
Italian cypress	<i>Cupressus sempervirens</i>	-	1	-	1
Blue gum	<i>Eucalyptus globulus</i>	2	4	-	6
Fig	<i>Ficus carica</i>	1	-	-	1
Modesto ash	<i>Fraxinus velutina</i> 'Modesto'	-	1	-	1
Ginkgo	<i>Ginkgo biloba</i>	-	-	1	1
English walnut	<i>Juglans regia</i>	-	3	1	4
Hollywood juniper	<i>Juniperus chinensis</i> 'Kaizuka'	1	-	-	1
Goldenrain tree	<i>Koelreuteria paniculata</i>	1	-	-	1
Glossy privet	<i>Ligustrum lucidum</i>	4	30	-	34
Southern magnolia	<i>Magnolia grandiflora</i>	-	-	1	1
Olive	<i>Olea europaea</i>	-	2	-	2
Date palm	<i>Phoenix dactylifera</i>	-	-	3	3
Monterey pine	<i>Pinus radiata</i>	1	-	-	1
London plane	<i>Platanus x hispanica</i>	1	-	-	1
Purpleleaf plum	<i>Prunus cerasifera</i>	-	1	-	1
Plum	<i>Prunus domestica</i>	1	-	-	1
Douglas fir	<i>Pseudotsuga menziesii</i>	-	1	3	4
Coast live oak	<i>Quercus agrifolia</i>	-	5	1	6
Valley oak	<i>Quercus lobata</i>	13	63	14	90
California pepper	<i>Schinus molle</i>	1	-	-	1
Coast redwood	<i>Sequoia sempervirens</i>	-	6	14	20
California bay	<i>Umbellularia californica</i>	-	1	-	1
Mexican fan palm	<i>Washingtonia robusta</i>	-	2	1	3
Total		29	120	40	189



Photo 1 (left) – Valley oak #170 was typical of the valley oaks growing on the interior of the site with codominant and sinuous trunks.

Photo 2 (above) – Valley oaks #285-288 were growing along the southern boundary of the property and were some of the largest valley oaks with wide spreading crowns typical of open grown oaks.

Valley oak was by far the most common species assessed (90 trees, 48% of population). The valley oaks were in fair condition (63 trees) with 14 trees in good condition and 13 trees in poor condition. They ranged in development from young (6" trunk diameter) to mature (27" trunk diameter) with an average trunk diameter of 12". The majority of the valley oaks were in typical oak woodland form where they grow relatively densely with multiple, sinuous trunks (Photo 1). The valley oaks growing along the southern boundary of the property were the largest with wide spreading crowns typical of open grown oaks (Photo 2).

Thirty-four glossy privets were large enough to be included as trees. They were primarily small shrubby trees growing in dense hedges.

Twenty (20) coast redwoods were assessed (11% of the population). Fourteen redwoods were growing off-site near the eastern boundary of the property. The redwoods were in good (14 trees) to fair (6 trees) condition with no trees in poor condition. The coast redwoods ranged in development from young (8" trunk diameter) to mature 38" trunk diameter) with an average trunk diameter of 18".

The largest trees assessed were blue gums (6 trees, 3% of the population). Two mature blue gums (#203 and 204) were in poor condition and growing in the center of the site. The largest tree assessed was blue gum #204 (Photo 3). Four semi-mature blue gums were growing along Del Hombre Lane (#235-238). They were growing against the sidewalk (Photo 4) and likely have root damage from the infrastructure conflict.

Of the trees representing less than 3% of the population, the following were most noteworthy:

- Four Douglas firs were growing on the southeastern corner of the property (Photo 5). These trees were in good (3 trees) to fair (1 tree) condition and semi-mature (16" average trunk diameter).
- Two of the four English walnuts (#210 and 213) had wide spreading crowns that were dominant trees in the back yard of the house in the southeastern corner.
- Three Mexican fan palms were growing together in a clump in the center of the property. They were approximately 45 feet tall and had full skirts to the ground.

- An over-mature California pepper was in poor condition near the eastern boundary of the property.

Contra Costa County protects all trees 7" in diameter or greater on properties which has remaining development potential (172 trees). *Protected* trees cannot be removed or construction occur within the dripline without a permit. Protected status of individual trees is identified in the **Tree Assessment** (see Exhibits).



Photo 3 (upper left) – Blue gums #203 and 204 were the largest trees assessed and were in poor condition.

Photo 4 (upper right) – Blue gums #237 and 238 were growing against the sidewalk and likely have root injuries.

Photo 5 (right) – Douglas firs #215-217 bordered the southeastern corner of the property.



Suitability for Preservation

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

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

Evaluation of suitability for preservation considers several factors:

- **Tree health**
Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than are non-vigorous trees. For example, California pepper #219 was in poor condition and would not tolerate construction damage as well as a healthier pepper;
- **Structural integrity**
Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely. For example, blue gum #203 had poor form and structure which increases the likelihood of failure compared to structurally sound trees;
- **Species response**
There is a wide variation in the response of individual species to construction impacts and changes in the environment. For instance, coast redwoods are more tolerant of root pruning than valley oaks;
- **Tree age and longevity**
Mature trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change; and
- **Species invasiveness**
Species that spread across a site and displace desired vegetation are not always appropriate for retention. This is particularly true when indigenous species are displaced. The California Invasive Plant Inventory Database <http://www.cal-ipc.org/plants/inventory/> lists species identified as being invasive. Contra Costa County is part of the Central West Floristic Province. Blackwood acacia, glossy privet, blue gum and California pepper are listed as limited invasiveness. Fig and Mexican fan palm are listed as moderate invasiveness.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (see **Tree Assessment** in Exhibits, and Table 2). We consider trees with “high” suitability for preservation to be the best candidates for preservation. We do not recommend retention of trees with “low” suitability for

preservation in areas where people or property will be present. Retention of trees with “moderate” suitability for preservation depends upon the intensity of proposed site changes.

**Table 2. Tree suitability for preservation
Del Hombre Lane, Contra Costa County, CA**

High	These are trees with good health and structural stability that have the potential for longevity at the site. Thirty-two (32) trees had “high” suitability for preservation.
Moderate	Trees in this category have fair health and/or structural defects that may be abated with treatment. These trees require more intense management and monitoring, and may have shorter life-spans than those in the “high” category. Fifty-two (52) trees had “moderate” suitability for preservation.
Low	Trees in this category are in poor health or have significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. One hundred five (105) trees had “low” suitability for preservation.

Evaluation of Impacts and Recommendations

The *Tree Assessment* was the reference point for tree health, condition, and suitability for preservation. I used the *Landscape Plan* created by GWH dated May 6, 2019 to evaluate impacts to trees. The plan shows the entire site being demolished and converted to an apartment complex. Surveyed trunk locations for trees identified for preservation were overlaid with development plans.

The disposition of each tree is shown in the **Tree Disposition Table** (see Exhibits). Based on my evaluation of the plans:

- One hundred sixty-one (161) trees will be removed (145 *Protected*).
- Twenty-eight (28) trees will be potentially preserved (27 *Protected*).

The entire site will be graded and developed. Most on-site trees are within the grading footprint and will be removed. Additionally, three property line trees will be removed:

- English walnut #213 is one foot from planned grading.
- California pepper #219 is in poor condition with decay throughout the main stem and approximately 12 feet from the emergency access road.
- London plane #347 is within a planned sidewalk.

Off-site trees (18 trees) and trees on (9 trees) or near (#257) the property line are the only trees that can potentially be preserved. These trees will be impacted to varying degrees by the planned construction. Grading near the property line, building fences, pruning for clearance and constructing pathways will impact trees. Contra Costa County regulates construction within the dripline of *Protected* trees and permission should be secured prior to construction.

It is not possible to provide the Tree Protection Zones that I would typically recommend for many of these trees. Root and canopy pruning for several trees will likely be required. Features of the plans that will be particularly important for tree preservation are:

- the possibility of building suspended sidewalks if roots are discovered along the southern boundary

- The height of the courtyard limiting pruning required for tree #205 and 206, and
- Limiting grading to hand work within 15 feet of tree #211.

Making clean cuts in appropriate locations will help limit decay, but the grading and construction along the southern and eastern boundaries will be within 10 feet of mature trees. I recommend that the Consulting Arborist monitors excavation within 10 feet of the southern and eastern boundaries of the property and provides recommendations about root pruning. If root pruning is severe enough, the Consulting Arborist may recommend tree removal. I am most concerned about tree #271 which has a water pipeline trench and a sidewalk approximately 6 feet from its trunk.

I recommend establishing Tree Protection Zones and following the **Tree Preservation Guidelines** below.

Tree Preservation Guidelines

The goal of tree preservation is not merely tree survival during development but maintenance of tree health and beauty for many years. Trees retained on sites that are either subject to extensive injury during construction or are inadequately maintained become a liability rather than an asset. The response of individual trees will depend on the amount of excavation and grading, the care with which demolition is undertaken and the construction methods. Coordinating any construction activity inside the **TREE PROTECTION ZONE** can minimize these impacts.

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

Tree Protection Zone

1. A **TREE PROTECTION ZONE** shall be identified for each tree to be preserved. The **TREE PROTECTION ZONE** along the southern and eastern boundary will be 10 feet from the property line.
2. Fence all trees to be retained to completely enclose the **TREE PROTECTION ZONE** prior to demolition, grubbing or grading. Fences shall be 6 ft. chain link with posts sunk into the ground or equivalent as approved by the County.
3. Fences must be installed prior to beginning demolition and must remain until construction is complete. The Consulting Arborist shall inspect Tree Protection Fencing prior to demolition or construction activities.
4. No grading, excavation, construction or storage or dumping of materials shall occur within the **TREE PROTECTION ZONE**.
5. No underground services including utilities, sub-drains, water or sewer shall be placed in the **TREE PROTECTION ZONE**.

Design recommendations

1. Any changes to the plans affecting the trees should be reviewed by the Consulting Arborist with regard to tree impacts. These include, but are not limited to, site plans, improvement plans, utility and drainage plans, grading plans, landscape and irrigation plans and demolition plans.
2. Plan for tree preservation by designing adequate space around trees to be preserved. This is the **TREE PROTECTION ZONE**: No grading, excavation, construction or storage of materials should occur within that zone. Route underground services including utilities, sub-drains, water or sewer around the **TREE PROTECTION ZONE**.

3. Consider the vertical clearance requirements near trees during design. Avoid designs that would require pruning more than 20% of a tree's canopy.
4. Irrigation systems must be designed so that no trenching severs roots larger than 1" in diameter within the **TREE PROTECTION ZONE**.
5. **Tree Preservation Guidelines** prepared by the Consulting Arborist, which include specifications for tree protection during demolition and construction, should be included on all plans.
6. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.
7. Do not lime the subsoil within 50' of any tree. Lime is toxic to tree roots.
8. As trees withdraw water from the soil, expansive soils may shrink within the root area. Therefore, foundations, footings and pavements on expansive soils near trees should be designed to withstand differential displacement.
9. Ensure adequate but not excessive water is supplied to trees; in most cases occasional irrigation will be required. Avoid directing runoff toward trees.

Pre-demolition and pre-construction treatments and recommendations

1. The demolition and construction superintendents shall meet with the Consulting Arborist before beginning work to review all work procedures, access routes, storage areas and tree protection measures.
2. Fence all trees to be retained to completely enclose the Tree Protection Zone prior to demolition, grubbing or grading. Fences shall be 6 ft. chain link. Fences are to remain until all grading and construction is completed.
3. Apply and maintain 4-6" wood chip mulch within the **TREE PROTECTION ZONE**. Keep the mulch 2' from the base of tree trunks.
4. Branches extending into the work area that can remain following demolition shall be tied back and protected from damage.
5. Fences are to remain until all grading and construction is completed. Where demolition must occur close to trees, such as removing curb and pavement, install trunk protection devices such as winding silt sock wattling around trunks or stacking hay bales around tree trunks.
6. Prune trees to be preserved to clean the crown of dead branches 1" and larger in diameter and raise canopies as needed for construction activities:
 - a. All pruning shall be done by a State of California Licensed Tree Contractor (C61/D49). All pruning shall be done by a Certified Arborist or Certified Tree Worker in accordance with the Best Management Practices for Pruning (International Society of Arboriculture, 2002) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300).
 - b. The Consulting Arborist will provide pruning specifications prior to site demolition.
 - c. Branches extending into the work area that can remain following demolition shall be tied back and protected from damage.
 - d. While in the tree the arborist shall perform an aerial inspection to identify any defects, weak branch and trunk attachments and decay not visible from the ground. Any additional work needed to mitigate defects shall be reported to the property owner.
7. Tree(s) to be removed that have branches extending into the canopy of the tree(s) or located within the **TREE PROTECTION ZONE** of tree(s) to remain shall be removed by a Certified Arborist

or Certified Tree Worker and not by the demolition contractor. The Certified Arborist or Certified Tree Worker shall remove the trees in a manner that causes no damage to the tree(s) and understory to remain. Stumps shall be ground below grade.

8. Trees to be removed shall be felled so as to fall away from the **TREE PROTECTION ZONE** and avoid pulling and breaking of roots of trees to remain. If roots are entwined, the Consulting Arborist may require first severing the major woody root mass before extracting the tree(s), or grinding the stump below ground.
9. All down brush and trees shall be removed from the **TREE PROTECTION ZONE** either by hand, or with equipment sitting outside the **TREE PROTECTION ZONE**. Extraction shall occur by lifting the material out, not by skidding across the ground. Brush shall be chipped and spread beneath the trees within the **TREE PROTECTION ZONE**.
10. Structures and underground features to be removed within the **TREE PROTECTION ZONE** shall use equipment that will minimize damage to trees above and below ground, and operate from outside the **TREE PROTECTION ZONE**. Tie back branches and wrap trunks with protective materials to protect from injury as directed by the Consulting Arborist. The Consulting Arborist shall be on-site during all operations within the **TREE PROTECTION ZONE** to monitor demolition activity.
11. All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. To the extent feasible, tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work. Qualified biologists should be involved in establishing work buffers for active nests.

Recommendations for tree protection during construction

1. Any approved grading, construction, demolition or other work within the **TREE PROTECTION ZONE** should be monitored by the Consulting Arborist.
2. All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved.
3. Tree protection devices are to remain until all site work has been completed within the work area. Fences or other protection devices may not be relocated or removed without permission of the Consulting Arborist.
4. Construction trailers, traffic and storage areas must remain outside the **TREE PROTECTION ZONE** at all times.
5. Any root pruning required for construction purposes shall receive the prior approval of and be supervised by the Consulting Arborist. Roots should be cut with a saw to provide a flat and smooth cut. Removal of roots greater than 2" in diameter should be avoided.
6. If roots 2" and greater in diameter are encountered during site work and must be cut to complete the construction, the Consulting Arborist must be consulted to evaluate effects on the health and stability of the tree and recommend treatment.
7. Any brush clearing required within the **TREE PROTECTION ZONE** shall be accomplished with hand-operated equipment.
8. All down brush and trees shall be removed from the **TREE PROTECTION ZONE** either by hand, or with equipment sitting outside the **TREE PROTECTION ZONE**. Extraction shall occur by lifting the material out, not by skidding across the ground.
9. Prior to grading or trenching, trees may require root pruning outside the **TREE PROTECTION ZONE**. Any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the Consulting Arborist.

10. Spoil from trench, footing, utility or other excavation shall not be placed within the **TREE PROTECTION ZONE**, neither temporarily nor permanently.
11. All grading within the dripline of trees shall be done using the smallest equipment possible. The equipment shall operate perpendicular to the tree and operate from outside the **TREE PROTECTION ZONE**. Any modifications must be approved and monitored by the Consulting Arborist.
12. All trees shall be irrigated on a schedule to be determined by the Consulting Arborist (every 3 to 6 weeks is typical). Each irrigation shall wet the soil within the **TREE PROTECTION ZONE** to a depth of 18".
13. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
14. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the **TREE PROTECTION ZONE**.
15. Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist or Certified Tree Worker and not by construction personnel.

Maintenance of impacted trees

Our procedures included assessing trees for observable defects in structure. This is not to say that trees without significant defects will not fail. Failure of apparently defect-free trees does occur, especially during storm events. Wind forces, for example, can exceed the strength of defect-free wood causing branches and trunks to break. Wind forces coupled with rain can saturate soils, reducing their ability to hold roots, and blow over defect-free trees. Although we cannot predict all failures, identifying those trees with observable defects is a critical component of enhancing public safety.

Furthermore, trees change over time. Our inspections represent the condition of the tree at the time of inspection. As trees age, the likelihood of failure of branches or entire trees increases. Annual tree inspections are recommended to identify changes to tree health and structure. In addition, trees should be inspected after storms of unusual severity to evaluate damage and structural changes. Initiating these inspections is the responsibility of the client and/or tree owner.

Preserved trees will experience a physical environment different from that of pre-development. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority.

If you have any questions about my observations or recommendations, please contact me.

HortScience | Bartlett Consulting



Ryan Gilpin, M.S.
Certified Arborist #WE-10268A



Exhibits

Tree Assessment Plan

Tree Assessment

Tree Disposition



Walnut Creek, CA



www.hortscience.com

Tree Assessment

Del Hombre
Contra Costa County
January 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments	Dripline (feet)			
							North	East	South	West
160	Valley oak	13	Yes	3	Low	Codominant trunks arise from 6 feet; sinuous form; crown one sided south.	0	10	25	20
161	Valley oak	15	Yes	3	Moderate	Codominant trunks arise from 8 feet with included bark; crown one sided north; epicormic.	20	12	12	10
162	Valley oak	11	Yes	3	Low	Codominant trunks arise from 9 feet with wide attachment; leaning west; crown one sided west.	10	0	15	20
163	Valley oak	14	Yes	4	High	Codominant trunks arise from 15 feet; high vase shaped crown.	15	15	15	20
164	Valley oak	16,14	Yes	3	Moderate	Codominant trunks arise from 3 feet; wide spreading crown in two dimensions; very little crown in center of tree.	30	10	20	20
165	Valley oak	24	Yes	4	High	Multiple trunks arise from 12 feet; dominant tree; high wide spreading case shaped crown.	25	20	20	20
166	Valley oak	9,7	Yes	3	Moderate	Codominant trunks arise from 1 foot with seam; bushy, narrow form.	15	10	5	10
167	Valley oak	16	Yes	3	Moderate	Codominant trunks arise from 6 feet; narrow bushy crown; crown one sided south.	15	15	15	15
168	Valley oak	10	Yes	3	Low	Narrow crown, interior tree.	10	15	10	10
169	Valley oak	14	Yes	3	Moderate	Codominant trunks arise from 15 feet; narrow upright form; leaning west, crown one sided west.	20	12	15	15
170	Valley oak	10	Yes	3	Moderate	Codominant trunks arise from 9 feet; small tree; crown slightly one sided south.	15	15	15	15
171	Valley oak	9	Yes	3	Low	Interior tree; trunk sweeps south to light; tall, narrow form.	0	5	15	5
172	Valley oak	20,10,7,5	Yes	4	Moderate	Multiple trunks arise from 2 feet; dominant tree; wide spreading crown.	20	20	20	20
173	Valley oak	9	Yes	3	Low	Interior tree; trunk bows north to light; tall, narrow form.	25	5	0	5
174	Valley oak	10	Yes	3	Moderate	Multiple trunks arise from 20 feet; tall, narrow crown.	8	8	8	8
175	Coast live oak	9	Yes	3	Moderate	Tall narrow form; trunk sweeps south; dense crown.	5	5	15	10
176	Coast redwood	14	Yes	3	Moderate	Trunk sweeps east; thin upper crown.	10	12	8	5
177	Valley oak	16,7	Yes	3	Low	Codominant trunks arise from base; seam from base to attachment at 5 feet; dense bushy crown.	15	15	15	15
178	Valley oak	11	Yes	3	Low	Codominant trunks arise from 12 feet with included bark; narrow upright form; small crown.	10	10	15	15
179	Valley oak	11	Yes	3	Low	Codominant trunks arise from 12 feet with included bark; group of 4 trees; trunk sweeps north.	15	10	8	8
180	Valley oak	9	Yes	3	Low	Codominant trunks arise from 8 feet with included bark; group of 4 trees; trunk bows west.	15	0	10	15
181	Valley oak	10	Yes	3	Low	Group of 4 trees; trunk bows west.	0	0	20	20
182	Valley oak	10	Yes	3	Moderate	Group of 4 trees; narrow upright form.	8	10	15	10
183	Valley oak	10	Yes	2	Low	Multiple trunks arise from 6 feet, fused together; crown one sided west.	20	0	5	10
184	Valley oak	16	Yes	4	High	Multiple trunks arise from 20 feet; wide spreading crown; dominant tree; many shrubs growing into crown.	20	20	10	15

Tree Assessment

Del Hombre
Contra Costa County
January 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments	Dripline (feet)			
							North	East	South	West
185	Valley oak	16	Yes	3	Low	Multiple trunks arise from 15 feet; bowed heavily west; growing in privet hedge.	20	15	0	15
186	Valley oak	14	Yes	3	Moderate	Codominant trunks arise from 20 feet; narrow upright form; small crown; growing in privet hedge.	15	15	15	15
187	Valley oak	14	Yes	4	Moderate	Codominant trunks arise from 15 feet; crown one sided west; growing in privet hedge.	10	10	20	20
188	Fig	9,7	Yes	2	Low	Poor form and structure; short dense foliage.	8	8	8	8
189	Valley oak	9	Yes	3	Low	Narrow upright form; dead branches; growing in privet hedge.	10	10	10	10
190	Valley oak	9	Yes	2	Low	Sinuous trunk; interior tree; growing in privet hedge.	20	15	0	0
191	Valley oak	9	Yes	3	Low	Trunk bowed north; narrow form; small crown.	20	5	0	10
192	Valley oak	18	Yes	3	Low	Codominant trunks arise from 20 feet with included bark; crook in trunk at 10 feet; vase shaped crown; dominant tree.	20	20	20	20
193	Valley oak	17,14,9,9,5	Yes	4	High	Multiple trunks arise from 1 feet; vase shaped crown; dominant tree.	20	20	20	20
194	Valley oak	14	Yes	3	Low	Codominant trunks arise from 10 feet; narrow two dimensional crown.	20	10	15	15
195	Valley oak	20,14	Yes	4	Moderate	Multiple trunks arise from 3 feet with seam; wide spreading crown one sided east.	20	15	20	5
196	Valley oak	10,8	Yes	3	Moderate	Codominant trunks arise from 1 foot with seam; leaning slightly north.	15	15	5	15
197	Valley oak	10	Yes	2	Low	Codominant trunks arise from 10 feet with seam; very narrow crown; ivy growing on tree.	10	0	0	10
198	Valley oak	13	Yes	3	Moderate	Codominant trunks arise from 15 feet; bowed slightly south.	15	10	10	15
199	Valley oak	10	Yes	3	Moderate	Narrow upright form; crown one sided south.	5	15	15	10
200	Mexican fan palm	18	Yes	3	Moderate	45 foot brown trunk height; group of three; sweeps east; full skirt.	5	15	5	0
201	Mexican fan palm	20	Yes	4	High	45 foot brown trunk height; group of three; full skirt.	15	5	0	5
202	Mexican fan palm	19	Yes	3	Moderate	45 foot brown trunk height; group of three; full skirt; sweeps west.	5	0	5	15
203	Blue gum	61	Yes	2	Low	Poor form and structure; bushy growth; decay.	20	20	20	20
204	Blue gum	65	Yes	2	Low	Poor form and structure; poorly attached main stems at 10 feet; dominant tree.	20	20	20	20
205	Valley oak	11	Yes	2	Low	Trunk bowed heavily north.	25	5	0	5
206	Valley oak	26	Yes	4	Moderate	Property line tree; dominant tree; 4 feet from power pole crotch cut.	25	15	25	15
207	Valley oak	11	Yes	3	Moderate	Codominant trunks arise from 10 feet with included bark; narrow upright form; small crown.	10	10	10	10
208	Coast live oak	9	Yes	4	High	Codominant trunks arise from 15 feet; dense upright crown.	8	8	8	8
209	Glossy privet	9,6,5,5	Yes	3	Moderate	Multiple trunks arise from 1 foot with twisting trunks; dense crown.	10	10	10	10
210	English walnut	33	Yes	3	Moderate	Multiple trunks arise from 8 feet; dominant tree; vase shaped crown; 10 feet from building.	20	20	20	20

Tree Assessment

Del Hombre
Contra Costa County
January 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments	Dripline (feet)			
							North	East	South	West
211	Valley oak	19	Yes	4	High	Multiple trunks arise from 25 feet; crown one sided west; crowded by neighboring trees.	15	15	15	15
212	English walnut	16	Yes	3	Low	Base at building; codominant trunks arise from 8 feet; history of branch failure.	15	8	15	10
213	English walnut	32	Yes	4	Moderate	Multiple trunks arise from 12 feet; lion tailed; long levers; ivy growing up trunk.	25	25	25	25
214	Douglas fir	12	Yes	4	Moderate	Good form and structure; growing into crown of neighboring walnut.	8	8	8	12
215	Douglas fir	14	Yes	4	High	Good form and structure; growing on property edge.	15	8	8	8
216	Douglas fir	21	Yes	4	High	Good form and structure; growing on property edge; dense crown.	15	5	10	15
217	Douglas fir	15	Yes	3	Moderate	Codominant trunks arise from 20 feet; thin crown.	15	10	8	15
218	Valley oak	17	Yes	3	Moderate	Codominant trunks arise from 10 feet with seam; basal wound; wide spreading crown.	20	20	20	20
219	California pepper	40	Yes	2	Low	Property line tree; codominant trunks arise from 8 feet; 2 foot wide cavity; most of trunk hollow.	15	15	20	25
220	Glossy privet	10,9,7,6,4,4	Yes	2	Low	Multiple trunks arise from base; covered in ivy; cannot see much of tree; dead branches; declining.	15	15	15	15
221	Italian cypress	16	Yes	3	Low	Typical form; no foliage to 15 feet on south side; declining.	5	5	5	5
222	Valley oak	18	Yes	3	Low	Codominant trunks arise from 12 feet with seam; heavy lean south, corrected upright.	10	10	20	10
223	Valley oak	12	Yes	3	Low	Codominant trunks arise from 12 feet; bowed heavily south.	10	10	20	10
224	Valley oak	13,7	Yes	3	Low	Codominant trunks arise from base fused together twice; upright stem has wide spreading crown.	10	10	15	20
225	Valley oak	14	Yes	3	Moderate	Multiple trunks arise from 15 feet; wide spreading crown; slightly one sided south.	15	20	20	15
226	Valley oak	17	Yes	3	Moderate	Multiple trunks arise from 12 feet; wide spreading crown; slightly one sided west.	20	15	25	20
227	Valley oak	13,8,4	Yes	3	Moderate	Multiple trunks arise from base; crown one sided north.	20	15	5	15
228	Blackwood acacia	15	Yes	1	Low	Most of tree failed.	5	10	10	10
229	Valley oak	13	Yes	3	Low	Codominant trunks arise from 12 feet with seam; leaning east; small crown.	15	20	10	5
230	Date palm	35	Yes	4	High	15 foot; brown trunk height; dense fronds.	15	15	15	15
231	Date palm	42	Yes	4	High	15 foot; brown trunk height; dense fronds.	15	15	15	15
232	Date palm	45	Yes	4	High	15 foot; brown trunk height; dense fronds.	15	15	15	15
233	California bay	14	Yes	3	Low	Codominant trunks arise from 6 feet; interior tree; suppressed.	15	15	15	15
234	Valley oak	9	Yes	3	Low	Codominant trunks arise from 10 feet with included bark; narrow upright form; small crown.	15	15	10	10
235	Blue gum	35,18,8,8,6	Yes	3	Low	Multiple trunks arise from base; at sidewalk; smashing utility box; thick ribbons of response growth.	10	20	25	10
236	Blue gum	18	Yes	3	Low	Multiple stems arise from upper crown; lifting sidewalk; trunk pressing directly on sidewalk.	15	15	10	20

Tree Assessment

Del Hombre
Contra Costa County
January 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments	Dripline (feet)			
							North	East	South	West
237	Blue gum	37	Yes	3	Low	Multiple stems arise from upper crown; growing into sidewalk, displaced sidewalk by 4 inches; trunk flat against sidewalk.	15	20	15	25
238	Blue gum	31	Yes	3	Low	Multiple trunks arise from 5 feet; trunk pressing directly on sidewalk.	15	20	5	20
239	Monterey pine	14	Yes	2	Low	Good form and structure; thin crown; declining.	18	18	18	18
240	Valley oak	17	Yes	3	Low	Leaning north; crown one sided north.	20	15	5	15
241	California buckeye	11	Yes	2	Low	Multiple trunks arise from 4 feet; several dead branches; declining.	15	15	15	15
242	Valley oak	12	Yes	2	Low	Codominant trunks arise from 20 feet with narrow attachment; very small crown; buds not elongating.	10	5	5	5
243	Incense cedar	21	Yes	2	Low	Trunk sweeps east; thin crown; declining.	15	10	15	15
244	Valley oak	21	Yes	4	High	Multiple stems arise from 20 feet; crook in trunk at 10 feet; wide spreading crown; dominant tree.	15	20	10	15
245	Valley oak	14	Yes	3	Moderate	Multiple trunks arise from 20 feet; crown one sided south.	0	10	20	10
246	Valley oak	13,4	Yes	3	Low	Codominant trunks arise from 2 feet; tree bows heavily north.	15	10	0	10
247	Plum	9	Yes	1	Low	All but dead.	0	0	0	0
248	Glossy privet	9,7,4	Yes	2	Low	Multiple trunks arise from base; narrow crown; several dead branches.	15	15	15	15
249	Valley oak	16	Yes	3	Moderate	Multiple trunks arise from upper crown; leaning north; hose embedded in trunk at 15 feet.	20	20	20	20
250	Glossy privet	9,4,4,3	Yes	3	Low	Multiple trunks arise from base; bushy.	15	15	15	15
251	English walnut	21	Yes	3	Moderate	Multiple trunks arise from 8 feet; wide crown; thin crown; lion tailed; competing with neighboring bushes.	20	20	20	20
252	Southern magnolia	10	Yes	4	High	Good form and structure; minor dieback.	15	15	15	15
253	Glossy privet	9,8,6,5,5,3	Yes	3	Moderate	Multiple trunks arise from base; bushy.	20	20	20	20
254	Coast redwood	30	Yes	3	Moderate	Good form and structure; thin crown.	20	20	20	20
255	Coast redwood	11	Yes	4	High	Good young tree.	10	10	10	10
256	Valley oak	13	Yes	3	Low	Codominant trunks arise from 15 feet with seam; narrow form; small crown.	20	5	5	5
257	Valley oak	9	Yes	3	Low	Bowed west; narrow form; small crown.	0	0	5	15
258	Valley oak	23	Yes	3	Low	Codominant trunks arise from 15 feet with unusual attachment; inspect weak attachments.	25	25	25	25
259	Coast redwood	12	Yes	3	Moderate	Good form and structure; thin crown; interior tree.	10	10	10	10
260	Coast redwood	14	Yes	3	Moderate	Lower trunk sweeps south; dense upper crown.	15	15	15	15
261	Valley oak	10	Yes	2	Low	Poor form and structure; interior tree.	8	8	20	15
262	Modesto ash	9	Yes	3	Moderate	Sinuuous upper trunk; narrow crown; deciduous.	15	15	15	15
263	Valley oak	11	Yes	4	Moderate	Codominant trunks arise from 25 feet with seam; vase shaped crown.	15	15	15	15
264	Ginkgo	11	Yes	4	High	Good form and structure; competing with privet hedges; deciduous.	15	15	15	5

Tree Assessment

Del Hombre
Contra Costa County
January 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments	Dripline (feet)			
							North	East	South	West
265	Valley oak	14	Yes	3	Moderate	Codominant trunks arise from 15 feet with seam; bowed east.	15	25	15	10
266	Valley oak	18,8	Yes	3	Moderate	Codominant trunks arise from 4 feet with seam; wide spreading crown; competing with privet hedge.	20	20	20	20
267	Valley oak	13,10,8	Yes	3	Moderate	Multiple trunks arise from base; all stems bowed east.	20	15	5	15
268	Valley oak	16	Yes	4	Moderate	Codominant trunks arise from 15 feet with seam; case shaped crown dominant tree.	15	15	15	15
269	Valley oak	12	Yes	3	Low	Codominant trunks arise from 15 feet; bowed heavily north.	10	0	10	20
270	Valley oak	16	Yes	3	Moderate	Codominant trunks arise from 10 feet with seam; vase shaped crown; one sided north.	20	20	10	20
271	Coast redwood	23	Yes	4	High	Off-site; good form and structure; dense crown; difficult to see top.	12	12	12	12
272	Coast redwood	25	Yes	4	High	Off-site; good form and structure; dense crown; difficult to see top.	12	12	12	12
273	Coast redwood	15	Yes	4	High	Off-site; good form and structure; dense crown; difficult to see top.	10	10	10	10
274	Coast redwood	10	Yes	4	High	Off-site; good form and structure; dense crown; difficult to see top; growing into oak crown.	12	12	12	5
275	Coast redwood	18	Yes	4	High	Off-site; good form and structure; dense crown; difficult to see top.	15	15	15	15
276	Coast redwood	20	Yes	4	High	Off-site; good form and structure; dense crown; difficult to see top.	10	10	10	15
277	Coast redwood	32	Yes	4	High	Off-site; good form and structure; dense crown; difficult to see top.	10	15	15	18
278	Coast redwood	38	Yes	4	High	Off-site; good form and structure; dense crown; difficult to see top.	20	15	10	20
279	Coast redwood	20	Yes	4	High	Off-site; good form and structure; dense crown; difficult to see top.	10	10	10	10
280	Coast redwood	22	Yes	4	High	Off-site; good form and structure; dense crown; difficult to see top.	10	15	10	15
281	Coast redwood	13	Yes	4	High	Off-site; good form and structure; dense crown; difficult to see top.	10	10	10	10
282	Coast redwood	20	Yes	3	Moderate	Off-site; good form and structure; epicormic.	8	8	8	8
283	Coast redwood	10	Yes	4	High	Off-site; good form and structure; suppressed.	10	10	10	10
284	Coast redwood	11	Yes	4	High	Off-site; good form and structure; suppressed.	15	15	15	15
285	Valley oak	22	Yes	4	High	Off-site; codominant trunks arise from 7 feet; wide spreading crown; base 1 foot from fence; crown overhangs by 20 feet.	18	15	20	18
286	Valley oak	27	Yes	4	High	Off-site; multiple trunks arise from 5 feet; wide spreading crown; base at fence; crown overhangs by 35 feet.	25	15	25	15
287	Valley oak	20	Yes	3	Moderate	Off-site; codominant trunks arise from 10 feet; two dimensional crown; base one foot from fence; crown overhangs by 15 feet.	15	15	20	15

Tree Assessment

Del Hombre
Contra Costa County
January 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments	Dripline (feet)			
							North	East	South	West
288	Valley oak	15	Yes	3	Low	Off-site; leans heavily south; base one foot from fence; crown overhangs by 0 feet.	0	10	25	0
289	Purpleleaf plum	6	No	3	Moderate	Small shrubby tree.	5	5	5	5
290	Coast live oak	7	Yes	3	Low	Growing in group of trees; leaning east; dense crown; narrow upright form.	5	5	5	5
291	Valley oak	6	No	2	Low	Narrow upright firm; 16 inch long decaying trunk wound.	5	5	5	5
292	Valley oak	6	No	3	Low	Bowed heavily west towards road.	5	5	5	5
293	Valley oak	6	No	2	Low	Stunted; growing under blue gum; top dead.	5	5	5	5
294	Valley oak	8	Yes	3	Moderate	Narrow upright form; codominant trunks arise from 10 feet; minor dieback.	5	5	5	5
295	Glossy privet	6,3	No	3	Low	Shrub; part of hedge.	5	5	5	5
296	Valley oak	6	No	1	Low	Bowed west to horizontal.	5	0	5	10
297	Valley oak	7	Yes	3	Low	Narrow upright form; interior tree.	5	5	5	5
298	Valley oak	6	No	3	Low	Narrow upright form; interior tree.	5	5	5	5
299	Valley oak	8	Yes	3	Low	Short stunted tree; crown one sided west.	5	5	5	5
300	Glossy privet	6	No	3	Low	Shrub; part of hedge.	5	5	5	5
301	Glossy privet	6,4,4	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
302	Valley oak	6	No	2	Low	Topped under utilities.	5	5	5	5
303	Valley oak	8	Yes	3	Low	Narrow upright form; sinuous trunk; pruned for utilities.	5	5	5	5
304	Valley oak	8,6	Yes	3	Low	Codominant trunks arise from 3 feet; bowed heavily north.	5	5	5	5
305	Valley oak	7	Yes	2	Low	Narrow form; interior tree; covered in ivy.	5	5	5	5
306	Valley oak	7	Yes	2	Low	Narrow form; interior tree; covered in ivy.	5	5	5	5
307	Valley oak	7	Yes	3	Low	Narrow form; interior tree; top bowed west.	5	5	5	5
308	Glossy privet	6,5,5	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
309	Glossy privet	7,7,6,6,4	Yes	3	Low	Shrub; part of hedge.	8	8	8	8
310	Grapefruit	6	No	4	High	Small bush like tree.	10	0	15	15
311	Glossy privet	7,5,4,4,3,3,3	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
312	Glossy privet	6,5	No	2	Low	Codominant trunks arise from base with decay.	5	5	5	5
313	Valley oak	8,8	Yes	3	Low	Off-site; short stunted form; bowed heavily west.	5	5	5	5
314	Glossy privet	7	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
315	Glossy privet	6,4,3,2	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
316	Glossy privet	6,5,4,4	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
317	Glossy privet	7,5,4,2	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
318	Glossy privet	7,7,6,5,5,5	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
319	Glossy privet	6,4,3,2,2	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
320	Olive	7,5,5,4,3,3	Yes	3	Low	Stump sprout, basal decay.	5	5	5	5

Tree Assessment

Del Hombre
Contra Costa County
January 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments	Dripline (feet)			
							North	East	South	West
321	Glossy privet	6,5,5,2,2	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
322	Glossy privet	7	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
323	Glossy privet	8,5	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
324	Glossy privet	6,5,4	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
325	Glossy privet	7,7,3,3	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
326	Glossy privet	6	No	1	Low	Dying.	5	5	5	5
327	Glossy privet	7	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
328	Glossy privet	6,4,4,3	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
329	Glossy privet	6,3	No	3	Low	Shrub; part of hedge.	5	5	5	5
330	Glossy privet	7,4,4	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
331	Goldenrain tree	8,7	Yes	2	Low	Codominant trunks arise from base; basal decay; crown one sided west.	10	0	0	0
332	Olive	7,6	Yes	3	Low	Codominant trunks arise from base; bowed east.	0	10	0	0
333	Coast live oak	6	No	3	Moderate	Small stunted interior tree.	0	10	0	0
334	Hollywood juniper	9	Yes	2	Low	Leaning heavily north; small crown; 4 foot long trunk wound.	0	0	0	10
335	Valley oak	8	Yes	3	Low	Small interior tree; bowed east.	0	5	5	0
336	Coast live oak	7	Yes	3	Moderate	Small stunted interior tree; bowed south.	8	8	8	8
337	Coast live oak	6	No	3	Moderate	Small stunted interior tree; bowed west.	5	5	5	5
338	Valley oak	6,4	No	1	Low	Mostly dead.	5	5	5	5
339	Coast redwood	8	Yes	3	Low	Narrow interior tree.	5	5	5	5
340	Glossy privet	7	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
341	Glossy privet	6,2,2,1	No	3	Low	Shrub; part of hedge.	5	5	5	5
342	Glossy privet	7	Yes	3	Low	Shrub; part of hedge.	5	5	5	5
343	Glossy privet	7,4,3	Yes	3	Low	Shrub; part of hedge.	0	5	10	5
344	Glossy privet	7,6,4,3	Yes	3	Low	Shrub; part of hedge.	5	0	5	15
345	Glossy privet	7,6,4	Yes	3	Low	Shrub; part of hedge.	5	0	5	15
346	Valley oak	8	Yes	3	Moderate	Sinuuous trunk; interior tree; tagged on fence.	8	8	8	8
347	London plane	9	Yes	2	Low	Property line tree; suppressed; bowed west.	10	5	0	5
348	Valley oak	8	Yes	3	Low	Sinuuous trunk; bowed west.	8	8	8	8

Tree Disposition

Del Hombre
Contra Costa County
May 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Disposition	Comments
160	Valley oak	13	Yes	Remove	-
161	Valley oak	15	Yes	Remove	-
162	Valley oak	11	Yes	Remove	-
163	Valley oak	14	Yes	Remove	-
164	Valley oak	16,14	Yes	Remove	-
165	Valley oak	24	Yes	Remove	-
166	Valley oak	9,7	Yes	Remove	-
167	Valley oak	16	Yes	Remove	-
168	Valley oak	10	Yes	Remove	-
169	Valley oak	14	Yes	Remove	-
170	Valley oak	10	Yes	Remove	-
171	Valley oak	9	Yes	Remove	-
172	Valley oak	20,10,7,5	Yes	Remove	-
173	Valley oak	9	Yes	Remove	-
174	Valley oak	10	Yes	Remove	-
175	Coast live oak	9	Yes	Remove	-
176	Coast redwood	14	Yes	Remove	-
177	Valley oak	16,7	Yes	Remove	-
178	Valley oak	11	Yes	Remove	-
179	Valley oak	11	Yes	Remove	-
180	Valley oak	9	Yes	Remove	-
181	Valley oak	10	Yes	Remove	-
182	Valley oak	10	Yes	Remove	-
183	Valley oak	10	Yes	Remove	-
184	Valley oak	16	Yes	Remove	-

Tree Disposition

Del Hombre
Contra Costa County
May 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Disposition	Comments
185	Valley oak	16	Yes	Remove	-
186	Valley oak	14	Yes	Remove	-
187	Valley oak	14	Yes	Remove	-
188	Fig	9,7	Yes	Remove	-
189	Valley oak	9	Yes	Remove	-
190	Valley oak	9	Yes	Remove	-
191	Valley oak	9	Yes	Remove	-
192	Valley oak	18	Yes	Remove	-
193	Valley oak	17,14,9,9,5	Yes	Remove	-
194	Valley oak	14	Yes	Remove	-
195	Valley oak	20,14	Yes	Remove	-
196	Valley oak	10,8	Yes	Remove	-
197	Valley oak	10	Yes	Remove	-
198	Valley oak	13	Yes	Remove	-
199	Valley oak	10	Yes	Remove	-
200	Mexican fan palm	18	Yes	Remove	-
201	Mexican fan palm	20	Yes	Remove	-
202	Mexican fan palm	19	Yes	Remove	-
203	Blue gum	61	Yes	Remove	-
204	Blue gum	65	Yes	Remove	-
205	Valley oak	11	Yes	Preserve	9 feet from pathway, 19 feet from courtyard
206	Valley oak	26	Yes	Preserve	9 feet from pathway
207	Valley oak	11	Yes	Remove	-
208	Coast live oak	9	Yes	Remove	-
209	Glossy privet	9,6,5,5	Yes	Remove	-

Tree Disposition

Del Hombre
Contra Costa County
May 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Disposition	Comments
210	English walnut	33	Yes	Remove	-
211	Valley oak	19	Yes	Preserve	9 feet from activity lawn
212	English walnut	16	Yes	Remove	-
213	English walnut	32	Yes	Remove	Approx. 7 feet from pathway
214	Douglas fir	12	Yes	Preserve	9 feet from pathway
215	Douglas fir	14	Yes	Preserve	9 feet from pathway
216	Douglas fir	21	Yes	Preserve	8 feet from pathway
217	Douglas fir	15	Yes	Preserve	9 feet from pathway
218	Valley oak	17	Yes	Remove	-
219	California pepper	40	Yes	Remove	Approx. 12 feet from vehicle access, poor condition
220	Glossy privet	10,9,7,6,4,4	Yes	Remove	-
221	Italian cypress	16	Yes	Remove	-
222	Valley oak	18	Yes	Remove	-
223	Valley oak	12	Yes	Remove	-
224	Valley oak	13,7	Yes	Remove	-
225	Valley oak	14	Yes	Remove	-
226	Valley oak	17	Yes	Remove	-
227	Valley oak	13,8,4	Yes	Remove	-
228	Blackwood acacia	15	Yes	Remove	-
229	Valley oak	13	Yes	Remove	-
230	Date palm	35	Yes	Remove	-
231	Date palm	42	Yes	Remove	-
232	Date palm	45	Yes	Remove	-
233	California bay	14	Yes	Remove	-
234	Valley oak	9	Yes	Remove	-

Tree Disposition

Del Hombre
Contra Costa County
May 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Disposition	Comments
235	Blue gum	35,18,8,8,6	Yes	Remove	-
236	Blue gum	18	Yes	Remove	-
237	Blue gum	37	Yes	Remove	-
238	Blue gum	31	Yes	Remove	-
239	Monterey pine	14	Yes	Remove	-
240	Valley oak	17	Yes	Remove	-
241	California buckeye	11	Yes	Remove	-
242	Valley oak	12	Yes	Remove	-
243	Incense cedar	21	Yes	Remove	-
244	Valley oak	21	Yes	Remove	-
245	Valley oak	14	Yes	Remove	-
246	Valley oak	13,4	Yes	Remove	-
247	Plum	9	Yes	Remove	-
248	Glossy privet	9,7,4	Yes	Remove	-
249	Valley oak	16	Yes	Remove	-
250	Glossy privet	9,4,4,3	Yes	Remove	-
251	English walnut	21	Yes	Remove	-
252	Southern magnolia	10	Yes	Remove	-
253	Glossy privet	9,8,6,5,5,3	Yes	Remove	-
254	Coast redwood	30	Yes	Remove	-
255	Coast redwood	11	Yes	Remove	-
256	Valley oak	13	Yes	Remove	-
257	Valley oak	9	Yes	Preserve	7 feet from vehicle access
258	Valley oak	23	Yes	Remove	7 feet from vehicle access
259	Coast redwood	12	Yes	Remove	-

Tree Disposition

Del Hombre
Contra Costa County
May 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Disposition	Comments
260	Coast redwood	14	Yes	Remove	-
261	Valley oak	10	Yes	Remove	-
262	Modesto ash	9	Yes	Remove	-
263	Valley oak	11	Yes	Remove	-
264	Ginkgo	11	Yes	Remove	-
265	Valley oak	14	Yes	Remove	-
266	Valley oak	18,8	Yes	Remove	-
267	Valley oak	13,10,8	Yes	Remove	-
268	Valley oak	16	Yes	Remove	-
269	Valley oak	12	Yes	Remove	-
270	Valley oak	16	Yes	Remove	-
271	Coast redwood	23	Yes	Preserve	6 feet from sidewalk and water line
272	Coast redwood	25	Yes	Preserve	12 feet from vehicle access
273	Coast redwood	15	Yes	Preserve	12 feet from vehicle access
274	Coast redwood	10	Yes	Preserve	12 feet from vehicle access
275	Coast redwood	18	Yes	Preserve	12 feet from vehicle access
276	Coast redwood	20	Yes	Preserve	13 feet from vehicle access
277	Coast redwood	32	Yes	Preserve	14 feet from vehicle access
278	Coast redwood	38	Yes	Preserve	13 feet from bioretention
279	Coast redwood	20	Yes	Preserve	12 feet from pathway
280	Coast redwood	22	Yes	Preserve	13 feet from patio
281	Coast redwood	13	Yes	Preserve	14 feet from patio
282	Coast redwood	20	Yes	Preserve	14 feet from patio
283	Coast redwood	10	Yes	Preserve	15 feet from patio
284	Coast redwood	11	Yes	Preserve	16 feet from patio

Tree Disposition

Del Hombre
Contra Costa County
May 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Disposition	Comments
285	Valley oak	22	Yes	Preserve	12 feet from pathway
286	Valley oak	27	Yes	Preserve	10 feet from pathway
287	Valley oak	20	Yes	Preserve	11 feet from pathway
288	Valley oak	15	Yes	Preserve	11 feet from pathway
289	Purpleleaf plum	6	No	Remove	-
290	Coast live oak	7	Yes	Remove	-
291	Valley oak	6	No	Remove	-
292	Valley oak	6	No	Remove	-
293	Valley oak	6	No	Remove	-
294	Valley oak	8	Yes	Remove	-
295	Glossy privet	6,3	No	Remove	-
296	Valley oak	6	No	Remove	-
297	Valley oak	7	Yes	Remove	-
298	Valley oak	6	No	Remove	-
299	Valley oak	8	Yes	Remove	-
300	Glossy privet	6	No	Remove	-
301	Glossy privet	6,4,4	Yes	Remove	-
302	Valley oak	6	No	Remove	-
303	Valley oak	8	Yes	Remove	-
304	Valley oak	8,6	Yes	Remove	-
305	Valley oak	7	Yes	Remove	-
306	Valley oak	7	Yes	Remove	-
307	Valley oak	7	Yes	Remove	-
308	Glossy privet	6,5,5	Yes	Remove	-
309	Glossy privet	7,7,6,6,4	Yes	Remove	-

Tree Disposition

Del Hombre
Contra Costa County
May 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Disposition	Comments
310	Grapefruit	6	No	Remove	-
311	Glossy privet	7,5,4,4,3,3,3	Yes	Remove	-
312	Glossy privet	6,5	No	Preserve	9 feet from pathway
313	Valley oak	8,8	Yes	Preserve	8 feet from pathway
314	Glossy privet	7	Yes	Remove	-
315	Glossy privet	6,4,3,2	Yes	Remove	-
316	Glossy privet	6,5,4,4	Yes	Remove	-
317	Glossy privet	7,5,4,2	Yes	Remove	-
318	Glossy privet	7,7,6,5,5,5	Yes	Remove	-
319	Glossy privet	6,4,3,2,2	Yes	Remove	-
320	Olive	7,5,5,4,3,3	Yes	Remove	-
321	Glossy privet	6,5,5,2,2	Yes	Remove	-
322	Glossy privet	7	Yes	Remove	-
323	Glossy privet	8,5	Yes	Remove	-
324	Glossy privet	6,5,4	Yes	Remove	-
325	Glossy privet	7,7,3,3	Yes	Remove	-
326	Glossy privet	6	No	Remove	-
327	Glossy privet	7	Yes	Remove	-
328	Glossy privet	6,4,4,3	Yes	Remove	-
329	Glossy privet	6,3	No	Remove	-
330	Glossy privet	7,4,4	Yes	Remove	-
331	Goldenrain tree	8,7	Yes	Remove	-
332	Olive	7,6	Yes	Remove	-
333	Coast live oak	6	No	Remove	-
334	Hollywood juniper	9	Yes	Remove	-

Tree Disposition

Del Hombre
Contra Costa County
May 2019



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Disposition	Comments
335	Valley oak	8	Yes	Remove	-
336	Coast live oak	7	Yes	Remove	-
337	Coast live oak	6	No	Remove	-
338	Valley oak	6,4	No	Remove	-
339	Coast redwood	8	Yes	Remove	-
340	Glossy privet	7	Yes	Remove	Approx. 5 feet from vehicle access
341	Glossy privet	6,2,2,1	No	Remove	-
342	Glossy privet	7	Yes	Remove	-
343	Glossy privet	7,4,3	Yes	Remove	-
344	Glossy privet	7,6,4,3	Yes	Remove	-
345	Glossy privet	7,6,4	Yes	Remove	-
346	Valley oak	8	Yes	Remove	-
347	London plane	9	Yes	Remove	Within hardscape
348	Valley oak	8	Yes	Remove	-