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November 10, 2020

Project # AKT-20

Angelo Christie
EDH 52 General Partnership
7919 Folsom Boulevard, Suite 300
Sacramento, CA 95826

Subject: El Dorado Hills 52 Oak Resources Technical Report

Dear Mr. Christie:

This report presents the results of an updated survey of oak resources on the El Dorado Hills 52 site (Project Site), assesses impacts to oak woodland and oak trees, identifies proposed mitigation measures, and provides recommendations for tree protection measures for trees to be preserved onsite.

BACKGROUND

Oak Resources Management Plan

The County of El Dorado (County) adopted the *El Dorado County Oak Resources Management Plan* (ORMP) on October 24, 2017 and the ORMP went into effect on November 24, 2017. The ORMP designates three classes of protected oak resources: oak woodlands that have at least 10% oak canopy; Heritage Trees, defined as native oaks with a total trunk diameter at breast height of 36 inches or greater; and individual oak trees, defined as native oak trees with a trunk diameter at breast height of 6 inches or greater that are not located in oak woodlands. An oak woodland removal permit is required prior to removal of oak trees that are part of an oak woodland and an oak tree removal permit is required prior to removal of Heritage Trees and individual oak trees. Mitigation for impacts to oak woodlands is based on the total area impacted ranging from 1:1 mitigation for zero to 50 percent removal to 2:1 mitigation for more than 75 percent removal. Mitigation may be completed with a combination of the following options: acquisition of an off-site conservation easement, payment of in-lieu fees, or either on- or off-site replacement planting of up to 50 percent of the required mitigation area. Mitigation for removal of Heritage or individual oak trees requires on- or off-site replacement planting or payment of in-lieu fees at a 3:1 or 1:1 ratio, respectively, to the number of trunk inches removed. Any oak woodland preserved on site and all mitigation planting areas must be protected in perpetuity through deed restrictions or a conservation easement.

Previous Impacts

Four trees on the eastern half of the Project Site were removed for a previously approved Stockpile Project, as identified in the *El Dorado Hills 52 Tree Survey Preservation and Replacement Plan*, dated April 29, 2013, prepared by Foothill Associates. The 2013 Plan states that 56 oak trees will be planted as mitigation for the removal of these four trees on 0.28 acres of upland areas in a preserve west of the drainage within the northwestern portion of the Project Site. Subsequent to the preparation of the 2013 Plan, the project boundary was revised and no longer includes the proposed preserve area. Mitigation for the four trees removed for the Stockpile Project is included in this report.

PROPOSED PROJECT

The approximate 36-acre El Dorado Hills 52 Project is located northeast of the intersection of old Tong Road and Silva Valley Parkway, just north of U.S. Highway 50. The Project Site has been bifurcated by construction of the new alignment of Silva Valley Parkway. Development proposed within the Project Site will ultimately result in the development of approximately 35.37 acres of commercial development. Development is designed and planned to allow either the North Site or the South Site to develop independent from the other. Proposed improvements would include construction of commercial buildings and associated parking, utilities, storm water management facilities, as well as multiple points of access, and a new traffic signal on Silva Valley Parkway. Ancillary amenities include pedestrian walkways, bicycle parking, signage, lighting, and landscaping. A 7.69-acre area within the North Site is dedicated right-of-way associated with the planned future extension of Country Club Drive. A 1.38-acre open space area west of Old Silva Valley Road will not be developed.

METHODOLOGY

Oak trees on the Project Site were surveyed by ISA-Certified Arborist Meredith Branstad (WE-5727A) on December 16, 2013 and re-inspected on January 12, 2015. An additional extension of the Project Site in the northwest corner was inspected by ISA-Certified Arborist Zachary Neider (WE-11615A) on October 15, 2020. A diameter tape or calipers were used to verify each trunk diameter at breast height (DBH), defined as 4.5 feet above grade. The measurement from the trunk to the end of the longest lateral limb was used as the drip line radius (DLR). Each tree was tagged with a pre-printed aluminum tag, which corresponds to the numbering in Table 2 and on Figure 1. Trees that were inaccessible to the arborist were left untagged and assigned an arbitrary number (#1 and #2).

The health and structural condition of all inventoried trees were rated according to Table 1. The health rating considers factors such as the size, color, and density of the foliage; the amount of deadwood within the canopy; bud viability; evidence of wound closure; and the presence or evidence of stress, disease, nutrient deficiency, and/or insect infestation. The structural rating reflects the trunk and branch configuration; canopy balance; the presence of included bark and other structural defects such as decay; and the potential for structural failure. In cases where conditions fall between the Good, Fair, and Poor ratings, intermediate ratings Fair-Good and Poor-Fair were used.

Table 1
TREE RATING GUIDELINES

| Rating | Tree Health |
|--------------------------------|---|
| Good | There is an average or below-average amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density are typical for the species; buds are normal size, viable, abundant, and uniform throughout the canopy; current and past growth increments are generally average or better; any callusing is vigorous. This health rating indicates that there is very little, if any, evidence of stress, disease, nutrient deficiency, and/or insect infestation. |
| Fair | There is an above-average amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density may be below what is typically expected for the species; buds are normal size and viable, but slightly sparse throughout the canopy; current and past growth increments may be below average; tree may be slow to callus around old wounds. This health rating indicates that there is moderate evidence of stress, disease, nutrient deficiency, and/or insect infestation. |
| Poor | There is an extreme amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density are clearly compromised; very few viable buds are present throughout the canopy; current and past growth increments are meager; no evidence of callusing around old wounds. This health rating indicates that there is widespread evidence of stress, disease, nutrient deficiency, and/or insect infestation. |
| Tree Structure and Form | |
| Good | No wounds, cavities, decay, or indication of hollowness are evident in the root crown, trunk, or primary and secondary limbs; no anchor roots are exposed; no codominant branching or multiple trunk attachments are present; very little included bark at branch attachments exists; no dead primary or secondary limbs are present in canopy; there have been no major limb failures; limbs are not overburdened; branching structure is appropriate for species; any decay is limited to small dead branches/stubs. This structure rating represents a low potential for failure. |
| Fair | With respect to the size of the tree, small to moderate wounds, cavities, decay, and indication of hollowness may be evident in the root crown, trunk, and/or primary and secondary limbs; some anchor roots may be exposed; codominant branching or multiple trunk attachments may be present, but included bark does not exist or is not well developed; minor to moderate amounts of included bark at branch attachments may exist; there may be small to moderate amounts of large dead limbs in canopy, but there is no evidence of large limb failures; limbs may be slightly overburdened; branching structure and/or canopy balance may be moderately altered by the tree's growing environment. This structure rating represents a moderate potential for failure. |
| Poor | With respect to the size of the tree, significant wounds, cavities, decay, and/or indication of hollowness may be evident in the root crown, trunk, and/or primary and secondary limbs; anchor roots may be exposed and/or the tree may have lost anchorage; codominant branching or multiple trunk attachments may be present; significant amounts of included bark may exist in trunk and branch attachments; there may be significant amounts of large dead limbs in the canopy; there may be evidence of trunk or large limb failures; limbs may be severely overburdened; branching structure and/or canopy balance may be drastically altered by the tree's growing environment. This structure rating represents a high potential for failure. |

EXISTING CONDITIONS

In total, there is 0.35 acre of valley oak woodland located on the South Site (Figure 1). The valley oak woodland is located along the southwest boundary of the South Site along a small perennial drainage. The understory is composed primarily of annual grasses and forbs such as soft chess (*Bromus hordeaceus*), wild oat (*Avena fatua*), milkweed (*Asclepius fascicularis*), and pennyroyal (*Mentha pulegium*).

A total of 13 protected oak trees consisting of 11 valley oaks (*Quercus lobata*), one interior live oak (*Quercus wislizeni*), and 1 blue oak (*Quercus douglasii*) are present on the Project Site. Two small oaks along the central marsh are too small to be protected under the ORMP. Three trees (#1390, 3385, and 3386) are Heritage Trees. Eight trees are individual trees located outside of oak woodlands. Tree data are shown in Table 2 and tree locations are shown on Figure 1.

Table 2
TREE DATA

| Tree # | Species | DBH (inches) | DLR (feet) | Height (feet) | Health | Structure | Comment |
|-------------|-------------------|--------------|------------|---------------|-----------|-----------|---|
| 1 | Valley Oak | 9, 8 | 15 | 40 | Fair | Fair | No tag, heavy blackberry, codominant |
| 2 | Interior Live Oak | 9, 8, 8 | 16 | 27 | Fair-Good | Fair | No tag, heavy blackberry, codominant |
| 1390 | Valley Oak | 47 | 21 | 60 | Poor-Fair | Poor | Deadwood, limb failure, acorn woodpecker granary tree |
| 1393 | Valley Oak | 21 | 20 | 50 | Fair-Good | Fair-Good | Existing tag, minor dieback |
| 3378 | Valley Oak | 35 | 30 | 40 | Good | Fair-Good | Deadwood |
| 3379 | Valley Oak | 18 | 24 | 40 | Good | Fair-Good | Asymmetrical canopy, suppressed growing environment |
| 3380 | Valley Oak | 33 | 38 | 40 | Good | Good | |
| 3381 | Valley Oak | 27 | 30 | 40 | Good | Good | |
| 3382 | Valley Oak | 27 | 25 | 40 | Good | Fair | Codominant |
| 3383 | Valley Oak | 26 | 23 | 40 | Fair-Good | Fair | Asymmetrical canopy |
| 3384 | Valley Oak | 10 | 13 | 15 | Fair | Fair | Codominant, small leaves |
| 3385 | Blue Oak | 48 | 40 | 60 | Fair-Good | Fair | Asymmetrical canopy, pruning wound, 1 trunk removed |
| 3386 | Valley Oak | 42 | 38 | 60 | Fair-Good | Fair | Deadwood, dieback |

Note: Tree numbers in **bold** are Heritage Trees.

IMPACT ASSESSMENT

The proposed project will remove 0.35 acre of valley oak woodland, which is 100% of the total oak woodlands on the Project Site. Additionally, six individual trees, including one Heritage Tree, will be removed. A total of 147 trunk inches, composed of 99 inches of individual trees and 48 inches of Heritage Trees, will be removed.

Additionally, the four individual trees previously removed for the stockpile project included two Heritage Trees totaling 110 trunk inches and two other protected trees totaling 55 trunk inches.

OAK RESOURCE PRESERVATION RECOMMENDATIONS

One surveyed tree (#3386) will be preserved in the northwest corner of the South Site. The following protection measures should be integrated into the project construction documents as applicable to the preserved tree:

- Tree Protection Fencing, consisting of four-foot-tall, high-visibility plastic fencing, shall be placed around the perimeter of the tree protection zone (TPZ) (dripline radius + 1 feet). The TPZ is the minimum distance for placing protective fencing. Tree protection fencing should be placed as far outside of the TPZ as possible. Two-foot square signs shall be placed along the fence denoting this as a Tree Protection Zone that shall not be moved until construction is complete. In cases where proposed work infringes on TPZ, fence shall be placed at edge of work.
- Whenever possible, fence multiple trees together in a single TPZ;
- Tree protection fencing shall not be moved without prior authorization from the County of El Dorado;
- No parking, portable toilets, dumping or storage of any construction materials, grading, excavation, trenching, or other infringement by workers or domesticated animals is allowed in the TPZ;
- No signs, ropes, cables, or any other item shall be attached to a protected tree, unless recommended by an ISA-Certified Arborist;
- Underground utilities should be avoided in the TPZ, but if necessary, shall be bored or drilled. If boring is impossible, all trenching will be done by hand under the supervision of an ISA-Certified Arborist;
- No cut or fill within the dripline of protected trees is permitted. If cut or fill within the dripline is unavoidable, any mitigation requirements shall be determined by the County of El Dorado;
- Pruning of living limbs or roots over two inches in diameter shall be done under the supervision of an ISA-Certified Arborist;
- All wood plant material less than six inches in diameter shall be mulched on site. Resulting mulch shall be spread in a layer four to six inches deep in the TPZ of preserved trees. Mulch shall not be placed touching the trunk of preserved trees;
- At the discretion of Project Proponent and Project Arborist indirectly impacted trees should be deep watered once per month in July, August, September, and October to a soil saturation depth of 16-18 inches; and
- Appropriate fire prevention techniques shall be employed around all protected trees to be preserved. This includes cutting tall grass, removing flammable debris within the TPZ, and prohibiting the use of tools that may cause sparks, such as metal-bladed trimmers or mowers.

MITIGATION

As previously discussed, mitigation may be implemented through payment of in-lieu fees, on- or off-site planting, or acquisition of an off-site conservation easement. EDH 52, GP is responsible for all oak resource mitigation.

Currently, mitigation is expected to be fulfilled through the payment of in-lieu fees. Since more than 50% of the existing oak woodland will be removed, impacts to oak woodland must be mitigated at a ratio of 1.5:1. Table 3 summarizes the mitigation fees based on the ORMP.

Table 3
MITIGATION FEES

| Oak Resource | Impact | Mitigation Ratio | Fee (per trunk inch) | Total Fee |
|-------------------------------|-----------------------|------------------|----------------------|------------------|
| Oak Woodland | 0.35 acres | 2:1 | \$8,285 | \$5,800 |
| Individual Oak Tree | 99 cumulative inches | 1:1 | \$153 | \$15,147 |
| Individual Oak Tree Stockpile | 55 cumulative inches | 1:1 | \$153 | \$8,415 |
| Heritage Tree | 48 cumulative inches | 3:1 | \$459 | \$22,032 |
| Heritage Tree Stockpile | 110 cumulative inches | 3:1 | \$459 | \$50,490 |
| TOTAL | | | | \$101,884 |

If it is desired to use mitigation planting or a conservation easement for mitigation in place of or in addition to the in-lieu fees, then a planting, maintenance, and monitoring plan and conservation easement or deed restriction should be prepared in accordance with the ORMP.

If you have any questions please do not hesitate to contact me at (916) 435-1202 or email ZacharyN@helixepi.com regarding this report.

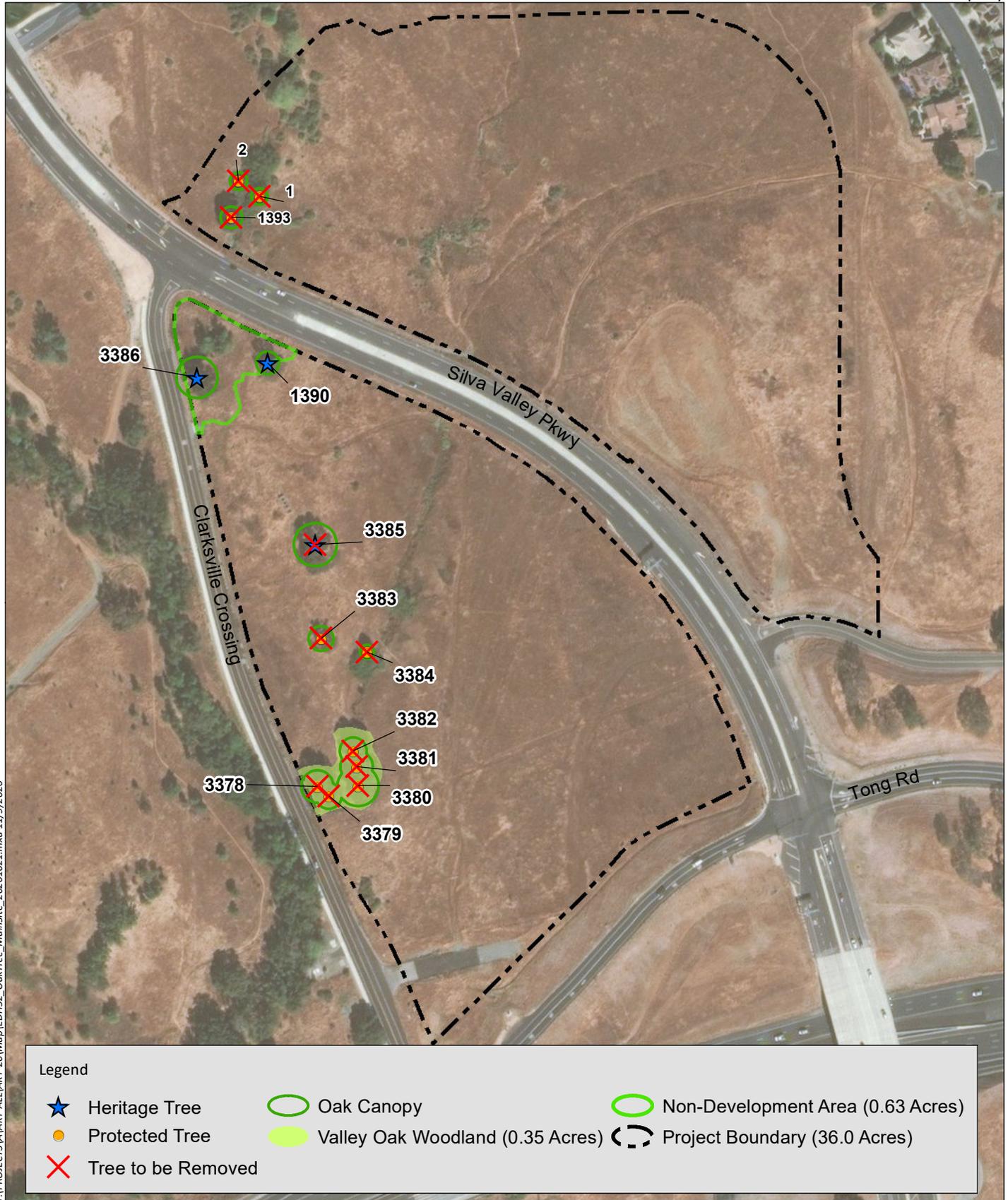
Sincerely,



Zachary Neider
Biologist

Attachments

Figure 1: Existing Oak Resources and Project Impacts



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Source: Aerial (DigitalGlobe, 11/07/2019)