

Arborist Report

8881 Calvine Chevron Project

Sacramento County, California



Prepared for
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- C Tree Inventory Map
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1.0 Introduction

This report presents the results of an arborist survey conducted by Stringer Biological Consulting, Inc. (SBC) for the 8881 Calvine Chevron Project under review by Sacramento County Planning and Environmental Review (Control No.: PAMP2023-00036). The purpose of the arborist survey was to inventory and assess the trees on and overhanging the site per the Sacramento County *Arborist Report Requirements and Format* as well as provide general preservation and avoidance guidance for trees that may be preserved on or adjacent to the site during construction. The project site (APN 115-0120-019) is approximately 2.4 acres in size and is located at 8881 Calvine Road in the Vineyard community in unincorporated Sacramento County. The Project site is located in Township 07N, Range 05E, Section 13 of the “Elk Grove, CA” U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (quad). Figure 1 in Attachment A is a Regional Location and Vicinity Map.

1.1 Contact Information

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1.2 Statement of Qualifications

Mr. Stringer holds a Master of Science Degree (M.Sc.) in Biology from California State University, Sacramento and has been an International Society of Arboriculture (ISA) Certified Arborist since 2004. He has conducted arborist inventories and assessments on thousands of trees for dozens of projects throughout the Sacramento area as well as in the San Francisco Bay area, and central and southern California. He conducts arborist inventories, tree health assessments, analyzes the impacts of proposed projects on existing trees, and assists clients with developing plans to avoid and minimize the impacts of construction on trees. Mr. Stringer also prepares mitigation and monitoring plans and monitors the health of trees during and after construction.

2.0 Existing Conditions/Project Description

2.1 Existing Conditions

The project site is located in a suburban area of southern Sacramento County. The adjacent parcels were formerly single-family residential lots that have been converted to commercial uses. The surrounding land is now developed with a variety of residential, commercial, industrial, and open space/recreational uses and the project site is bordered on three sides by developed parcels, with Calvine Road to the south. Currently, the site is vacant with no structures or apparent land use. The southern portion of the parcel next to Calvine Road has remnant paved areas from a former residence that was demolished in 2015. The northern portion of the project site was occupied by several unhoused persons and feral cats at the time of the survey and the site was regularly being crossed by pedestrians to access adjacent

establishments. The site also contains numerous trash and other debris, likely blown in from the surrounding development as well as illegal dumping.

2.2 Project Description

The project under review consists of development of a fueling station with six fuel dispensers, a 5,347 square foot convenience store attached to a small, 1,316 square foot drive through café, a 5,362 square foot restaurant and retail space, and a 1,550 square foot drive-through car wash. The project is located within the Light Commercial zoning district. A site plan of the proposed project was provided by the project applicant and is included as Attachment B.

3.0 Regulatory Background

Sacramento County has adopted measures for the preservation of native and non-native trees through the County Code and the General Plan.

Chapter 19.12 of the County Code, titled “Tree Preservation and Protection” (the “Tree Preservation Ordinance”, provides protection for native oak trees in the designated urban area of the unincorporated county. Native oaks are defined as valley oak (*Quercus lobata*), interior live oak (*Q. wislizeni*), blue oak (*Q. douglasii*), and oracle oak (*Q. x morehus*). The Chapter applies to “any living native oak tree having at least one trunk of six inches or more in diameter measured four and one-half feet above the ground, or a multi-trunked native oak tree having an aggregate diameter of ten inches or more, measured four and one-half feet above the ground (DBH).” Grading, trenching, or filling within the dripline, or removal, destruction, or killing of a tree as defined in the Tree Preservation Ordinance is prohibited without a tree permit. Tree permits are issued by the Director of Public Works or by the body approving a discretionary action such as a conditional use permit.

Section 19.12.150 of the Tree Preservation Ordinance provides authority to approving bodies to adopt mitigation measures as conditions of approval for discretionary projects in order to protect other species of trees in addition to native oaks. Section 19.12.110 of the Tree Preservation Ordinance does not specify replacement obligations for native oaks removed under a tree permit; the approving body may impose “reasonable conditions of approval as are necessary to minimize the environmental, health, or safety effects of the development or use” and may require financial security to ensure completion of “additional work” specified in the conditions of approval. “Additional work” may include replanting.

Chapter 5 of the Sacramento County Zoning Code (Development Standards), Section 5.2.4.I, prescribes replanting requirements for trees removed either with or without a tree permit and that are not part of a project subject to a Mitigation Monitoring and Reporting Program and discretionary review. According to Section 5.2.4.I:

- Trees removed with a Tree Removal Permit shall be replaced by 24-inch box specimen trees. A 15-gallon size tree may be used as a replacement tree with an additional replacement fee. The replacement fee is based on the difference of the wholesale value between a 24-inch box and a 15-gallon tree as set forth in a fee schedule approved by the Board of Supervisors. The replacement fee may be waived by the Planning Director if the loss of the tree resulted from causes completely out of the control of the property owner.

- Trees removed without a Tree Removal Permit or severely and improperly trimmed with or without a Tree Pruning Permit shall be replaced and a replacement fee may be required. The replacement tree is based according to the size (DBH) of the tree removed or damaged. Trees with a DBH of two inches that are removed/damaged shall be replaced with a 24-inch box; trees with a DBH of four inches shall be replaced with a 36-inch box; trees with a DBH of six inches or greater shall be replaced with a 48-inch box.

The Conservation Element of the General Plan includes a section regarding landmark and heritage tree protection. The stated objective of the plan is that “heritage and landmark tree resources [are] preserved and protected for their historic, economic, and environmental functions.” The plan states that:

“Conservation of native tree species other than oaks and preservation of native oaks and landmark trees is the primary intent of the policies in the section. However, if preservation cannot be attained, then loss of the protected trees shall be compensated. Compensation for tree loss may be achieved by on-site or off-site replacement or payment into a Tree Preservation Fund.”

The section discusses thresholds of significance under CEQA for impacts to trees and concludes that tree impacts are “circumstantial”. The section states that projects that exceed the threshold of significance may have significant impacts even after mitigation, and conversely, tree loss of some species that exceeds the threshold in certain circumstances may not constitute a significant impact. The section states that final determination of significance will be made by the Environmental Coordinator. The section does not include a definition of “tree” based on DBH.

Policy CO-138 of the General Plan states “Protect and preserve non-oak native trees along riparian areas if used by Swainson’s Hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5 feet above ground.”

Policy CO-139 of the General Plan states that “Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.” Tree replacement values are stipulated as follows:

- one D-pot seedling = 1 inch DBH
- one 15-gallon tree = 1 inch DBH
- one 24-inch box tree = 2 inches DBH
- one 36-inch box tree = 3 inches DBH

The Sacramento County General Plan contains policies aimed at preserving tree canopy in the County. The Conservation Element of the General Plan includes a section on urban forest management. The stated objective of the plan is a “coordinated and funded Urban Tree Management Plan and program sufficient to achieve a doubling of the County’s tree canopy by 2050...”

Policy CO-145 of the General Plan states that “Removal of non-native tree canopy for development shall be mitigated by creation of new tree canopy equivalent to the acreage of non-native tree canopy removed. New tree canopy acreage shall be calculated using the 15-year shade cover values for tree species.”

Policy CO-146 of the General Plan states that “If new tree canopy cannot be created onsite to mitigate for the non-native tree canopy removed for new development, project proponents (including public agencies) shall contribute to the Greenprint funding in an amount proportional to the tree canopy of the specific project.”

4.0 Methodology

Mr. Stringer conducted an arborist survey of the site on October 25, 2023, with the assistance of Environmental Scientist/GIS Specialist Matt Fremont. Per the County arborist report requirements, all native oak and non-oak native trees (listed in the requirements) that are 4 inches in diameter (DBH) and larger were inventoried and assessed (Note: no multi-trunk native oak trees or Northern California black walnut trees are present on the site). The following data were collected for all native oak and non-oak native trees with a DBH of four inches or greater on the site: species, trunk diameter at 54 inches above grade, root protection zone radius, tree health, structure of the tree, and overall condition. Overall condition was rated on a five-point scale of 0 (dead), 1 (severe decline), 2 (declining), 3 (fair), 4 (good), or 5 (excellent). The dripline environment as well as comments such as number of trunks, irregularities, scars or other growth characteristics or vigor indicators were recorded for each native oak or non-oak native tree. All trees not meeting the requirements above that had a DBH of 4 inches or larger were inventoried and mapped and the DBH and dripline radius were recorded. Tree locations were recorded using an Arrow 100 Global Navigation Satellite System (GNSS) receiver with sub-meter accuracy paired to a tablet running the ArcGIS Online Field Maps application. The trees had tags from prior tree surveys (1-174), which were used for the majority of the tree numbering. Four trees in the southern end of the site had not been tagged previously and were tagged and assigned a new tree number ranging from 2001 to 2004. Ratings for health were based on the criteria in Table 1, below.

Table 1. Criteria for Rating Tree Health

Good	Little or no Evidence of Stress, Disease, Infestation, or Nutrient Deficiency. Foliage (if present on deciduous species) is of average or better density, size, and color for the species; foliage in the canopy is evenly distributed; twig elongation and bud density are normal for the species; there is no evidence of dieback; there is little or no epicormic growth (water sprouts); there are not excessive numbers of galls or excessive evidence of herbivory; callusing, if present, is vigorous; bark is healthy and intact; there are no signs of senescence.
Fair	Moderate Evidence of Stress, Disease, Infestation, or Nutrient Deficiency. Foliage is below average density, size, or color for the species; foliage density may be lower in some parts of the canopy; twig elongation and bud density may be moderately reduced; some evidence of dieback may be present; some epicormic growth may be present; gall or herbivore load is higher than average for the species; callusing of old wounds is not well-developed; there may be evidence of small areas of infection such as bark swelling or sloughing; the tree may be over-mature or beginning to senesce.

Poor	Abundant Evidence of Stress, Disease, Infestation, or Nutrient Deficiency. Foliage and/or buds are sparse; leaves are reduced in size or of unhealthy color; the canopy is sparse and underdeveloped; there is widespread evidence of dieback; twig elongation is severely reduced; there is abundant epicormic growth; gall load, insect exit holes, or evidence of herbivory is severe; old wounds are not callused; there is widespread evidence of bark swelling, splitting, or sloughing in the root crown, trunk, or major limbs; the tree is senescent.
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Structure is an indication of the structural stability and failure potential of the tree expressed as a rating of Good, Fair, or Poor. Ratings for structure were based on the criteria in Table 2, below.

Table 2. Criteria for Rating Tree Structure

Good	Low Potential for Failure. No wounds, cavities, decay, or indications of hollowness evident in the root crown, trunk, or major limbs; no exposed anchor roots or circling roots; no codominant branching or multiple trunk attachments; no crossing limbs; little or no included bark at branch attachments; no dead major limbs; no major limb failures; no overburdened limbs; no excessive or unnatural lean; proper development of trunk taper; structure is more or less symmetrical.
Fair	Moderate Potential for Failure. Small to moderate wounds, cavities, decay, or indications of hollowness may be present in the root crown, trunk, or major limbs; minor exposure of anchor roots; no circling roots; codominant trunks or multiple trunk attachments are present but included bark is absent or not well-developed; no large crossing limbs are present; small or medium-sized dead limbs may be present in the canopy; no large limb failures; limbs may be slightly overburdened; natural or only minor lean is evident with well-developed reaction wood; canopy development may be slightly to moderately asymmetrical.
Poor	High Potential for Failure. Significant wounds, cavities, decay, or indications of hollowness evident in the root crown, trunk, or major limbs; anchor roots are exposed or the tree has lost anchorage; circling roots are present; codominant branching or multiple trunk attachments are present; large crossing limbs are present; significant amounts of included bark are present at trunk and branch attachments; large dead limbs are present in the canopy; evidence of past large limb failures; overburdened limbs; poor trunk taper; excessive or unnatural lean or drastically unbalanced canopy development.

5.0 Results

A total of 173 trees with a DBH of 4 inches or greater were inventoried that are on or overhanging the site. As stated in the *Methods* section, the majority of the trees had tags from prior tree surveys (1-174), which were used for the tree numbering. Four trees in the southern end of the site had not been tagged previously and were tagged and assigned a new tree number ranging from 2001 to 2004. In summary, the 173 trees on the site have tag numbers ranging from 1-174 from prior tagging, and 2001 to 2004 from our new tags. Five trees that were presumably inventoried and tagged during prior surveys by others are no longer present and appear to have been removed. These include trees 56, 89, 147, 152, and 153. In addition, trees 17, 24, 36, 45, 52, 62, 102, 133, which are all blue gum trees, are dead. These dead blue gum trees were included in the inventory because they have tree tags. An additional eight

blue gum trees are in poor condition. There was evidence of fires and other vandalism on the site, which likely contributed to tree decline and may have contributed to removal.

Two of the trees (#s 2002 and 2003) are native interior live oaks. The remainder of the trees are non-native, including 170 blue gum (*Eucalyptus globulus*) and one sawleaf zelkova (*Zelkova serrata*). No non-oak native trees are present on the site. A tree inventory map has been provided as Attachment C and displays the location of all trees 4 inches in diameter or greater on the site. A tree table has been provided as Attachment D, which includes the data collected for each of the non-native trees on the site. Representative site photos are provided as Attachment E.

5.1 Assessment of Native Oak Trees

The two interior live oaks are growing along the property line in the southeast corner of the property. The adjacent property to the east is the site of the Dollar Tree shopping center. The driveway of the shopping center and a narrow landscape strip comprises the eastern portion of the root protection zone (RPZ) of the two oak trees and the compacted pad from the former residence forms the western portion of the RPZ. The RPZ is comprised largely of highly compacted soils with ruderal vegetation and/or competing landscaping as well as some impervious surface.

The required information for the two native oak trees is provided in Table 3 below.

Table 3. Summary of Native Oak Trees on the Property

Tag #	Common Name/ Species	DBH (in.)	RPZ (ft)	Health	Structure	Overall Condition	Dripline Environment/ Comments
2002	Interior live oak <i>Quercus wislizeni</i>	11	15	Fair	Fair	Fair	Garbage/debris in dripline. Tree is in fair condition and has average health and structure for the species growing in a semi-natural environment.
2003	Interior live oak <i>Quercus wislizeni</i>	7	10	Poor	Fair	Poor	Garbage/debris in dripline. Large wound on trunk/peeling bark. Tree exhibits crown dieback and is in a state of decline.

5.2 Recommendations for Retention or Removal (Native Oaks)

Tree # 2002 is recommended for preservation on site. Based on the current site plan (Attachment B), it appears the tree will be avoided during construction and its overall condition is good enough that it could thrive on the site. General recommendations for protection of trees to be preserved on site are included as Attachment F. As described in the general recommendations, exclusionary fencing should be

placed at the outer edge of the RPZ of tree 2002 during construction and encroachment into the fencing should be avoided if feasible. If encroachment into the RPZ is necessary, measures should be taken to reduce/prevent root damage and soil compaction such as mulching with 6-8 inches of wood chips or use of steel plates. Post-construction, the use of turf grass or horticultural plantings that would compete with the oak tree should be avoided within the RPZ. The only plant species which should be planted within the RPZ of native oak trees are those which are tolerant of the natural, semi-arid environs of the tree(s) and do not require supplemental irrigation.

Tree # 2003 is recommended for removal because it has a large wound on the trunk and is in decline as evidenced by moderate to severe crown dieback.

5.3 Tree Impacts

Native Oaks

At this time, no impacts to the two native oak trees on the site are anticipated. Tree # 2003 is recommended for removal because it is in decline and not fit for retention on the site.

Non-Native Trees

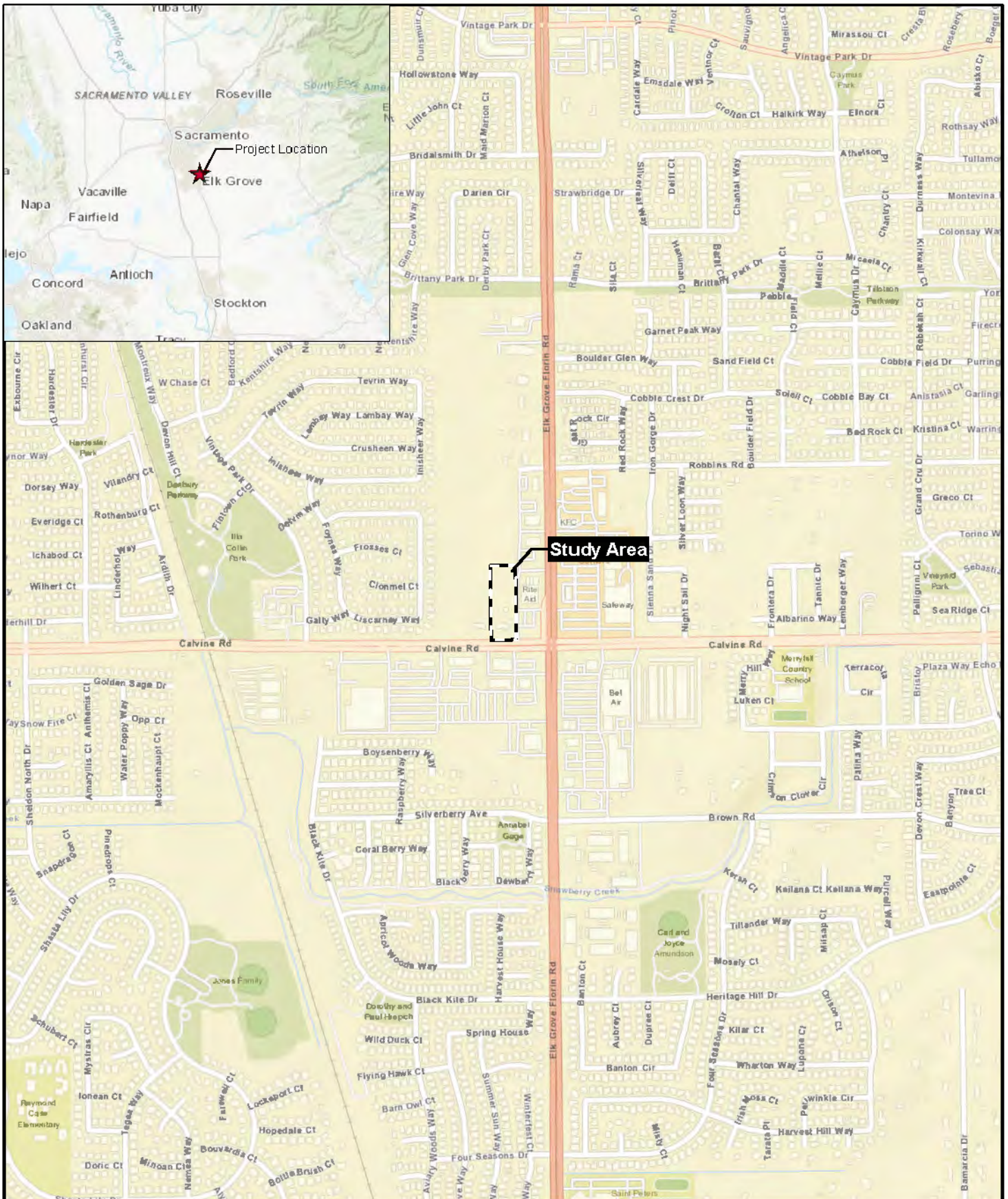
The Applicant is proposing to remove all 171 non-native trees on the property and replace them with landscape trees suitable for the site. As stated previously, eight of these trees are already dead: tree #s 17, 24, 36, 45, 52, 62, 102, and 133. Therefore, the Applicant is proposing to remove 163 living non-native trees consisting of 162 blue gum and one sawleaf zelkova. In summary, non-native trees that are planned for removal include tree #s 1-55, 57-88, 90-146, 148-151, 154-174, 2001, and 2004.

6.0 Summary

SBC conducted an arborist survey for the 8881 Calvine Chevron Project under review by Sacramento County Planning and Environmental Review (Control No.: PAMP2023-00036). A total of 173 trees with a DBH of 4 inches or greater are present on or overhanging the site. Two of the trees are native interior live oaks. The remainder of the trees are non-native, including 170 blue gum and one sawleaf zelkova. Eight of the blue gum trees that have tree tags and were inventoried are dead (trees 17, 24, 36, 45, 52, 62, 102, 133). Based on the current site plan, no impacts to the two native oaks are anticipated. However, tree # 2003 is recommended for removal because it is in poor condition. In addition, the Applicant is proposing to remove all of the non-native trees and replace them with landscape trees appropriate for the site. Therefore, a total of 162 live blue gum trees and eight dead blue gum trees as well as one sawleaf zelkova will be removed based on the current proposal. Only one tree, a small interior live oak (tree # 2002), is proposed for retention on the site. General recommendations for protection of tree # 2002 during and after construction are provided as Attachment F. These recommendations could also be used if any other trees are proposed for retention on-site at a later date.

Because no impacts to native oaks are anticipated at this time, a tree permit is not anticipated to be necessary. The Applicant intends to offset the removal of non-native tree canopy by planting landscape trees appropriate for the site. No landscaping plan was available at the time of report preparation.

Attachment A: Project Location Map



Attachment A

Regional Location and Vicinity

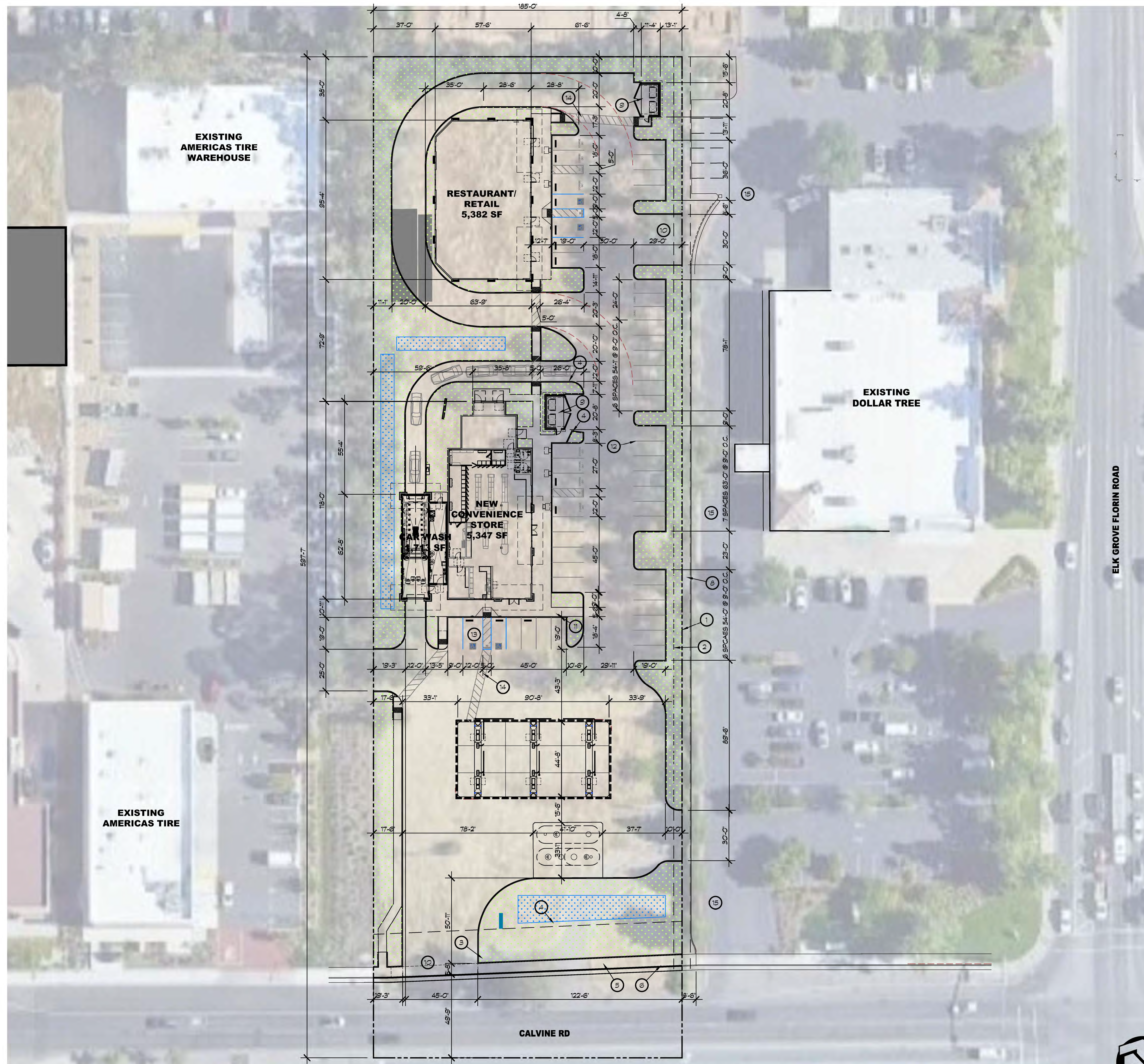
8881 Calvin Chevron
Sacramento County, CA



Stringer Biological
Consulting

Basemap Source: ESRI (2023)

Attachment B: Site Plan



PROJECT INFORMATION

ASSESSOR'S PARCEL NUMBER(S): 115-0120-019-0000
 ZONING: LC- LIGHT COMMERCIAL
 PROJECT SITE AREA (GROSS): (3.08 ACRES) 134,164 S.F.

BUILDING DATA:

STRUCTURE	C.B.C. OCCUP.	TYPE OF CONST.	AREA
C-STORE	M	VB	5,347 S.F.
JAMBA	M	VB	1,316 S.F.
RESTAURANT/ RETAIL	A/M	VB	5,362 S.F.
CAR WASH	B	VB	1,550 S.F.

PARKING DATA:

BUILDING AREA	PARKING RATIO/REQ.	REQ'D.
C-STORE	(4:1,000 SF) =	20
JAMBA	(4:1,000 SF) =	5
RESTAURANT 48 SEATS (2,500 OF RETAIL)	=	16
RETAIL (4:1000 SF) =		14
CAR WASH (UNMANNED-TOUCHLESS)	=	3
TOTAL REQ'D PARKING =		58

PARKING PROVIDED

REGULAR SPACES	=	43
COMPACT SPACES	=	0
VAN ACCESSIBLE	=	2
REGULAR ADA SPACES	=	1
ELECTRIC VEHICLE CHARGING	=	13
AIR / WATER	=	1
TOTAL =		59

KEYNOTES

- 1 PROPERTY LINE
- 2 DASHED LINE OF 5'-0" SETBACK
- 3 ACCESSIBILITY ENTRY SIGN. PLEASE SEE DETAIL AS INDICATED
- 4 CONCRETE CURB- 6" HIGH.
- 5 CONCRETE WALK PER CITY OF ELK GROVE
- 6 CONCRETE CURB AND GUTTER. SEE CIVIL DRAWINGS
- 7 SITE YARD LIGHT WITH CONCRETE BASE SHALL HAVE A DRY SACK FINISH. TYPICAL. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- 8 LANDSCAPING, SEE LANDSCAPING DRAWINGS.
- 9 TRASH ENCLOSURE AND CONC. APPROACH SLAB. SEE DETAILS SHEET A103
- 10 NEW DRIVEWAY
- 11 NEW CONC. WHEEL STOP
- 12 4" WIDE PAINT STRIPING, WHITE, UNLESS NOTED OTHERWISE.
- 13 ACCESSIBLE VAN PARKING STALL
- 14 4" WIDE PAINT STRIPING, WHITE, AT 3'-0" O.C. TYP.
- 15 COMMON ACCESS DRIVE



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CALVINE CHEVRON

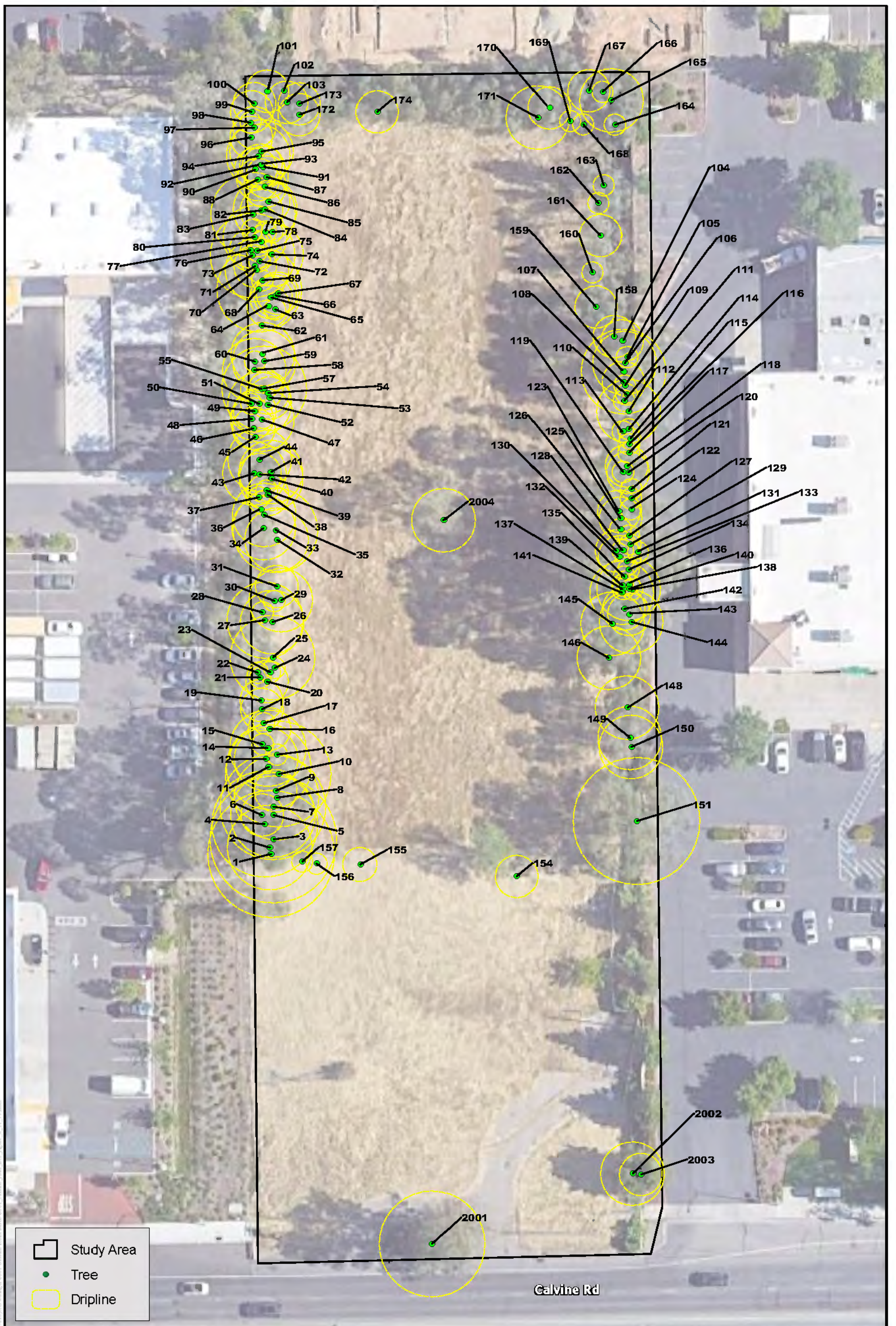
8881 CALVINE RD
 SACRAMENTO CA 95828

BALJIT SINGH

8487 ELK GROVE FLORIN RD
 Elk Grove, CA 95624



Attachment C: Tree Inventory Map



Attachment D: Tree Table

Attachment D: Tree Summary Table

ID	Common_Name	Scientific Name	DBH	Dripline	Health
1	Blue gum	Eucalyptus globulus	2,3	30	Good
2	Blue gum	Eucalyptus globulus	12,10	20	Good
3	Blue gum	Eucalyptus globulus	24	30	Good
4	Blue gum	Eucalyptus globulus	14	25	Good
5	Blue gum	Eucalyptus globulus	14	20	Good
6	Blue gum	Eucalyptus globulus	9	10	Good
7	Blue gum	Eucalyptus globulus	14	25	Good
8	Blue gum	Eucalyptus globulus	11	20	Good
9	Blue gum	Eucalyptus globulus	8	10	Good
10	Blue gum	Eucalyptus globulus	12	25	Good
11	Blue gum	Eucalyptus globulus	12	20	Good
12	Blue gum	Eucalyptus globulus	11	15	Good
13	Blue gum	Eucalyptus globulus	9	5	Good
14	Blue gum	Eucalyptus globulus	10	18	Good
15	Blue gum	Eucalyptus globulus	9	5	Good
16	Blue gum	Eucalyptus globulus	9	10	Good
17	Blue gum	Eucalyptus globulus	10	5	Dead
18	Blue gum	Eucalyptus globulus	12	10	Poor
19	Blue gum	Eucalyptus globulus	9	10	Good
20	Blue gum	Eucalyptus globulus	9	10	Good
21	Blue gum	Eucalyptus globulus	6	5	Poor
22	Blue gum	Eucalyptus globulus	7	5	Poor
23	Blue gum	Eucalyptus globulus	6	5	Good
24	Blue gum	Eucalyptus globulus	4	5	Dead
25	Blue gum	Eucalyptus globulus	12	20	Good
26	Blue gum	Eucalyptus globulus	10	15	Good
27	Blue gum	Eucalyptus globulus	10	18	Good
28	Blue gum	Eucalyptus globulus	7	5	Good
29	Blue gum	Eucalyptus globulus	9	15	Good
30	Blue gum	Eucalyptus globulus	6,5,3	5	Good
31	Blue gum	Eucalyptus globulus	9	10	Good
32	Blue gum	Eucalyptus globulus	12	15	Good
33	Blue gum	Eucalyptus globulus	12	20	Poor
34	Blue gum	Eucalyptus globulus	9	15	Good
35	Blue gum	Eucalyptus globulus	10	15	Good
36	Blue gum	Eucalyptus globulus	10	0	Dead
37	Blue gum	Eucalyptus globulus	10	5	Poor
38	Blue gum	Eucalyptus globulus	8	10	Good
39	Blue gum	Eucalyptus globulus	8	5	Poor
40	Blue gum	Eucalyptus globulus	10	15	Good
41	Blue gum	Eucalyptus globulus	12	15	Good
42	Blue gum	Eucalyptus globulus	9	10	Good
43	Blue gum	Eucalyptus globulus	10	15	Good
44	Blue gum	Eucalyptus globulus	14	15	Good
45	Blue gum	Eucalyptus globulus	7	0	Dead
46	Blue gum	Eucalyptus globulus	9	10	Good

47	Blue gum	Eucalyptus globulus	7	15	Good
48	Blue gum	Eucalyptus globulus	8	10	Good
49	Blue gum	Eucalyptus globulus	7	10	Good
50	Blue gum	Eucalyptus globulus	7	5	Good
51	Blue gum	Eucalyptus globulus	11	15	Good
52	Blue gum	Eucalyptus globulus	6	0	Dead
53	Blue gum	Eucalyptus globulus	11	10	Poor
54	Blue gum	Eucalyptus globulus	9	10	Good
55	Blue gum	Eucalyptus globulus	10	10	Good
57	Blue gum	Eucalyptus globulus	14	20	Good
58	Blue gum	Eucalyptus globulus	6	15	Good
59	Blue gum	Eucalyptus globulus	10	15	Good
60	Blue gum	Eucalyptus globulus	6	5	Good
61	Blue gum	Eucalyptus globulus	9	15	Good
62	Blue gum	Eucalyptus globulus	0	0	Dead
63	Blue gum	Eucalyptus globulus	11,9	5	Poor
64	Blue gum	Eucalyptus globulus	11	10	Good
65	Blue gum	Eucalyptus globulus	10	10	Good
66	Blue gum	Eucalyptus globulus	12	10	Good
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68	Blue gum	Eucalyptus globulus	10	20	Good
69	Blue gum	Eucalyptus globulus	7	5	Good
70	Blue gum	Eucalyptus globulus	12	15	Good
71	Blue gum	Eucalyptus globulus	7	10	Good
72	Blue gum	Eucalyptus globulus	6	5	Good
73	Blue gum	Eucalyptus globulus	10	20	Good
74	Blue gum	Eucalyptus globulus	14	15	Good
75	Blue gum	Eucalyptus globulus	8	5	Good
76	Blue gum	Eucalyptus globulus	8	10	Good
77	Blue gum	Eucalyptus globulus	6	5	Good
78	Blue gum	Eucalyptus globulus	10	5	Good
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80	Blue gum	Eucalyptus globulus	9	15	Good
81	Blue gum	Eucalyptus globulus	6	5	Good
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84	Blue gum	Eucalyptus globulus	15	15	Good
85	Blue gum	Eucalyptus globulus	9	10	Good
86	Blue gum	Eucalyptus globulus	8	10	Good
87	Blue gum	Eucalyptus globulus	6	10	Good
88	Blue gum	Eucalyptus globulus	9	10	Good
90	Blue gum	Eucalyptus globulus	10	10	Good
91	Blue gum	Eucalyptus globulus	6	10	Good
92	Blue gum	Eucalyptus globulus	6	10	Good
93	Blue gum	Eucalyptus globulus	10	10	Good
94	Blue gum	Eucalyptus globulus	7	15	Good
95	Blue gum	Eucalyptus globulus	6	15	Good

96	Blue gum	Eucalyptus globulus	7	10	Good
97	Blue gum	Eucalyptus globulus	16	10	Good
98	Blue gum	Eucalyptus globulus	8,4	5	Good
99	Blue gum	Eucalyptus globulus	12	10	Good
100	Blue gum	Eucalyptus globulus	18	10	Good
101	Blue gum	Eucalyptus globulus	16	10	Good
102	Blue gum	Eucalyptus globulus	12	0	Dead
103	Blue gum	Eucalyptus globulus	10	10	Good
104	Blue gum	Eucalyptus globulus	14	10	Good
105	Blue gum	Eucalyptus globulus	7	5	Good
106	Blue gum	Eucalyptus globulus	16,16	15	Good
107	Blue gum	Eucalyptus globulus	10	20	Good
108	Blue gum	Eucalyptus globulus	10,10	10	Good
109	Blue gum	Eucalyptus globulus	10	5	Good
110	Blue gum	Eucalyptus globulus	10	5	Good
111	Blue gum	Eucalyptus globulus	6	5	Good
112	Blue gum	Eucalyptus globulus	12	15	Good
113	Blue gum	Eucalyptus globulus	8	5	Good
114	Blue gum	Eucalyptus globulus	6	5	Good
115	Blue gum	Eucalyptus globulus	10	5	Good
116	Blue gum	Eucalyptus globulus	8	5	Good
117	Blue gum	Eucalyptus globulus	8	5	Good
118	Blue gum	Eucalyptus globulus	16	10	Good
119	Blue gum	Eucalyptus globulus	12	5	Good
120	Blue gum	Eucalyptus globulus	10	10	Good
121	Blue gum	Eucalyptus globulus	8	5	Good
122	Blue gum	Eucalyptus globulus	8	5	Good
123	Blue gum	Eucalyptus globulus	14	10	Good
124	Blue gum	Eucalyptus globulus	8	5	Good
125	Blue gum	Eucalyptus globulus	14	10	Good
126	Blue gum	Eucalyptus globulus	8,8	5	Good
127	Blue gum	Eucalyptus globulus	10	5	Good
128	Blue gum	Eucalyptus globulus	8	5	Good
129	Blue gum	Eucalyptus globulus	10	5	Good
130	Blue gum	Eucalyptus globulus	8,8	10	Good
131	Blue gum	Eucalyptus globulus	10	5	Good
132	Blue gum	Eucalyptus globulus	16	10	Good
133	Blue gum	Eucalyptus globulus	0	0	Dead
134	Blue gum	Eucalyptus globulus	6,6	5	Good
135	Blue gum	Eucalyptus globulus	6	5	Good
136	Blue gum	Eucalyptus globulus	10	5	Good
137	Blue gum	Eucalyptus globulus	15	5	Good
138	Blue gum	Eucalyptus globulus	10	5	Good
139	Blue gum	Eucalyptus globulus	12	5	Good
140	Blue gum	Eucalyptus globulus	20	15	Good
141	Blue gum	Eucalyptus globulus	20	15	Good
142	Blue gum	Eucalyptus globulus	22	10	Good

143	Blue gum	Eucalyptus globulus	16	10	Good
144	Blue gum	Eucalyptus globulus	14	15	Good
145	Blue gum	Eucalyptus globulus	16	15	Good
146	Blue gum	Eucalyptus globulus	10	15	Good
148	Blue gum	Eucalyptus globulus	12	15	Good
149	Blue gum	Eucalyptus globulus	10	15	Good
150	Blue gum	Eucalyptus globulus	11	15	Good
151	Blue gum	Eucalyptus globulus	26	30	Good
154	Sawleaf Zelkova	Zelkova serrata	12	10	Good
155	Blue gum	Eucalyptus globulus	6	8	Good
156	Blue gum	Eucalyptus globulus	8	5	Good
157	Blue gum	Eucalyptus globulus	6	5	Good
158	Blue gum	Eucalyptus globulus	4,4,4,4,4	10	Good
158	Blue gum	Eucalyptus globulus	5,5,5,5,5,5	10	Good
160	Blue gum	Eucalyptus globulus	8	5	Good
161	Blue gum	Eucalyptus globulus	9	10	Good
162	Blue gum	Eucalyptus globulus	6,6,6,6,6,4	5	Good
163	Blue gum	Eucalyptus globulus	9	5	Good
164	Blue gum	Eucalyptus globulus	9,9	5	Good
165	Blue gum	Eucalyptus globulus	8,8	15	Good
166	Blue gum	Eucalyptus globulus	7,6,3	5	Good
167	Blue gum	Eucalyptus globulus	6	10	Good
168	Blue gum	Eucalyptus globulus	6,5	5	Good
169	Blue gum	Eucalyptus globulus	7,6	5	Good
170	Blue gum	Eucalyptus globulus	6,5,5,5	10	Good
171	Blue gum	Eucalyptus globulus	7	15	Good
172	Blue gum	Eucalyptus globulus	6,6,6,6,6	10	Good
173	Blue gum	Eucalyptus globulus	6,8	10	Good
174	Blue gum	Eucalyptus globulus	8,4	10	Good
2001	Blue gum	Eucalyptus globulus	15,17,8,9.5	25	Fair
2002	Interior live oak	Quercus wislizeni	11	15	Fair
2003	Interior live oak	Quercus wislizeni	7	10	Poor
2004	Blue gum	Eucalyptus globulus	12	15	Good

Attachment E: Representative Site Photos

Attachment E. Representative Site Photos



Photo 1. View of the project site looking north from the southern portion of the site, showing the band of Eucalyptus trees around the perimeter.



Photo 2. View of the area in the southern portion of the project site that formerly contained a residence. The two native oak trees are visible in the background along the site boundary.

Attachment E. Representative Site Photos



Photo 3. Close up view of the two native oak trees with garbage and illegal dumping under the trees.

Attachment F: General Recommendations for Protection of Trees to be Retained On-Site

General Guidelines for Tree Protection and for Trees Planned for Preservation

The general measures below are meant to be implemented as applicable once construction plans have been finalized and approved:

To prevent soil compaction:

- 6-8 inches of wood chips should be spread inside the dripline of trees where temporary construction traffic or staging would occur. Chips should be removed after project completion, or the depth reduced to no more than 4 inches. Alternatively, bridging root areas with steel plates would reduce damage to roots within construction traffic areas.
 - A circle with a radius measurement from the trunk of the tree to the tip of its longest limb should constitute the critical root zone protection area of each protected tree. Limbs must not be cut back in order to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of each protected tree. Removing limbs that make up the dripline does not change the protected area.

To reduce damage due to raising the existing grade:

- Grading within the protected zone of a protected tree should be minimized. Cuts within the protected zone should be maintained at less than 20% of the critical root zone area. Grade cuts should be monitored by the project Arborist. Any damaged roots encountered should be root pruned and properly treated as deemed necessary by the Project Arborist.
- Construct an open-joint wall of shell, brick, rock or masonry in a circle around the tree trunk, with at least 1 to 2 feet between the wall and trunk. This wall should be as high as the top of the new grade. This opening is commonly referred to as a tree well.
- If fills exceed 1 foot in depth up to 20% of the critical root zone area, aeration systems may serve to mitigate the presence of the fill materials as determined by the Project Arborist.
- Construct an aeration system using 4-inch agricultural clay tile or 4-inch perforated plastic pipe arranged in five to six horizontal lines radiating from the tree well like spokes in a wheel to a point beyond the branch spread. Allow excess moisture to drain away by installing the radial lines so they slope away from the trunk. Connect the outer ends of the radiating system with a circle of tile or perforated plastic pipe.
- To provide vents, place 4- or 6-inch plastic pipe or bell tile upright over the junction of the radial lines with the circle. They should extend to the surface of the planned grade level. Extend the lower end of the aeration system to a curb or storm drain to carry excess moisture away from the root system.
- Cover the exposed soil and tile system with rock or coarse gravel to a depth of 6 to 18 inches, depending on the amount of fill. Follow this with a covering layer of gravel. Place a thin layer of straw, woven plastic or other porous material over the gravel to prevent soil from filtering into the gravel and stone. Fill with good topsoil to the desired grade.

- When fill materials are deemed necessary on two or three sides of a tree it is critical to provide for drainage away from the critical root zone area of the tree (particularly when considering heavy winter rainfalls). Overland releases and subterranean drains dug outside the critical root zone area and tied directly to the main storm drain system are two options.
- The construction of impervious surfaces within the dripline of a protected tree should be minimized. When necessary, a piped aeration system should be installed under the direct supervision of the Project Arborist.
- Preservation devices such as aeration systems, tree wells, drains, special paving and cabling systems must be installed in conformance with approved plans and certified by the Project Arborist.
- To discourage rodents, fill the tree well with enough coarse gravel to cover the ends of the lines opening into the well. Also fill the upright bell tile and cover with a screen or grill.
- Minor roots less than one inch in diameter encountered during approved excavation and/or grading activities may be cut, but damaged roots should be traced back and cleanly cut behind any split, cracked or damaged area as deemed necessary by the Project Arborist.
- Major roots greater than one inch in diameter encountered during approved excavation and/or grading activities may not be cut without approval of the Project Arborist. Depending upon the type of improvement being proposed, bridging techniques or a new site design may need to be employed to protect the roots and the tree.
- Cut faces, which will be exposed for more than 2-3 days, should be covered with dense burlap fabric and watered to maintain soil moisture at least on a daily basis (or possibly more frequently during summer months). If any native ground surface fabric within the protected zone must be removed for any reason, it should be replaced within 48 hours.
- In cases where a permit has been approved for construction of a retaining wall(s) within the protected zone of a protected tree the applicant will be required to provide for immediate protection of exposed roots from moisture loss during the time prior to completion of the wall. The retaining wall within the protected zone of the protected tree should be constructed within 72 hours after completion of grading within the root protection zone.

General Construction Site Recommendations:

- A minimum 4-foot tall, brightly colored, synthetic fence should be installed around the limits of the work area or around outermost edge of the RPZ of trees that are designated for retention on-site. Encroachment into the fenced areas should be restricted to the minimum amount feasible and fencing should remain in place until all construction activities have ceased. The protected zone is defined as the “root protection zone (RPZ) (which is an imaginary line that is drawn on the ground around the tree at the outermost limit of the canopy) or in cases where construction is encroaching on the dripline of a retained tree, the protected zone is the portion of the tree’s dripline that is being protected. Fencing should be installed in accordance with the approved fencing plan prior to the commencement of any grading operations or such other time as determined by the review body. The developer should contact the Project Arborist and the Planning Department for an inspection of the fencing prior to commencing construction activities on site.
- Signs should be installed on the protective fence in four equidistant locations around each individual tree. The size of the sign must be a minimum of two-by-two feet and must contain the

following language “Warning: This Fence Should Not Be Removed or Relocated Without Written Authorization From Sacramento County Department of Planning and Environmental Review. Protective fencing should remain in place throughout the entire construction period and should not be removed, relocated, taken down or otherwise modified without prior written authorization.

- All portions of permanent fencing that will encroach into the protected zone of a protected tree should be constructed using posts set no closer than ten feet on center. Posts should be spaced in such a manner as to maximize the separation between the tree trunks and the posts in order to reduce impacts to the trees(s).
- The fenced area should be kept clear of building materials, waste, and excess soil.
- No digging, trenching, compaction, or other soil disturbance should be allowed in the fenced area.
- The storage of construction equipment or hazardous materials such as gasoline, oil, or other toxic chemicals should not be allowed in or adjacent to the fenced area.
- Storage areas for equipment, soil, and construction materials as well as burn sites (if permitted), cement washout pits, and construction work zones should be kept away from protected trees and outside the fenced in area.
- Cable, chain, rope or signage should not be attached to retained trees.
- Designated roads and parking areas should be established. All construction personnel should be restricted to driving and parking in designated areas. Discharge of exhaust from construction vehicles and equipment should not be allowed near the protected zone of trees.
- Grade changes should be avoided near fenced areas to the maximum extent possible.
- No sprinkler or irrigation system should be installed in such a manner that sprays water or required trenching within the dripline of a protected tree. An above ground drip irrigation system is recommended. An independent low-flow drip irrigation system may be used for establishing drought tolerant plants within the protected zone of a protected tree. Irrigation should be gradually reduced and discontinued after a 2-year period.
- Landscaping beneath native oak trees may include non-plant materials such as bark mulch, wood chips, boulders, etc. Planting live material under protected native oak trees is generally discouraged and is not recommended within 6 feet of the trunk of a native oak tree with a diameter at breast height (DBH) of 18 inches or less, or within 10 feet of the trunk of a native oak tree with DBH of more than 18 inches. The only plant species which should be planted with the dripline of native oak trees are those which are tolerant of the natural, semi-arid environs of the tree(s).

Recommendations for Construction Activities in the Vicinity of Retained Trees:

- Any protected trees on site which require pruning should be pruned by an ISA Certified Arborist prior to the start of construction work. All pruning should be in accordance with the American National Standards Institute (ANSI) A300 pruning standards, ANSI Standard 2133.1-2000 regarding safety practices, and the International Society of Arboriculture (ISA) “Tree Pruning Guidelines” and Best Management Practices.
- Trenching within the dripline of retained trees should be avoided to the maximum extent practicable and kept a minimum distance of 10 times the diameter of the tree away from its trunk. If necessary, this trenching should be conducted using hand excavation or compressed air

to reduce impacts to tree roots. Machine trenching should not be allowed within the dripline of retained trees. Trenching inside the dripline should be monitored by a certified arborist who may direct the construction crew to use hand tools rather than heavy equipment. Hand saws, pass-through pruners, shovels and trowels, burlap cloth, and water should be available at all times during trenching inside the dripline. If pipes must be installed closer to the tree than a distance of 10 times the diameter of the tree away from its trunk, they should be bored beneath the tree a minimum of 3 feet below the ground surface to reduce impacts to roots.

- Excavation should also be minimized within the dripline of retained trees. Construction within the dripline of retained trees should be conducted in a manner that minimizes excavation and provides for the best preservation of roots as determined by the Project Arborist.
- If tree roots are severed outside of the fenced area, they should be severed cleanly and kept moist. All exposed roots outside of fenced areas should be covered with protective material during construction such as mulch or plywood sheets to reduce soil compaction. Protective material should be removed upon completion of construction activities.
- Construction activities involving soil disturbance should be avoided during hot, dry, weather and trees should be watered before, during, and after trenching and excavation within the dripline of retained trees to offset water loss due to cut roots.
- Grading within the driplines of retained trees should be avoided wherever feasible.
- Any removal of paving or structures (i.e. demolition) that occurs within the dripline of a protected tree should be done under the direct supervision of the Project Arborist.
- No sign, ropes, cables (except those which may be installed by an ISA Certified Arborist to provide limb support) or any other items should be attached to the protected trees. Small metallic numbering tags for the purpose of identification in preparing tree reports and inventories should be allowed.
- No vehicles, construction equipment, mobile homes/office, supplies, materials or facilities should be driven, parked, stockpiled or located within driplines of protected trees.
- Drainage patterns on the site should not be modified so that water collects, stands or is diverted across the dripline of any protected tree.
- No trenching should be allowed within the driplines of protected trees, except as specifically approved by the Planning Department as set forth in the project's Conditions of Approval and/or approved tree permit. If it is absolutely necessary to install underground utilities within the dripline of a protected tree the utilizing hand tools to avoid root injury under the direct supervision of the Project Arborist.

Recommendations for Protection of Trees Post-Construction:

- Post-construction inspections of the trees should be conducted by a Certified Arborist or Certified Tree Worker to determine if retained trees are stressed (e.g., water stress, nutrient stress) or damaged (e.g., broken branches, trunk damage). Appropriate corrective actions should be implemented as necessary. Such corrective actions may include remediation of severe soil compaction through vertical mulching or a similar technique, remedial pruning to repair damaged or broken limbs, application of mulch, application of root stimulant to encourage new

root growth in trees that have a significant portion of their roots lost due to cutting or soil compaction, etc.

- Aeration of soil by vertical mulching or similar technique should be implemented around retained trees to offset the impacts of soil compaction that has already occurred due to construction activities and other site uses.
- All trees that will be preserved following project construction should be periodically monitored by a qualified tree care professional for the life of the project. The project (*i.e.*, homeowners association) should be responsible for providing for monitoring and ongoing care and maintenance of all preserved trees on the site.