Sacramento County Fuel Station Project

Arborist Report

APNs: 240-006-1002-0000 and 240-006-1001-0000
Address: 4701 & 4705 Auburn Boulevard, Sacramento, CA 95841
Control Number: PLNP2022-00015

May 2022 | 00410.00067.001

Prepared for:

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Statement of Qualifications

Ms. McLaughlin is an International Society of Arboriculture (ISA) Certified Arborist (#WE-12922A). She received a Bachelor of Science with a major in Natural Resources and Environmental Sciences from the University of Illinois – Urbana/Champaign in 2011 and a Master of Science degree in Environmental Protection and Management from the University of Edinburgh in 2014. Ms. McLaughlin has over 9 years' experience in plant ecology and dendrology – including tree biology and identification – in California, Illinois and the United Kingdom and has worked as a consulting biologist in California since 2015. Ms. McLaughlin has conducted arboricultural surveys throughout California and has been based in Sacramento County since 2018.

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1.0 INTRODUCTION

This report documents the results of an arborist survey conducted for the proposed Sacramento County Fuel Station Project (proposed project) located on the southwest corner of Auburn Boulevard and Myrtle Avenue in Sacramento County, California. HELIX Environmental Planning, Inc. (HELIX) was tasked with conducting an arborist survey of trees in the Study Area, and providing general preservation and avoidance, and mitigation guidance, as applicable, for trees that may be preserved onsite during and after construction. The final determination of what trees will be impacted by the project was not available at the time of the document preparation.

An arborist survey was conducted on May 5, 2022, by HELIX Biologist and International Society of Arboriculture (ISA) Certified Arborist Stephanie McLaughlin (#WE-12922A) to inventory and verify the current conditions of the trees. Stephanie McLaughlin has three years of experience performing arborist surveys in Sacramento County.

1.1 PROJECT LOCATION

As shown on Figure 1, *Vicinity Map* (Appendix A), the proposed project is located at 4701 Auburn Boulevard, Sacramento, CA 95841 on the southwest corner of Auburn Boulevard and Myrtle Avenue and is comprised of Assessor's Parcel Numbers (APNs) 240-006-1002-0000 and 240-006-1001-0000 (Study Area). The Study Area encompasses approximately 1.23 acres, and the approximate center of the site is at latitude 38.653500 and longitude -121.355480, NAD-83.

1.2 REGULATORY BACKGROUND

Sacramento County has adopted measures for the preservation of native and non-native trees through the County Code as well as objectives and policies within the General Plan.

Chapter 19.04 of the County Code regulates removal and impacts to public trees, heritage trees, and landmark trees. Public trees are defined as any tree or shrub planted or maintained by the County on an easement, planting easement, street, County park, or public premises; heritage trees are any California oak tree with a trunk 60 inches or greater in girth, which equates to a trunk diameter of approximately 19 inches; landmark trees include any especially prominent or stately tree. A tree permit is required to prune, remove, or otherwise disrupt any public tree.

Chapter 19.12 of the County Code, titled "Tree Preservation and Protection," 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*) trees having a diameter at breast height (DBH) of at least 6 inches for a single stem tree or a combined DBH of 10 inches for a tree with multiple stems. Grading, trenching, or filling within the dripline, or removal, destruction, or killing of a tree as defined in the 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 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. 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.

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-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-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."

Additionally, the Sacramento County CEQA Planning and Environmental Review process considers the potential need for mitigation for selected native trees that are four inches diameter or larger at breast height, including California sycamore (*Platanus racemosa*), Oregon ash (*Fraxinus latifolia*) Northern California black walnut (*Juglans californica* v. *hindsii*), Goodding's black willow (*Salix gooddingii*), box elder (*Acer negundo* v. *californicum*), white alder (*Alnus rhombifolia*) and California buckeye (*Aesculus californica*).

1.3 PROJECT DESCRIPTION

The Project proposes to demolish the existing retail and storage buildings and construct a new building with convenience store and drive-thru quick-serve restaurant (QSR) or coffee tenant, and fuel canopy. The proposed development consists of a convenience store of 2,804 gross square feet (SF), QSR of 2,059 gross SF, new underground fuel tanks and piping, new fuel canopy and dispensers, new trash enclosure, landscaping, and irrigation. The existing retail use would be changed to Convenience store (beer and wine sales, tobacco sales, 24-hour operation) with fueling and drive-thru. Site parking development includes providing 23 standard spaces, one accessible space, and 12 fueling positions (18 total). Several trees may be preserved on site as part of project design.

2.0 METHODS

Arborist survey fieldwork was conducted on May 5, 2022, by HELIX Biologist and ISA Certified Arborist Stephanie McLaughlin (#WE-12922A).

2.1 TREE MAP

All trees rooted in or overhanging the Study Area were mapped using an EOS Mapping Systems Arrow 100 GNSS receiver with sub-meter accuracy. Trees were identified in the field with permanent numbered metal tags. Figure 2, *Tree Inventory* displays trees within the project site.

2.2 TREE INVENTORY

In accordance with the County's arborist report submittal requirements, the tree inventory included all trees rooted in or overhanging the Study Area or that may be affected by off-site project-related construction and having a DBH of 4-inches or larger for single-stem trees or 10 inches or larger for multi-stemmed trees. Tree data is provided in Appendix B.

2.3 ASSESSMENT

Inventoried trees were assessed in the field for the parameters in the subsection below, including size, root protection zone, health, structure, dripline environment, overall condition and recommendation for protection or removal.

2.3.1 Size

Size is the measured diameter of the trunk at 54 inches above grade (referred to in this report as diameter at breast height (DBH)), rounded to the nearest inch. For multi-stem trees, all stems at least 1-inch DBH were measured and summed. Measurements were made using either a Haglof 36-inch tree caliper or a U.S. Tape Company forester's diameter tape measure. Appendix B summarizes collected data.

2.3.2 Root Protection Zone

Root protection zone is defined as a circle with a radius equal to the length of the longest limb measured from the trunk to the dripline.

2.3.3 Health

Health is an indication of the overall vigor and vitality of the tree expressed as a rating of Good, Fair, or Poor. Ratings for health were based on the criteria in Table 1.

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.

2.3.4 Structure

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.

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.

2.3.5 Dripline Environment

A brief description of the growing condition of the area inside the dripline. Examples of growing conditions include vegetation, slope, existing impermeable surfaces or structures, utility lines, drainage, previous cuts or fills, fire damage, etc.

2.3.6 Overall Condition

A numerical rating of the tree based on the health and structural assessments, expressed as a scale of 0 (dead), 1 (severe decline), 2 (declining), 3 (fair), 4 (good), or 5 (excellent).

3.0 RESULTS

3.1 GENERAL SITE CONDITIONS

The Study Area is located in a residential and commercial area of Sacramento County within the census designated place of North Highlands. Land uses surrounding the Study Area include single-family residential, high density residential, and commercial, including auto repair and auto sales. The Study Area contains two vacant commercial buildings, an asphalt parking lot, and an undeveloped field dominated by non-native grassland habitat. A drainage ditch runs along the northern boundary of the Study Area, parallel to Myrtle Avenue. The majority of the trees are located along the northern boundary of the Study Area.

3.2 ARBORIST INVENTORY AND ESTIMATE OF TREE IMPACTS

A total of 18 trees were inventoried within or overhanging the Study Area during the arborist survey, consisting of six valley oak (*Quercus lobata*), three Oregon ash (*Fraxinus latifolia*), three velvet ash (*Fraxinus velutina*), two almond (*Prunus dulcis*), one Chinese hackberry (*Celtis sinensis*), one Mexican fan palm (*Washingtonia robusta*), one blue oak (*Quercus douglasii*) and one cherry plum (*Prunus cerasifera*).

Five of the seven native oaks in the Study Area (Tree # 103, 109, 112, 114, and 116) are large enough to be regulated by the Sacramento County Tree Protection Ordinance. Additionally, the Sacramento County CEQA Planning and Environmental Review process may require mitigation for the removal of Trees # 102 and 107, as they are a specified native non-oak species. Tree #115 is also native; however, it is in poor condition and has been recommended for removal and therefore should not require mitigation. Finally, the removal of native and non-native trees may require mitigation for loss of tree canopy as per the County General Plan. This would include any non-native trees not recommended for removal, (Trees # 104, 108, 113, and 117). Three trees (Tree # 110, 111, and 115) of the 18 trees in the Study Area were in poor condition and given an overall rating of 1. These three trees are recommended for removal. Several trees may be preserved on site as part of project design.

Removal of protected trees to facilitate development of the project would require a permit from the Sacramento County Director of Public Works. Removal of these trees may require mitigation, either by replacement in-kind or through payment of in-lieu fees, in accordance with Policies CO-139 and CO-146 of the Sacramento County General Plan. If any trees are preserved onsite, then the appropriate tree preservation and protection measures should be implemented. See Appendix D for recommendations for trees to be preserved onsite.

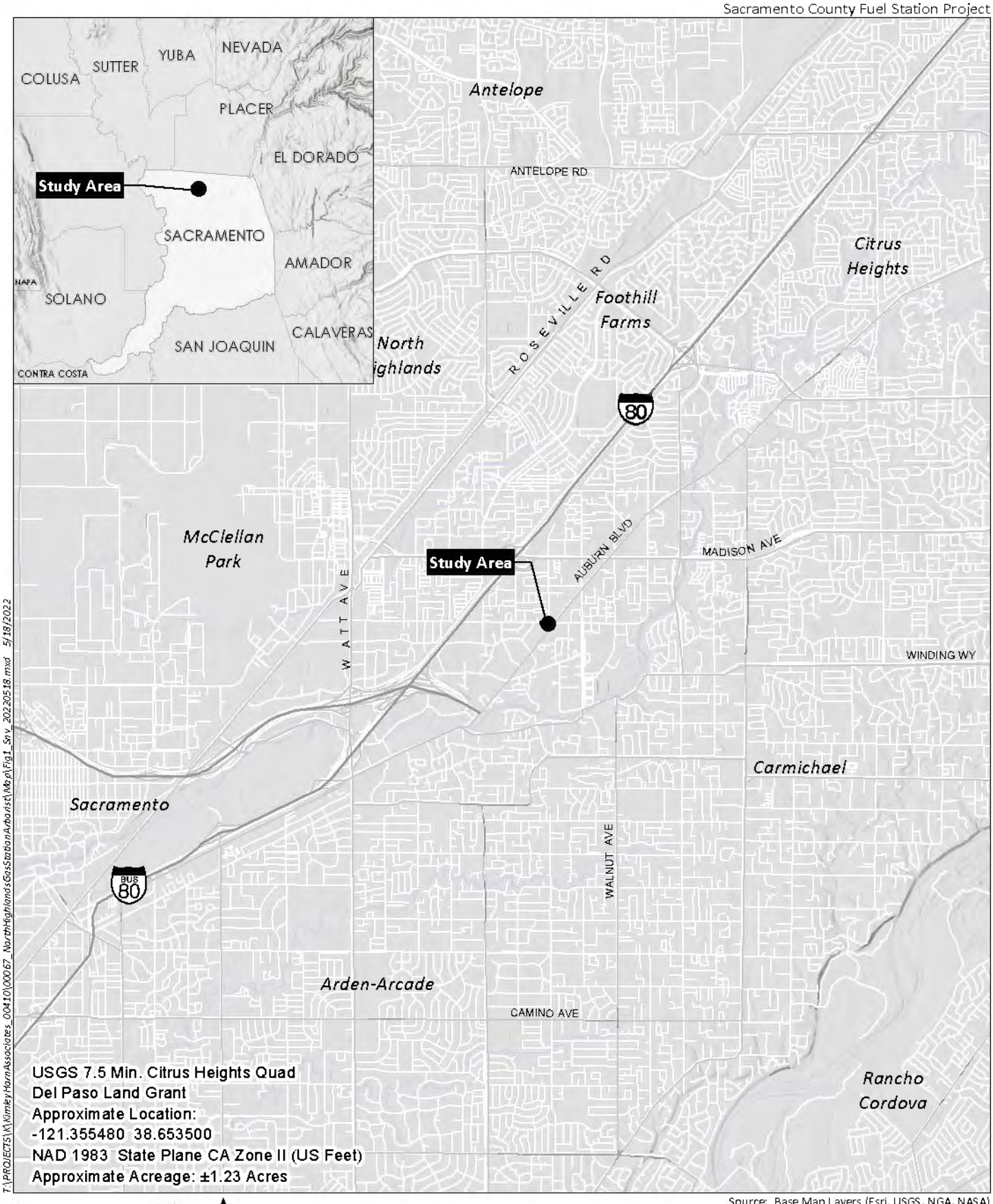
Approximate tree locations are shown in Figure 2. Site topography and approximate tree locations are included in Figure 3, *Tree Inventory with Topography*. Detailed tree data is provided in Appendix B. Representative photographs of the Site are provided in Appendix C. Tree Protection Recommendations are provided in Appendix D.

4.0 SUMMARY/CONCLUSION

A total of 18 trees were inventoried within or overhanging the Study Area. Three of the 18 trees were recommended for removal due to poor condition. Eight of the 18 trees are considered protected by Sacramento County and may require mitigation for removal. Four of the 18 trees are non-native shade providing trees and may require mitigation for removal. Removal of protected trees to facilitate development of the project would require a permit from the Sacramento County Director of Public Works. Additionally, removal of trees may require mitigation, either by replacement in-kind or through payment of in-lieu fees as determined by the County Environmental Coordinator. If any trees are preserved onsite, then the appropriate tree preservation and protection measures should be implemented.

Appendix A

Figures



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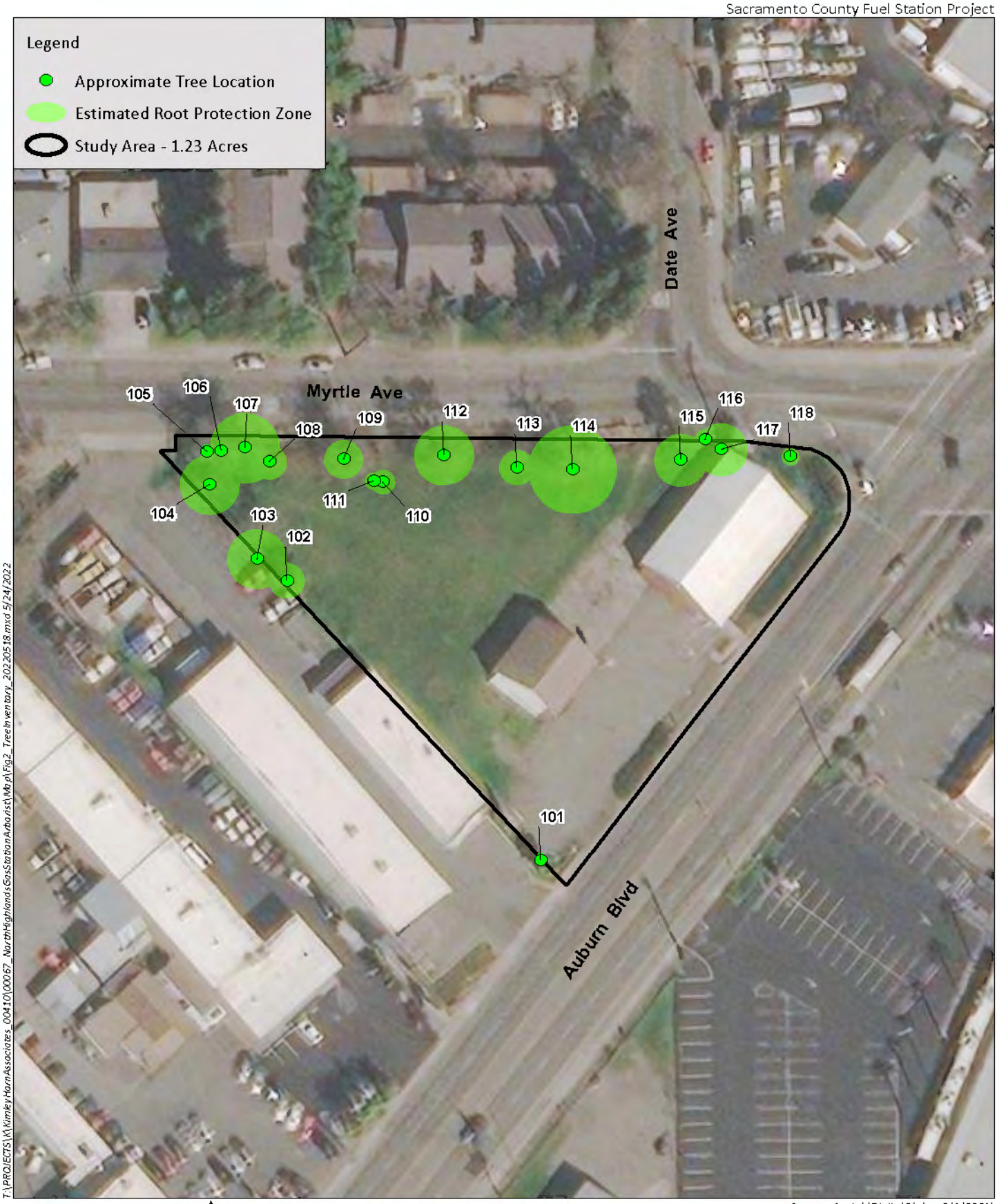
Vicinity Map

Figure 1



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Tree Inventory

Figure 2

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Tree Inventory with Topography

Figure 3

Appendix B

Tree Data

Appendix B
Tree Data[1]

Tree No.	Species	DBH (in)	Root Protection Zone (ft)	Height (ft)	Health[2]	Structure[2]	Condition	Dripline Environment	Notes	Recommended for Removal? Yes/No
101	Mexican fan palm *Washingtonia robusta*	17.5	3	15	G	G	5	turf grass, asphalt		No
102	Oregon ash *Fraxinus latifolia*	11.5	10	16	F	F	3	turf grass	minor crown dieback, pruning cuts, included bark	No
103	blue oak *Quercus douglasii*	13	17	25	GF	GF	4	turf grass	lean	No
104	Chinese hackberry *Celtis sinensis*	10.7	17	20	GF	F	3	turf grass	pruning cuts, epicormics	No
105	valley oak *Quercus lobata*	4, 2, 1	0	15	GF	GF	4	turf grass, ditch	co-dominant leaders	No
106	valley oak *Quercus lobata*	5	5	17	GF	GF	4	turf grass, ditch		No
107	Oregon ash *Fraxinus latifolia*	32, 9	20	45	F	F	2	turf grass, ditch	co-dominant leaders, minor crown dieback, trunk wound	No
108	almond *Prunus dulcis*	2, 2.5, 2.5, 3, 3.5	10	11	F	FP	2	turf grass, ditch	co-dominant leaders, broken branches, trunk wound	No
109	valley oak *Quercus lobata*	15.4, 8	11	45	F	FP	2	turf grass, ditch	co-dominant leaders, crown dieback	No
110	velvet ash *Fraxinus velutina*	3, 4, 2, 1.5, 1	7	12	P	FP	1	turf grass, ditch	co-dominant leaders, included bark, significant crown dieback	Yes
111	velvet ash *Fraxinus velutina*	1.5, 3	5	12	P	P	1	turf grass, ditch	sig cd pruning cuts, co-dominant leaders	Yes
112	valley oak *Quercus lobata*	14.5, 11.2	17	40	F	F	2	turf grass, ditch	co-dominant leaders, included bark, crown dieback, insect herbivory	No
113	almond *Prunus dulcis*	9, 5, 2, 5	10	12	FP	P	2	turf grass, ditch	co-dominant leaders, included bark, broken branches, pruning cuts	No
114	valley oak *Quercus lobata*	21.8	25	40	F	F	3	turf grass, ditch	co-dominant leaders, crown dieback	No
115	Oregon ash *Fraxinus latifolia*	12.8	15	50	P	F	1	turf grass	pruning cuts, trunk wound, epicormics, sig. crown dieback, yellowing leaves	Yes
116	valley oak *Quercus lobata*	3.5, 2.5, 3, 2, 1, 1.5	6	10	GF	FP	3	turf grass, encampment	co-dominant leaders	No

Appendix B
Tree Data[1]

Tree No.	Species	DBH (in)	Root Protection Zone (ft)	Height (ft)	Health[2]	Structure[2]	Condition	Dripline Environment	Notes	Recommended for Removal? Yes/No
117	cherry plum *Prunus cerasifera*	4.5, 2.5	15	18	GF	FP	3	turf grass	co-dominant leaders, epicormics	No
118	Modesto ash *Fraxinus velutina*	2.5, 2, 2.5	5	10	P	FP	2	turf grass	co-dominant leaders, included bark, significant crown dieback	No

[1] Red shading indicates trees protected by Sacramento County. Green shading indicates non-native tree requiring shade mitigation.

[2] P-Poor, FP-Fair Poor, F-Fair, GF-Good Fair, G-Good

Appendix C

Site Photos

Photo 1. View of blue oak and Oregon ash trees located along the western boundary of the Study Area.

Photo 2. View of valley oak trees along the northern boundary of the Study Area, adjacent to the drainage ditch and Myrtle Avenue.

Photo 3. View of insect herbivory affecting Tree #112.

Photo 4. View of shrubs and smaller trees directly adjacent to the vacant commercial building located in the northeastern corner of the Study Area.

Appendix D

Tree Protection Recommendations

Appendix D
Tree Protection Recommendations

Tree protection recommendations are provided below to minimize the potential for injury or damage to occur to avoided trees adjacent to the project footprint. These recommendations should be integrated into the construction documents, as applicable to the project.

1. *Trenching procedure*. Trenching within the protected zone of a protected tree, when permitted, may only be conducted with hand tools or compressed air, or as otherwise directed by an arborist, in order to avoid root injury.

    a. When a trenching machine is being used adjacent to the dripline of protected trees, and roots are encountered smaller than two inches, the wall of the trench adjacent to the trees shall be hand-pruned, making clear, clean cuts through the roots. All damaged, torn, and cut roots shall be given a clean cut to remove ragged edges, which promote decay. Trenches shall be filled within 24 hours; where this is not possible, the side of the trench adjacent to the trees shall be kept shaded with four layers of dampened, untreated burlap, wetted as frequently as necessary to keep the burlap wet. Roots two inches or larger, when encountered, shall be reported immediately to the Project Arborist, who will decide whether the Contractor may cut the root as mentioned above or shall excavate by hand or with compressed air under the root. All exposed roots are to be protected with dampened burlap.

    b. Where possible, route pipes outside of the dripline of a protected tree to avoid conflict with roots.

    c. Where it is not possible to reroute pipes or trenches, the contractor shall bore or tunnel beneath the dripline of the tree. The boring shall take place not less than three feet below the surface of the soil in order to avoid encountering "feeder" roots. All boring equipment must be staged outside of the dripline of protected trees.

2. *Root, trunk, and crown protection*.

    a. No vehicles, construction or otherwise, and no materials, construction or otherwise, shall be placed for any period of time within the protected zone other than those described in this section.

    b. Staging areas for equipment shall be established far enough from existing trees to ensure adequate protection of the root zone.

    c. Entry and exit routes shall be established and fenced off with chain link or construction fencing. When planning routes, avoid utility access corridors.

    d. A six-inch layer of coarse mulch or wood chips is to be installed within the Tree Protection Zone of protected trees. Mulch shall be kept 12 inches away from the trunk.

    e. When determined necessary by an arborist, trunks of trees shall be protected with a single wrap of Geocomposite. Geocomposite shall be double sided, Geonet core with non-woven covering (such as Tenax Tendrain 770/2), or equivalent.

Appendix D
Tree Protection Recommendations

3. *Cutting roots*.

    a. Minor roots less than one inch in diameter may be cut, but damaged roots shall be traced back and cleanly cut behind any split, cracked or damaged area.

    b. Major roots over one inch in diameter may not be cut without approval of an Arborist. Depending upon the type of improvement being proposed, bridging techniques or a new site design may need to be employed to protect the root and the tree.

4. *Protective fencing*.

    a. Type of fencing. A minimum five-foot high chain link or substitute fence should be installed at the outermost edge of the protected zone of each protected tree or groups of protected trees. Exceptions to this policy may occur in cases where protected trees are located on slopes that will not be graded. However, approval must be obtained from the Department to omit fences in any area of the project.

    b. Fence installation. The fences 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.

    c. Fence removal. Once approval has been obtained, the fences shall remain in place throughout the entire construction period.

5. *Grading*.

    a. Every effort should be made to avoid cut and/or fill slopes within or in the vicinity of the protected zone of any protected tree.

    b. No grade changes are permitted which cause water to drain to within twice the longest radius of the protected zone of any protected tree.

    c. No grade changes are permitted that will lower the ground on all sides of the tree.

    d. All grade changes within the dripline of a protected tree shall be supervised by the Project Arborist. Cuts or fills of soil within the dripline of a protected tree may have a retaining wall system installed as approved by the Project Arborist.

6. *Impact avoidance measures*. The following practices shall be prohibited at all times unless specifically allowed in the Arborist Report or the Tree Permit Conditions of Approval.

    a. Run off or spillage of potentially damaging materials into the area below any tree canopy.

    b. Fires under and adjacent to trees.

    c. Discharge of exhaust into foliage.

Appendix D
Tree Protection Recommendations

d. Securing of cable, chain, or rope to trees or shrubs.

e. Application of soil sterilizers under pavement within driplines of existing trees.

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