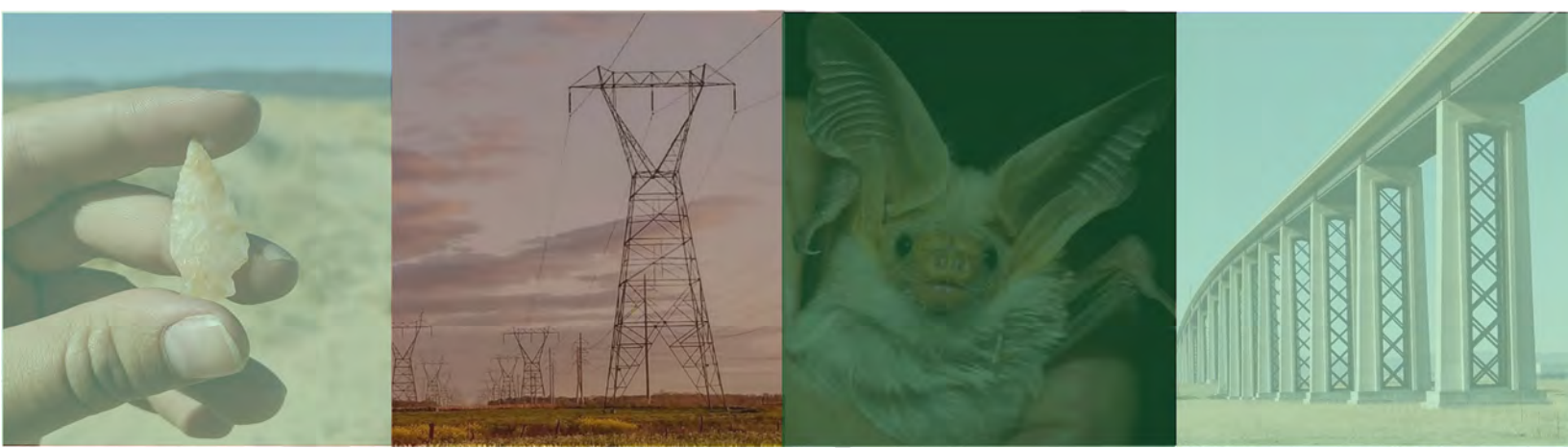


Arborist Report
28th Street and Q Street
Rio Linda, Sacramento County



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Report Date: July 2022



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1 Introduction

1.1 Introduction

This Arborist Report documents the findings of an arborist survey conducted for the 28th Street and Q Street (Project) located within unincorporated Sacramento County, California (**Exhibits 1 and 2**). The survey was performed on June 2, 2022, by Bargas Environmental Consulting LLC (Bargas) Biologist and International Society of Arboriculture (ISA) Certified Arborist Krystal Pulsipher (WE-12181A). The purpose of the arborist survey was to identify species, location, and current condition of trees within the project area that may be subject to regulation and protection, and to provide tree care recommendations, if warranted. Additionally, trees located within the anticipated impact area (area of ground disturbance) are identified.

1.2 Arborist Disclaimer

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the aesthetic beauty and health of trees, and to attempt to reduce the risk associated with living near trees. However, arborists cannot detect every condition that could possibly lead to structural failure of a tree or anticipate all environmental factors that could also contribute to failure. Therefore, this arborist report does not include an assessment of the potential for branch or tree falls but does provide a recommendation for tree removal if a tree appears to present an imminent risk of failure.

1.3 Project Location

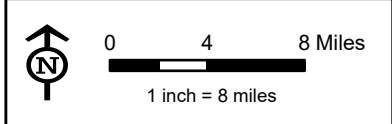
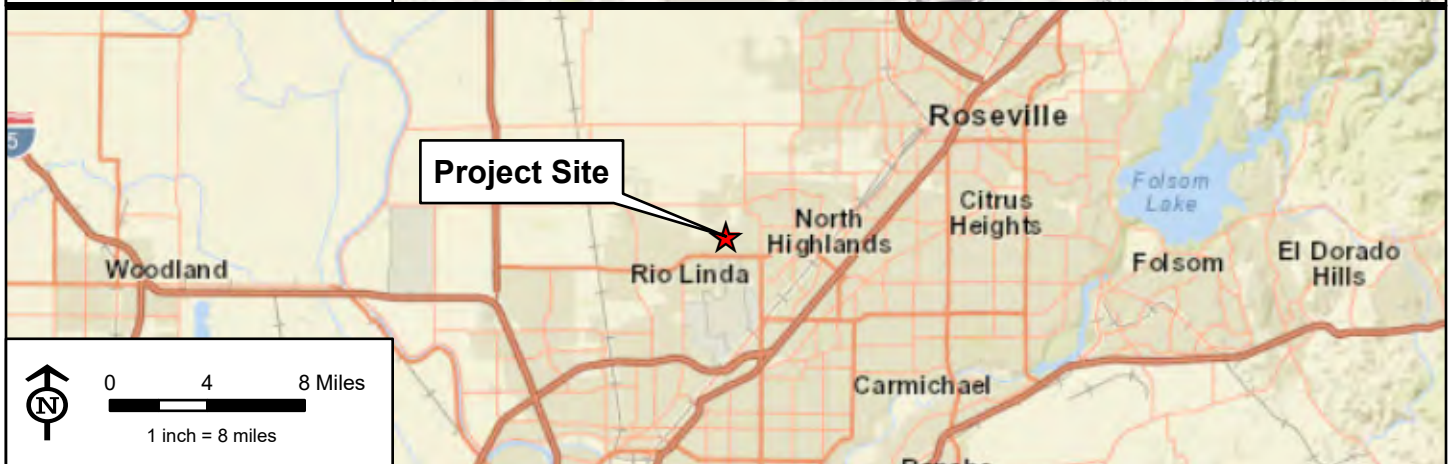
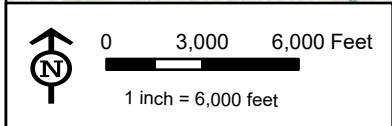
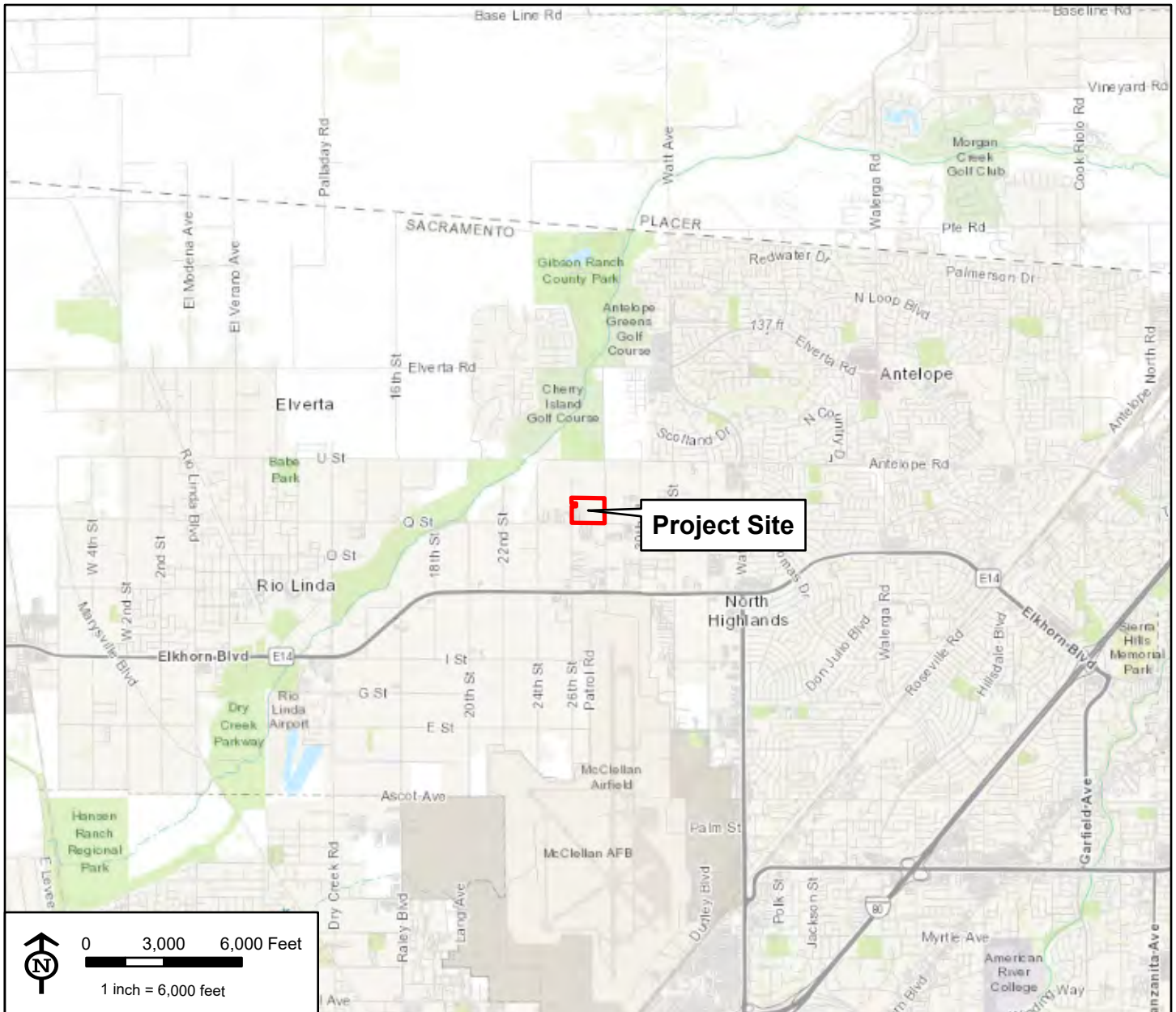
The Project is located west of 28th Street, north of Q Street, and east of 26th Street, approximately 0.27-mile south of U Street in the census designated place of Rio Linda in unincorporated Sacramento County, California. The proposed Project is approximately 27.6 acres in size and includes the following Assessor's Parcel Numbers:

- 208-0022-001
- 208-0022-002
- 208-0012-015
- 208-0012-016
- 208-0012-017
- 208-0012-020

The approximate center point of the Project is at coordinates 38.699191°, -121.403734° and is located within the Del Paso Land Grant.

1.4 Project Description

This study was conducted in support of potential future parcel rezoning.



Source: ESRI ArcGIS Online Basemap - World Topographic Map, World Street Map

Public Land Survey System (PLSS):
 Mount Diablo Meridian, Township 010N, Range 5E, Section 00
 USGS Quad(s): Rio Linda (1973)
 Watershed: Lower American (1802011)
 Project Site Coordinates: -121.404°W 38.699°N

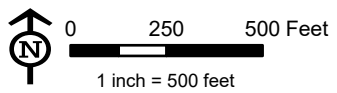


**Exhibit 1
 Project Site and Vicinity**

28th Street and Q Street



Source: Bing Maps Hybrid



 Study Area (27.6-acres)

Exhibit 2
Study Area



28th Street and Q Street



2 Methods

2.1 Regulatory Background

The Project site is within unincorporated Sacramento County (County). The County's municipal code was used as the regulatory guide for this survey.

The County's Code of Ordinances Title 19 provides regulations specific to trees, including Chapter 19.12 Tree Preservation Ordinance. Tree permits are required by the County for activities that involve any of the following activities:

- "Plant, transplant, move, separate, trim, prune, cut above or below the ground, disrupt, alter or do surgery upon any public tree located on an easement, planting easement, street, or public premises, irrespective of whether the tree is alive or dead" (Section 19.04.100);
- "Trench, grade or fill within the dripline of any tree or destroy, kill or remove any tree as defined, in the designated urban area of the unincorporated area of Sacramento County, on any property, public or private, without a tree permit, or unless authorized as a condition of a discretionary project approval by the Board of Supervisors, County Planning Commission, Zoning Board of Appeals, the Zoning Administrator or the Subdivision Review Committee" (Section 19.12.060).

The County's Arborist Report Submittal Requirements specifies that an arborist report be included with tree permit applications filed for the above listed activities and further defines protected trees as any of the following:

- "All native oak and specified non-oak native trees (see species list) that are 4 inches in diameter (dbh) and larger (or 10-inch aggregate diameter for multi-trunk native oak and Northern California black walnut trees);
- Species include: valley oak (*Quercus lobata*); interior live oak (*Quercus wislizeni*); blue oak (*Quercus douglasii*); coast live oak (*Quercus agrifolia*; in the Delta area); oracle oak (*Quercus X morehus*); native oak hybrids; California sycamore (*Platanus racemose*); Northern California black walnut (*Juglans californica* var *hindsii*); Oregon ash (*Fraxinus latifolia*); Goodding's black willow (*Salix gooddingii*); box elder (*Acer negundo* var *californicum*); white alder (*Alnus rhombifolia*); California buckeye (*Aesculus californica*)."

Arborist Report Submittal Requirements lists the minimum information required to be collected and included in an arborist survey and will be described below in "Survey Methods" (County, 2019).

2.2 Survey Methods

The arborist Study Area encompasses the entire 27.6-acre Project site. The entire undeveloped eastern half of the Study Area (APNs 208-0022-002, 208-0012-016, 208-0012-017) was surveyed on foot. The developed western half of the Study Area (APNs 208-0022-001, 208-0012-015, 208-0012-020) were assessed from accessible public road rights-of-way and aerial imagery to determine if any Protected Trees were present.

The survey consisted of creating an inventory of all protected trees within the Study Area and conducting a Visual Tree Assessment (VTA) to evaluate the physical attributes, tree health, structure, and overall condition of each tree. The criteria used to rate the overall condition is provided below in **Table 1**. Cataloguing of the trees was completed using square-shaped aluminum arborist tags with pre-engraved numbers, placed at the approximate



location at which the diameter at breast height (DBH) is measured (54 inches above ground) or where physically accessible. All trees within the Study Area that are defined as Protected Trees under the County’s ordinance were inventoried, with a few notable specimens included that are not considered Protected Trees.

The following VTA data were collected and recorded for each tree:

- Tree species;
- Number of trunks;
- DBH or aggregate DBH of multiple trunks;
- Estimated tree height;
- Estimated Root Protection Radius;
- Location of the tree;
- Tree health;
- Tree structure;
- Overall condition of the tree;
- Noteworthy characteristics and/or brief description of the tree.

Table 1. Visual Tree Assessment Criteria

Rating	Description
Excellent	There are no signs of dead or decaying limbs, injury, or cavities present. There are no indicators of pest infestation (e.g., ants), fungus, disease, or foreign objects embedded in the structure of the limbs or trunk. Roots do not demonstrate girdling or encroachment upon the hardscape. Foliage growth is normal for the growing season, new buds are normal size and viable, foliage characteristics (e.g., leaf size, shape, color, and density) are normal, and no foliage diseases are present. The tree appears to be in good health with no signs of stress. There are no apparent structural weaknesses or defects, such as excessively weighted branches, asymmetrical canopy cover, or leaning trunks.
Good	There are few signs of dead or decaying limbs, injury, or cavities present. There are no indicators of pest infestation, fungus, or foreign objects embedded in the structure of the limbs or trunk. Roots do not demonstrate girdling or encroachment upon the hardscape. Foliage growth is normal for the growing season, new buds are normal size and viable, foliage characteristics are normal, and no foliage diseases are present. The tree appears to be generally healthy, with few signs of stress. There are no apparent structural weaknesses, however minimal defects, such as slight asymmetrical canopy cover or mildly weighted limbs, may be present.
Fair	There are some signs of dead or decaying limbs, injury, or cavities, but they do not appear to be affecting the overall health of the tree. There are a few pest infestations or disease indicators; however, it does not affect overall tree health. Roots may demonstrate partial girdling or encroachment upon the hardscape—the average growth of foliage for the growing season. Foliage characteristics are normal but may demonstrate characteristics of disease which do not appear to be affecting the overall health of the tree. The tree appears to be slightly damaged or stressed with moderate amounts of deadwood or growth since the previous growing season. Minor structural weaknesses or defects, such as moderate amounts of excessively weighted branches, asymmetrical canopy cover, or leaning trunks, are present.
Declining	Several obvious signs of declining tree health and structural stability may include many of the problems described above in the “(3) fair” category. If the underlying causes of decline are not identified and addressed, the tree will continue to decline and most likely die.
Severe Decline	There are significant signs of dead or decaying limbs or injury in the tree (ants, fungus, cavities, and dead limbs). There are additional indicators of stress which may include included bark, girdling roots, or large cavities. There is little to no foliage growth during the growing season, small buds that may not be viable, foliage characteristics are abnormal, or foliage diseases are present that appear to affect the



Rating	Description
	overall health of the tree. The vigor is poor, with the overall health declining. No new vegetative growth is present, and there are large amounts of dead wood. The tree is structurally deficient in ways that include structural weaknesses or defects, such as excessively weighted branches, asymmetrical canopy cover, or leaning trunks where there is a potential risk for limb or trunk failure.
Dead	The tree has no living foliage or other signs of functioning physiology and exhibits past symptoms or signs of abiotic or biotic stressors.

The assessment of tree health is defined by the County as “a measure of overall vigor and vitality of the tree and rated as good, fair or poor based on an assessment of crown density, leaf color and size, active callusing, shoot growth rate, extent of crown dieback, cambium layer health, and tree age” (County, 2019). The assessment of tree structure is defined as “a measure of the tree’s structural stability and failure potential and rated as good, fair or poor based on assessment of specific structural features, eg., decay, conks, co-dominant trunks, included bark, abnormal lean, one-sided canopy, history of failure, prior construction impact, pruning history, etc.” (County, 2019). The tree health and structure ratings are evaluated together to formulate the overall condition of the tree as either 0) dead; 1) severe decline; 2) declining; 3) fair; 4) good; 5) excellent. Intermediary ratings were used where deemed fit.

An Eos Arrow 100 Global Positioning System (GPS) technology receiver paired with the Eos Tools Pro and Environmental Systems Research Institute (ESRI) Collector applications on an Android phone was used to map the location of each tree. This mapping GPS system is capable of real-time differential correction and sub-meter accuracy. The GPS data were downloaded through Arc GIS Online and converted into ESRI shape file format. The geographic coordinate system used to reference the data was Universal Transverse Mercator (UTM–Zone 10), North American Datum (NAD83) in meters.



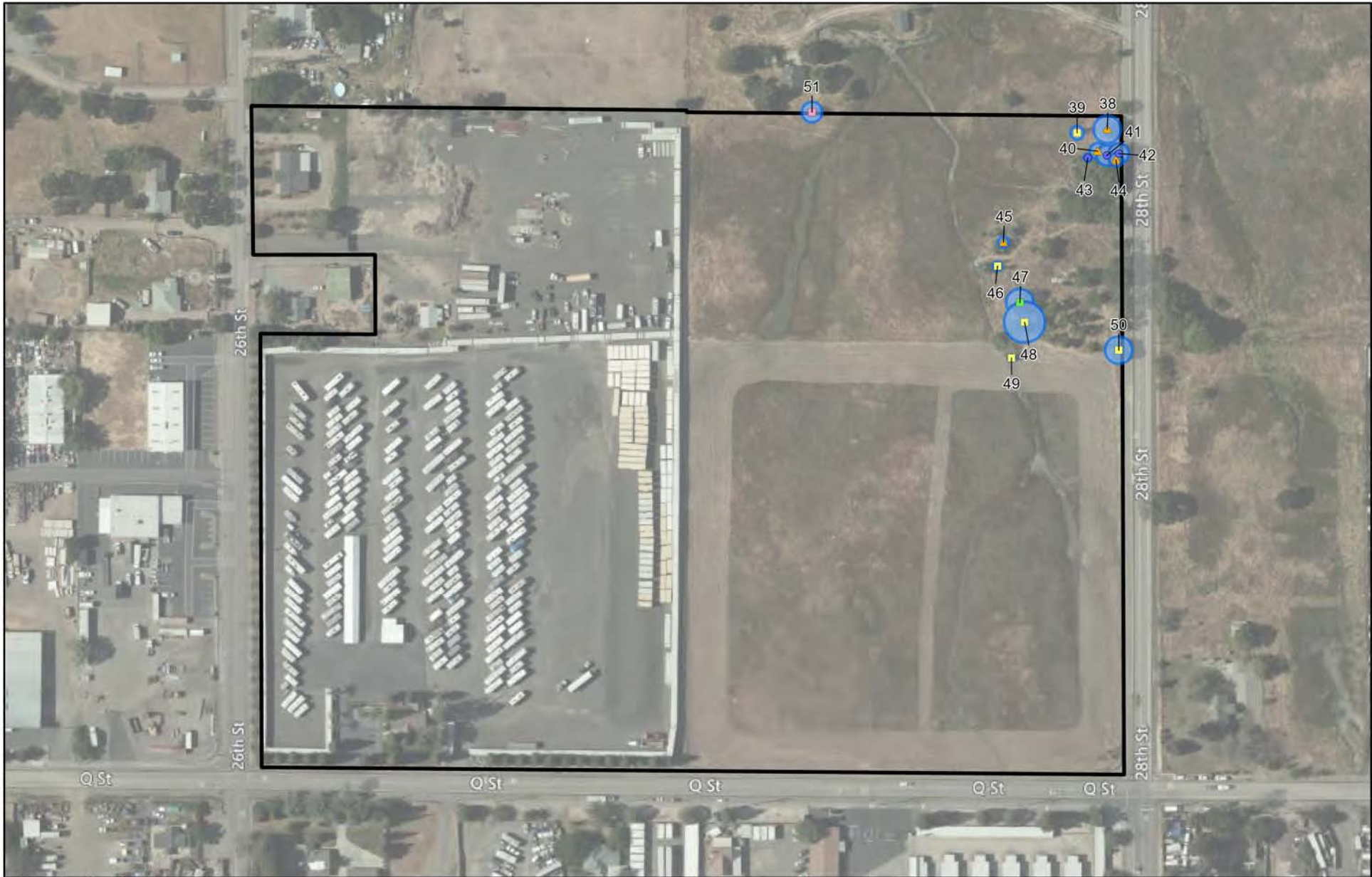
3 Results

A total of 14 Protected Trees were tagged and inventoried, the majority of which are located in the northeastern corner of the Study Area with one tree along the northern Study Area boundary. Tree tag numbering starts at tree #38. **Table 2** below provides a summary of the species that were surveyed, their frequency of occurrence, and their distribution of condition ratings. None of the trees surveyed were assessed to have declining, severe decline, or dead conditions. **Exhibit 3** provides a map of the locations of all trees surveyed, including the tree species, condition rating, and root protection zone radius. **Appendix A** provides the complete set of arborist survey data.

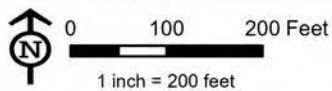
Table 2. Summary of Tree Inventory Survey

Scientific Name	Common Name	Overall Condition Rating			Number of Trees
		Fair	Fair-Good	Good	
<i>Quercus douglasii</i>	Blue Oak	0	0	1	1
<i>Quercus lobata</i>	Valley Oak	3	4	5	12
<i>Quercus wislizeni</i>	Interior Live Oak	0	0	0	1
Totals:		3	4	6	14

*Source: Bargas 2022.



Source: Bing Maps Hybrid



Study Area (27.6-acres)

Root Protection Zone

Common Name and Condition *Fair*

Good

- Blue Oak
- Interior Live Oak
- Valley Oak

Valley Oak

Fair - Good

Valley Oak

Exhibit 3
Tree Inventory Survey

28th Street and Q Street



4 Discussion and Recommendations

The specific project design plans for the proposed redevelopment project have yet to be completed; therefore, it is unknown how many of the trees, and which specific trees, documented during the arborist survey will be removed or otherwise potentially impacted by the proposed project.

The sections provided below summarize the County Tree Preservation Ordinance requirements, in addition to commonly recommended measures utilized by other city and county governments, meant to ensure that trees slated for preservation will survive during the duration of the Project work activities and will remain healthy and viable into the future.

Recommended measures based upon the VTA specific to the trees surveyed are also provided below.

These measures are not meant to replace or supersede any measures required by the County Planning Division or County arborist upon issuance of a tree permit or discretionary project permit(s).

4.1 County Tree Preservation Ordinance Requirements

The County may require a replanting security payment per Section 19.12.140 of the Tree Preservation Ordinance in order to guarantee the applicant's compliance with conditions or approval and County ordinance provisions regarding tree protection and preservation. The following recommendations are taken from the County code and are meant to ensure that trees slated for preservation will survive during the duration of the project work activities and will remain healthy and viable into the future.

Measure 1:

Prior to issuance of a tree permit or discretionary project permit (i.e. conditional use permits, parcel maps, rezoning, design reviews, subdivision maps, or variances), the applicant must comply with the County's Tree Preservation Ordinance as provided in Chapter 19.12 and obtain authorization to remove and/or prune a protected tree or conduct project activities within the protected zone of a protected tree that could potentially harm or kill the tree. The applicant must comply with all requirements set forth in the issued tree permit or discretionary approval.

Measure 2:

Unless otherwise specified in the Tree Permit, the following measures should be implemented to protect the root zone of protected trees:

- No grade cuts greater than one foot shall occur and no fill greater than one foot shall be placed within the driplines of oak trees, and no grade cuts or fill whatsoever shall occur or be placed within five feet of their trunks;
- No trenching whatsoever shall be allowed within the driplines of oak trees. If it is absolutely necessary to install underground utilities within the driplines of an oak tree, the trench shall either be bored or drilled;
- No irrigation system shall be installed within the driplines of oak tree(s) which may be detrimental to the preservation of the oak tree(s) unless specifically authorized by the approving body at the County or the Director of Public Works;



- Paving within the driplines of oak trees should be stringently minimized and, when it is absolutely necessary, use porous materials.

Measure 2:

Landscaping beneath oak trees may include non-plant materials such as boulders, cobbles, wood chips, etc., and plant species included on the approved list in Section 19.12.130. Plant species permitted to be planted within the driplines of oak trees are those which are tolerant of the natural semi-arid environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants.

Measure 3:

Grading within the driplines of oak trees will not be permitted unless specifically authorized by the approving body at the County of by the Director of Public Works. Section 19.12.160 of the Tree Preservation Ordinance provides further details specifying measures to protect roots within the dripline if grading is necessary, including, but not limited to, the following:

- Major roots two inches or greater in diameter encountered within the tree’s dripline in the course of excavation from beneath trees which are not to be removed shall not be cut and shall be kept moist and covered with earth as soon as possible. Roots one inch to two inches in diameter which are severed shall be trimmed and treated with pruning compound and covered with earth as soon as possible.
- Support roots that are inside the dripline of the tree shall be protected. The permittee is required to hand-dig in the vicinity of major trees to prevent root cutting and mangling which may be caused by heavy equipment.

4.2 Other Recommended Measures

Measure 4:

Prior to commencement of grading activities, high-visibility fencing shall be installed at the outermost edge of the protected zone of each protected tree or groups of protected trees. Signage indicating that equipment and construction vehicles are prohibited beyond the fencing limits shall be posted on or near the fencing.

Measure 5:

Tree pruning needed for clearance during construction shall be directed by an arborist.

Measure 6:

If injury should occur to any protected tree during construction, it should be evaluated as soon as possible by an arborist so that appropriate treatments can be applied.

4.3 Specific Recommendations / Protection Measures

None of the trees surveyed were assessed to be in declining, severe decline, or dead condition; therefore, none of the surveyed trees are recommended for removal. It is recommended to protect all the surveyed trees so they are not negatively impacted by the proposed Project construction activities and preserve them on site for the future.



Pruning to remove deadwood and/or branches or limbs containing rot is recommended for most of the surveyed trees. It is recommended that pruning is conducted under the guidance of an arborist to ensure the greatest benefit to the health and structure of the tree.

Tree #38, a Valley Oak, has some evidence of rot present in major limbs. It is recommended that the tree condition be monitored periodically by an arborist in the future to assess if major limbs should be pruned due to rot, or if complete tree removal may become necessary.



5 Definitions

- **Arborist** – an individual deemed qualified as a tree specialist based on education, knowledge, and experience and certified by the International Society of Arboriculture.
- **Diameter at breast height (DBH)** – diameter of the trunk(s) at breast height, measured at 54 inches above ground.
- **Foliage** – tree’s leaves.
- **Heritage tree** = defined by Sacramento County as a California oak tree growing on any land in Sacramento County, including privately owned land, with a trunk sixty inches or greater in girth measured 54 inches above the ground (equal to 19 inches dbh or larger).
- **Landmark tree** = defined by Sacramento County as an especially prominent or stately tree on any land in Sacramento County, including privately owned land.
- **Limbs** – assessment of both smaller and larger branching, generally from primary crotch structure to branch.
- **Overall condition** – describes overall condition of the tree in terms of structure and vigor, and includes such factors as: root crown, trunk, limbs, growth rate, leaf appearance, dripline environment. Ratings range from Poor to Excellent, with ratings of excellent condition rarely given.
- **Preserved tree** – a tree that has been established as one to be saved through the tree permit or discretionary project approval process.
- **Protected tree** – any tree, including a landmark tree, for which a tree permit is required prior to any removal or development activity being conducted within the protected zone.
- **Root protection zone** – defined as a circle with the radius being the measurement of the length of the distance from the trunk to the end of the longest limb. If a larger RPZ is warranted or if the longest limb method would not result in adequate protection, provide an appropriate RPZ with a brief explanation.
- **Visual Tree Assessment** – the process of assessing the condition of the tree from ground level using visual observations.



Appendix A. Arborist Tree Inventory Survey Data



Tree #	Scientific Name	Common Name	DBH (inches)	Height (feet)	Protected Zone Radius (feet)	Condition	Comments	Recommendations
38	<i>Quercus lobata</i>	Valley Oak	16	30	20	Fair - Good	Tree health is good. Tree structure is poor. Rot at location of included bark of major limb crotch, bark damage on trunk (possibly from livestock), some dead branches low on tree, rot present in one limb.	Monitor tree condition in future to assess if major limbs should be pruned due to rot, or if tree removal may be necessary. Prune deadwood for health. Protect and preserve.
39	<i>Quercus lobata</i>	Valley Oak	8	30	10	Good	Tree health and structure are good. Some dead branches low on tree.	Prune deadwood for health. Protect and preserve.
40	<i>Quercus lobata</i>	Valley Oak	7.5	30	12	Fair - Good	Tree health is good. Tree structure is fair. Some dead branches low on tree.	Prune deadwood for health. Protect and preserve.
41	<i>Quercus lobata</i>	Valley Oak	11	37	15	Fair	Tree health and structure are fair. Rot at knots on trunk, many dead branches and lack of foliage on lower half of crown, slight lean, included bark on upper limb crotch.	Prune deadwood for health. Protect and preserve.
42	<i>Quercus lobata</i>	Valley Oak	11	30	15	Fair	Tree health and structure are fair. Embedded barbed wire fence, many dead branches and lack of foliage in lower half of crown, included bark at primary crotch.	Prune deadwood for health. Protect and preserve.
43	<i>Quercus lobata</i>	Valley Oak	5	30	6	Fair	Tree health is good. Tree structure is poor. Bark is coming off thick on trunk, possible insect boring (holes in bark, does not appear like sapsucker damage).	Protect and preserve.
44	<i>Quercus lobata</i>	Valley Oak	7	29	10	Fair - Good	Tree health and structure are fair. Some dead branches low on tree and lack of foliage in lower half of crown.	Prune deadwood for health. Protect and preserve.
45	<i>Quercus lobata</i>	Valley Oak	4.5	20	8	Fair - Good	Tree health is good. Tree structure is fair. Some missing bark and bark damage (possibly from livestock), some dead branches low on tree.	Prune deadwood for health. Protect and preserve.
46	<i>Quercus lobata</i>	Valley Oak	7.5	22	7	Good	Tree health is good. Tree structure is fair. Some dead branches low on tree.	Prune deadwood for health. Protect and preserve.
47	<i>Quercus wislizeni</i>	Interior Live Oak	13	25	20	Good	Tree health is good. Tree structure is fair. Some dead branches low on tree, embedded wire fence in trunk.	Prune deadwood for health. Protect and preserve.
48	<i>Quercus lobata</i>	Valley Oak	19.5	50	30	Good	Tree health is good. Tree structure is fair. Some embedded wire fence at base of trunk, rot in a few small dead branches.	Prune deadwood for health. Protect and preserve.
49	<i>Quercus lobata</i>	Valley Oak	11	15	5	Good	Two leaders (6.5, 4.5 inches dbh), bark damage (possibly from livestock), some dead branches low on tree.	Prune deadwood for health. Protect and preserve.
50	<i>Quercus lobata</i>	Valley Oak	16	35	20	Good	Tree health is good. Tree structure is fair. Embedded barbed wire fence, slight lean.	Protect and preserve.
51	<i>Quercus douglasii</i>	Blue Oak	14	25	15	Good	Tree health is good. Tree structure is fair. Included bark at primary crotch, some dead branches.	Prune deadwood for health. Protect and preserve.



Appendix B. Site Photographs



Photo 1. Tree #38, Valley Oak; dbh = 16 inches; condition = Fair-Good.

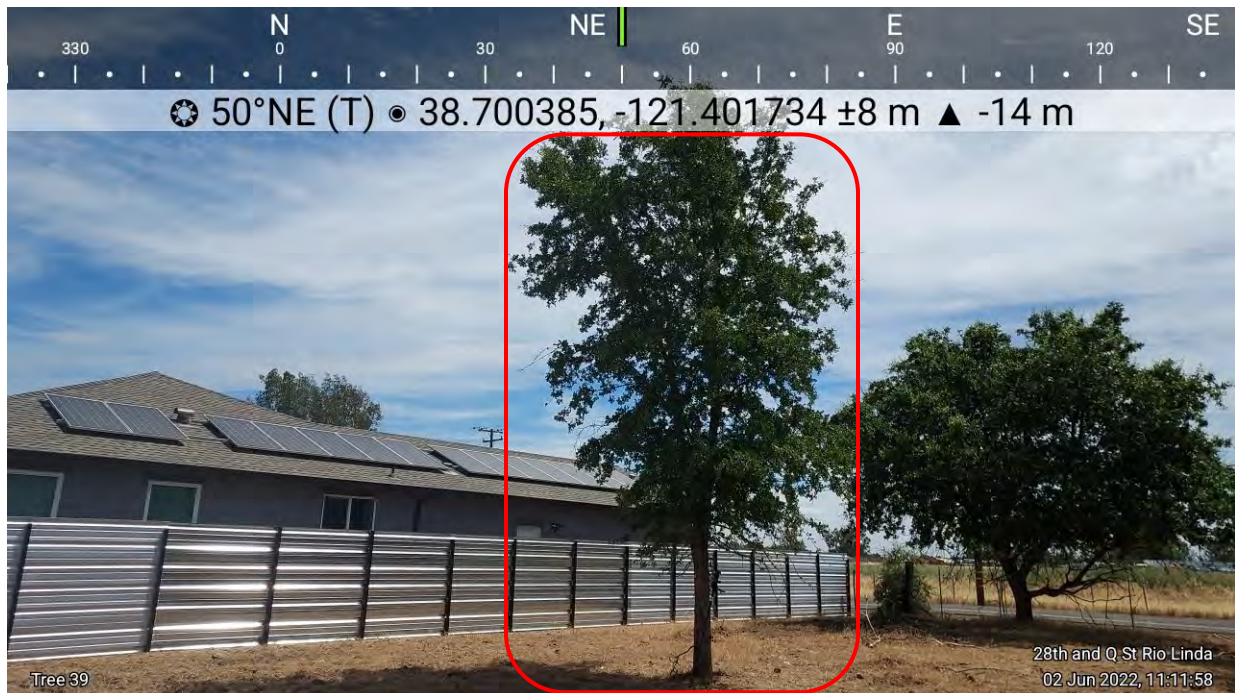


Photo 2. Tree #39, Valley Oak; dbh = 8 inches; condition = Good.



Photo 3. Tree #40, Valley Oak; dbh = 7.5 inches; condition = Fair-Good.



Photo 4. Tree #41, Valley Oak; dbh = 11 inches; condition = Fair.



Photo 5. Tree # 42, Valley Oak; dbh = 11 inches; condition = Fair.



Photo 6. Tree #43, Valley Oak; dbh = 5 inches; condition = Fair.



Photo 7. Tree #44, Valley Oak; dbh = 7 inches; condition = Fair-Good.

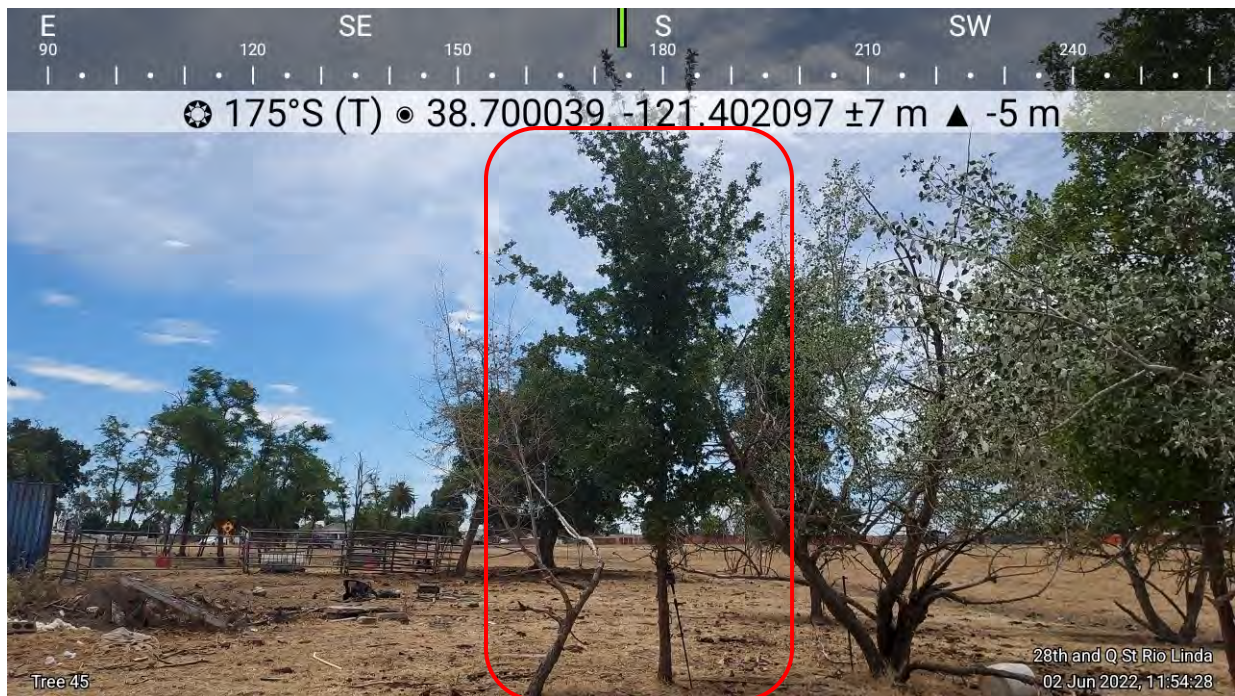


Photo 8. Tree # 45, Valley Oak; dbh = 4.5 inches; condition = Fair-Good.

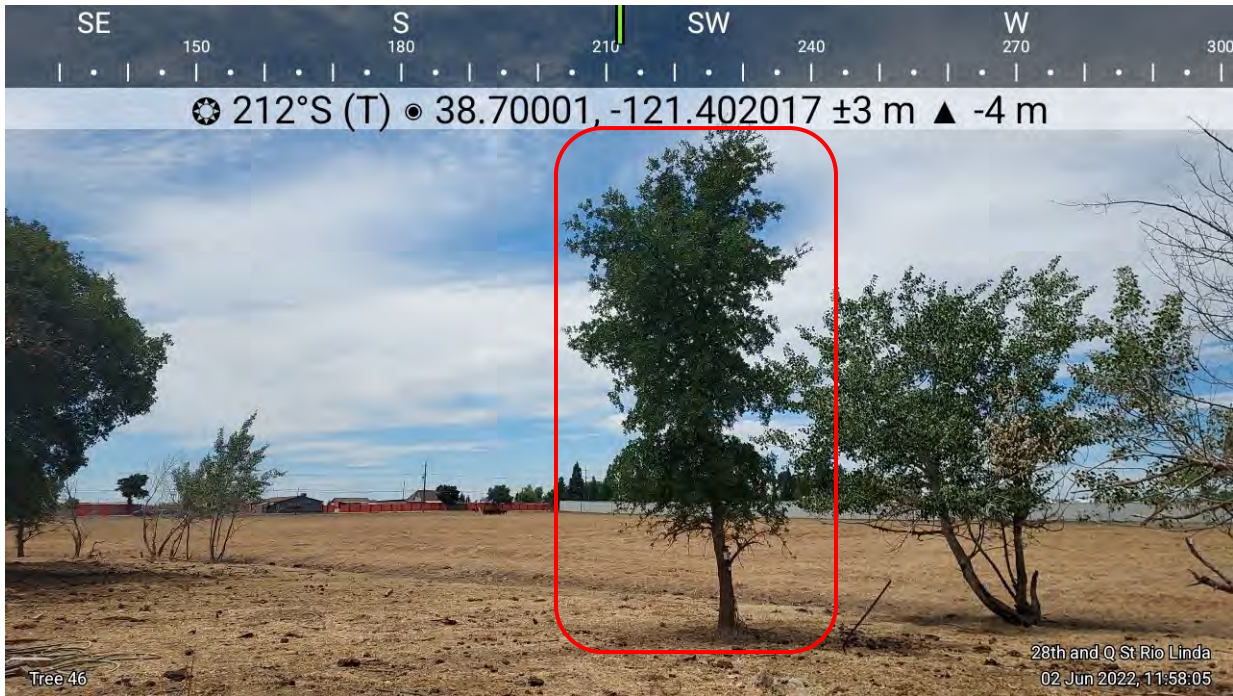


Photo 9. Tree #46, Valley Oak; dbh = 7.5 inches; condition = Good.

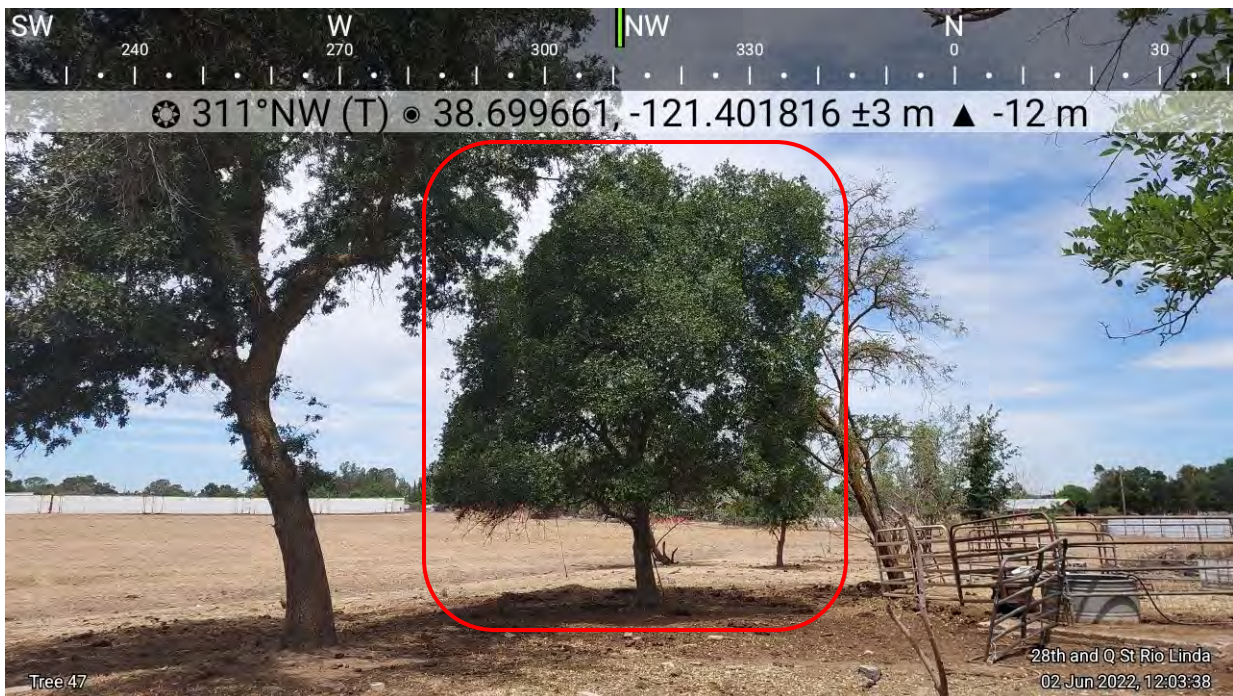


Photo 10. Tree # 47, Interior Live Oak; dbh = 13 inches; condition = Good.

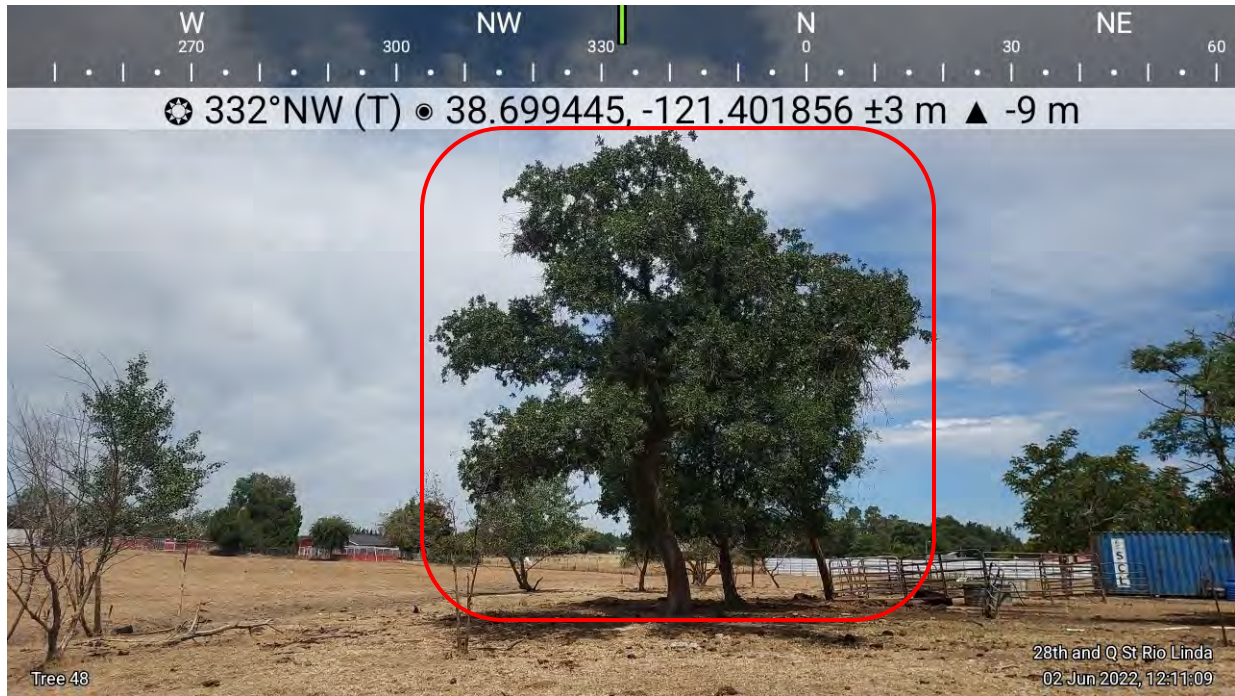


Photo 11. Tree #48, Valley Oak; dbh = 19.5 inches; condition = Good.

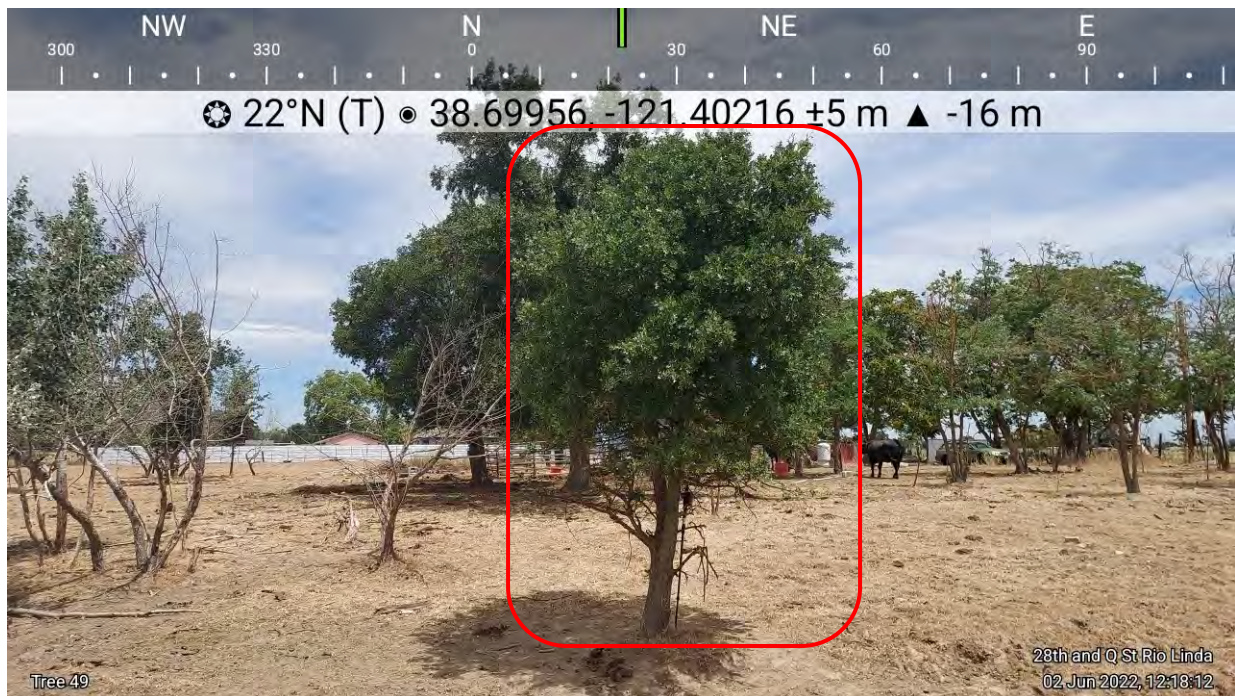


Photo 12. Tree #49, Valley Oak; dbh = 11 inches; condition = Good.

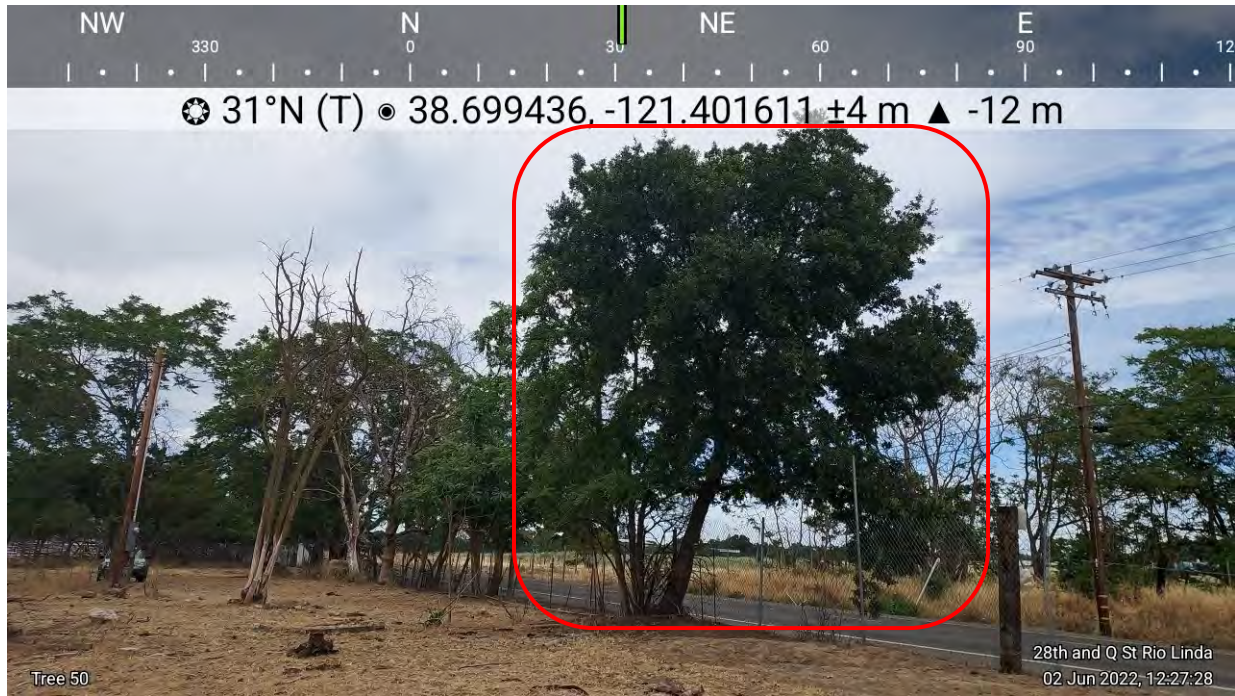


Photo 13. Tree # 50, Valley Oak; dbh = 16 inches; condition = Good.

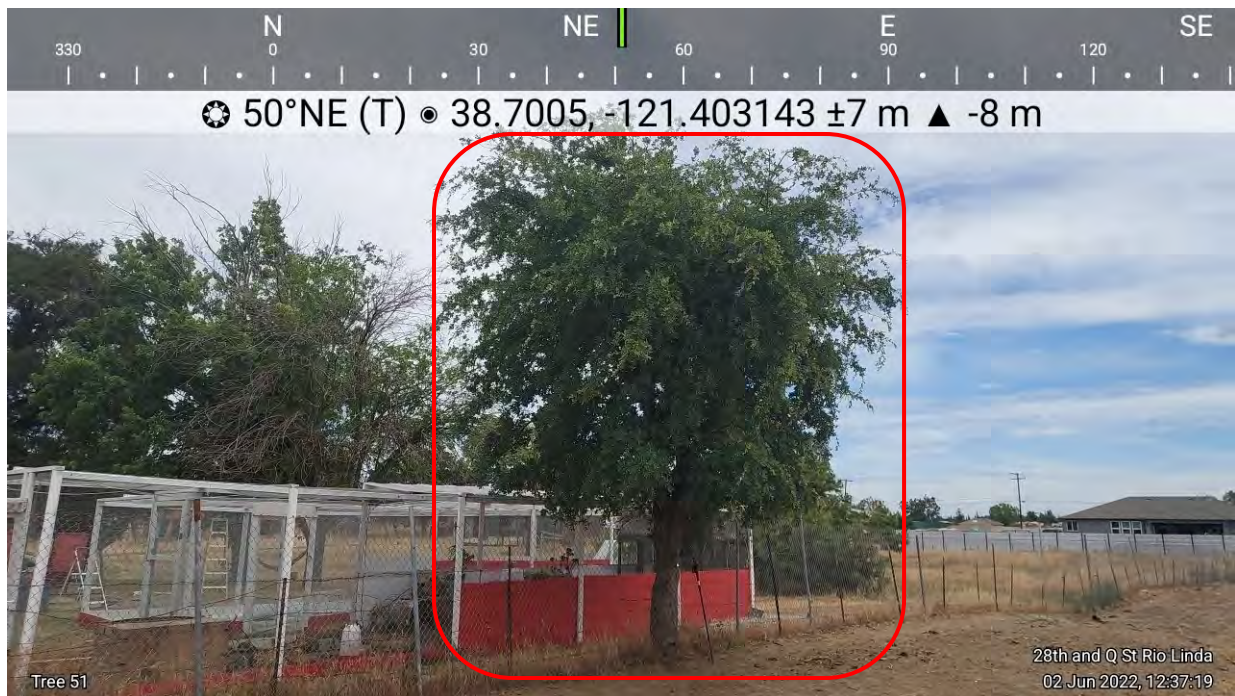


Photo 14. Tree # 51, Blue Oak; dbh = 14 inches; condition = Good.