

# Oak Tree Survey Report

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## Hope Gardens Redevelopment Project

**October 2019**

**Prepared For:**

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# 1. Introduction

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This report includes results of a focused oak tree survey conducted by South Environmental for a redevelopment project at Hope Gardens Family Center, a Union Rescue Mission Facility located at 12249 Lopez Canyon Road in an unincorporated area of Los Angeles County, California. The project includes the demolition of the Sequoia building, a housing facility at the Hope Gardens, and the construction of a new building on top of the existing footprint, new driveways and parking areas. The purpose of this report is to support a conditional use permit application with the County of Los Angeles, and the scope of this report includes a description of the proposed project and survey area, methods used to survey and assess the oak trees, and a discussion of the projects potential impacts to oak trees.

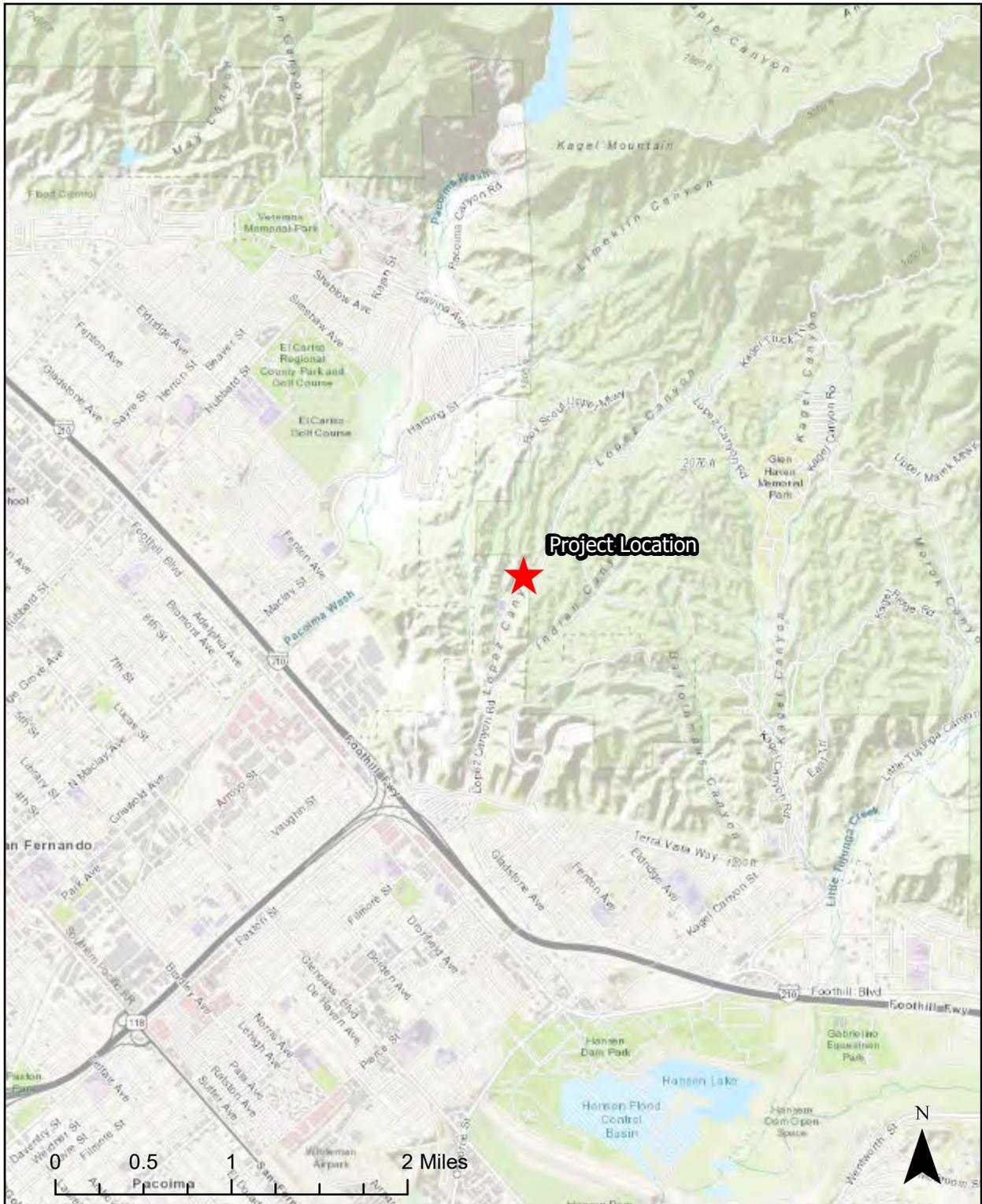
## 1.1 Project Description

### Location and Setting

As shown in Figure 1 below, the project is in unincorporated Los Angeles County approximately 1.0 mile north of Interstate 210 and the Sylmar neighborhood of the City of Los Angeles. The project is within the U.S. Geological Survey (USGS) San Fernando 7.5 Minute Topographical Quadrangle, and within Section 36 of Township 03 North (03N) and Range 15 West (15W), and Section 31 of Township 03N and Range 14W. As shown in Figure 2 below, the project site is set within a canyon along Lopez Canyon Road and the Hope Gardens facility is within a woodland of mature native and landscaped trees. The areas adjacent to the east and west of Hope Gardens include undeveloped native coastal scrub and non-native grassland habitats on steep mountain slopes. The survey area includes a 200-foot buffer around the existing building, and the eastern portion is within the Angeles National Forest, which occurs immediately adjacent to the east of the Sequoia building and approximately 400 feet north.

### Proposed Development

The project includes the demolition of the Sequoia building and the construction of a new building, additional driveways and parking areas, and an enhancement of the landscaping. The proposed development areas are shown in Figure 2 below. The development will occur in areas that are currently developed with the Sequoia building, driveways, and parking areas, and these area will be updated with the new development, paving, and landscaping.



Source: ESRI Basemaps 2019

Hope Gardens Redevelopment Project Oak Tree Report

Figure 1. Regional Location



Source: ESRI Basemaps 2019

Hope Gardens Redevelopment Project Oak Tree Report

Figure 2. Project Setting

## 1.2 Methodology

### Field Survey

South Environmental certified arborist Matthew South (ISA#: WE-12564A) conducted a survey of each tree of the genus *Quercus* with a trunk diameter of 8 inches or greater or with two trunks with diameters totaling at least 12 inches when measured at 4.5 feet above grade (protected oak) that is within 200-feet of proposed construction. The survey was conducted on May 2, 2019 and adhered to the guidelines outlined in the County of Los Angeles Oak Tree Ordinance. During the survey, each protected oak was marked on the north side with a unique identification number and the location of the trunk was recorded using a Trimble R1 high-accuracy (sub-meter) GPS unit. The arborist evaluated the physical structure and health of each protected oak, and a photograph was taken of each tree surveyed.

### *Structural Evaluation*

An evaluation of the physical structure of each protected oak included the following:

- **Trunk diameter at breast height (dbh)** was measured at 4.5 feet above grade using a diameter tape,
- **Canopy measurements** were taken in eight separate directions from the trunk: north, northeast, east, southeast, south, southwest, west, and northwest. The arborist used a tape measure to measure the first 3 trees canopies to calibrate the distance, and then estimated the remainder of the measurements,
- **Aesthetic assessment** of each tree included describing the visual structure of the tree such as the symmetry, unbalanced crown, broken branches, and excessive horizontal branching,

### *Health Assessment*

An evaluation of the health of each protected oak included the following:

- **Disease** – evidence such as slime flux, heart rot, crown rot, root fungus, exfoliation, leaf scorch, and exudates,
- **Pests** – evidence such as galls, twig girdling, borers, termites, pit scale, and plant parasites,
- **Vigor** – signs used to evaluate vigor include new tip growth, leaf color, abnormal bark, dead wood, and crown thinning among other signs,
- **Health Rating** – each protected oak received a single letter health rating based on its similarity to an archetypal oak of the same species:
  - 5 – Maximum health: 99-100% like archetype of same species

- 4 – Good health: minor crown thinning and reduced shoot growth
- 3 – Fair health: some dead twigs in outer crown and increased crown thinning, and little shoot growth
- 2 – Poor health: many dead branches and little shoot growth
- 1 – Dead/dying: large dead branches, bark loss, advanced decline (no recovery), or dead
- **Recommendations** for improving the structure or health of the tree, when possible, were included.

## Oak Tree Mapping

### *Trunk and Canopy*

The trunk locations recorded during the field survey were mapped using ESRI ArcGIS Pro mapping software. The canopy of each tree was digitized using the same software by creating a vertex at the appropriate distance from the trunk in each of the 8 directions per the canopy measurements recorded during the field survey, and then creating a polygon that connects each of the vertices. The newly created polygon represents the boundaries of the canopy. The arborist adjusted the digitized trunk location and canopies to align appropriately with the aerial photographs.

### *Tree Protected Zone*

Per the Oak Tree Ordinance, the Tree Protected Zone (TPZ) includes the area within 5-feet extended from the trees canopy or 15-feet from the trunk, whichever is greater. The TPZ was also digitized using ESRI ArcGIS Pro mapping software by creating a polygon that is a 5-foot buffer from the tree canopies described above and another polygon that is 15-foot buffer from each trunk location. The two polygons were merged and dissolved to create a single polygon representing the TPZ that encompasses the outer edges of the 5-foot canopy buffer and the 15-foot buffer from the trunk, whichever is the greatest.

## Impact Analysis

Impacts to protected oaks were assessed by digitizing the proposed development area (the Sequoia building) and overlaying them onto the digitized tree trunks, canopies, and TPZs. Intersection of a protected oak trunk with the project features would result in removal of the tree and intersection of the project features with the TPZ would result in encroachment. The level of encroachment to a single protected oak is reported as a percent of that oak's entire TPZ expected to be impacted by the development.

## 2. Protected Oaks

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A total of 57 protected oaks were identified in the survey area and marked with an identification number (ID#s 1-57), including 40 (70%) canyon live oak (*Quercus chrysolepis*) and 17 (30%) coast live oak (*Quercus agrifolia*). A total of 13 oaks surveyed are considered heritage oaks. The locations of the trunks, canopies, and the TPZs for all trees surveyed, including the heritage oaks, are shown in Figure 3 below. Appendix A includes a summary table of the data collected for each tree during the survey and an image of each tree is in Appendix B.

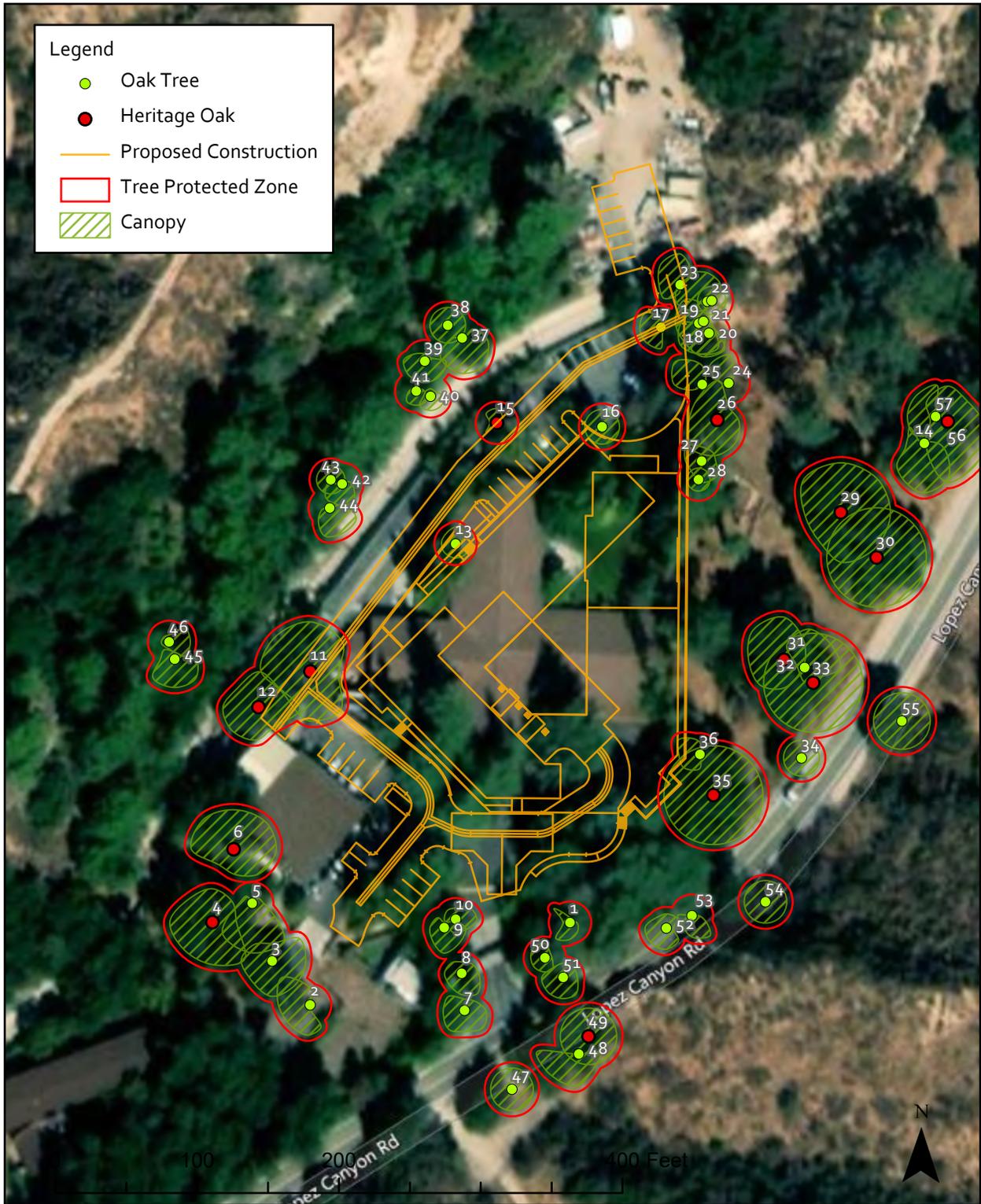
### 2.1 Structure and Health

Overall structure and health of trees is very good. A total of 35 trees (61%) scored a 4 or 5 for symmetry, and no tree scored lower than 2 for symmetry. The trees surveyed in the northwest area on the opposite side of a concrete drainage west of the Sequoia building are on a steep slope in a densely vegetated area and have poor symmetry as a result. A total of 47 trees (82%) scored 4 or 5 for health, eight trees scored 3 for health, and two trees (#15 and #26) scored 1 for health because they were nearly dead. Tree #15 is beneath a power line and was topped to reduce the conflict. Tree #26 was burned and has a hollow trunk (see photos in Appendix B), it is losing large limbs and showing severe decline. These trees are not likely to survive as a result of the damage.

The oak trees in the survey area are managed differently depending on location and ownership. The oak trees within the Hope Gardens facility receive regular care from a onsite groundskeeper and crew, including irrigation, pruning, and fertilization. The oak trees that occur in the National Forest east of the eastern edge of the Sequoia building and those that are on the edge of Lopez Canyon Road do not receive any care. All the trees showed new growth, but trees that are not within the Hope Gardens facility were recently burned on the trunks and some of the lower limbs were burned and had dead leaves on the underside of the canopy as a result.

### 2.2 Structure and Health Recommendations

Continued consistent care and maintenance of oak trees on the Hope Gardens would be prudent and is the main recommendation from South Environmental. The high health and symmetry scores indicate that the current management is effective and no new management activities are required to maintain healthy trees. Oak #15 is also recommended for removal due to the poor health from being topped and the trees position beneath utility lines. Oak #26 on National Forest Land is not likely to survive, and the hollow trunk indicates that it is likely to lose more large limbs soon. Fencing exists to keep people from going near the tree from the Hope Gardens facility. To maintain the current low risk situation, South Environmental recommends the barrier remain in place.



Source: ESRI Basemaps 2019

Hope Gardens Redevelopment Project Oak Tree Report

Figure 3. Oak Tree Survey

### 3. Impact Analysis

The proposed redevelopment of the Sequoia building would result in the removal of 6 oak trees (2 of which are heritage oaks), and encroachment into the TPZ of 10 oaks (3 of which are heritage oaks). These results are summarized below in Table 1 below and shown in Figure 3.

**Table 1. Summary of Impacts to Oaks**

Tree #	Health Rating	Heritage Oak	Impact
#11	4	Y	Removal
#13	5		Removal
#15	1	Y	Removal
#16	5		Removal
#17	4		Removal
#23	3		Removal
#12	4	Y	26.1% TPZ Encroachment
#18	4		20.5% TPZ Encroachment
#19	4		17.9% TPZ Encroachment
#22	4		19.3% TPZ Encroachment
#25	4		34.5% TPZ Encroachment
#26	1	Y	6.1% TPZ Encroachment
#27	3		14.9% TPZ Encroachment
#28	3		19.4% TPZ Encroachment
#35	4	Y	6.9% TPZ Encroachment
#36	4		21.7% TPZ Encroachment

Of the oaks that will be removed 5 of them are in good health (3, 4, or 5 health rating) and #15 is dead/dying (health rating of 1) and should be removed to avoid any future conflicts.

It is unlikely that encroachment will result in the loss/death of any oaks, and all the encroached oaks would remain in place during and following construction. Typically, encroachment of 30% or greater into the trees TPZ would result in the death or significant decline of the tree. Oak #25 has an encroachment of 34.5% and the others are below 30%. However, oak #25 is suppressed by surrounding oaks and has a significant lean of the trunk onto the project site resulting in a TPZ that is within the proposed construction area. The area of encroachment into #25 TPZ is currently a parking lot, and the proposed construction would not result in additional encroachment because the area will remain as a parking lot or other developed area. Therefore, it is unlikely that encroachment into the TPZ of oak #25 would result in significant decline.

## 4. Recommendations

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The proposed project will result in removal of 6 trees and encroachment into the TPZ of 10 additional oaks. Construction and staging of equipment will occur within proximity to several other oaks shown in Figure 3 above. The recommendations for tree protected during construction provided below are designed to ensure impacts to oaks that are encroached are minimized and no impacts to other oaks would occur during construction.

### Tree Protection During Construction

South Environmental recommends the following measure to protect the oak trees in proximity to construction:

- Prior to initiation of clearing, grading, or other construction activities, protective fencing should be installed around the outermost limits of the protected zones of the oaks within and adjacent to the construction area that may be disturbed during construction activities. Fencing shall remain in place and be maintained for the duration of all construction. No construction, grading, staging, or materials storage shall be allowed within the fenced exclusion areas, or within the protected zones of any on site protected trees. The limits of encroachment of trees should be clearly visible during construction to avoid unintentional damage.
- During construction a qualified arborist shall monitor protected trees that are removed and those that are within or adjacent to the construction area.
- To the extent that is feasible, limbs of trees that overhang the roadways and parking areas will not be pruned or damaged during construction. Workers will be informed of the trees locations and instructed to avoid damaging limbs, trunks, and canopies of trees that overhang the staging areas or construction areas. Fencing or high visible flagging will be used to mark areas where there is potential for damage from equipment.
- To minimize the compaction of soil beneath oaks that will be encroached, a temporary 10-12-inch-thick layer of mulch can be applied beneath the tree if construction equipment or materials are required to operate within the TPZ. Within 24 hours of finishing work beneath the tree the mulch should be removed to a depth of no more than 4 inches. A monitoring arborist should be present during construction that is within proximity to this tree to advise on appropriate methods to retain the tree.

The typical fencing methods recommended by the ISA to protect the TPZ during construction are shown in the diagram below (Figure 4).

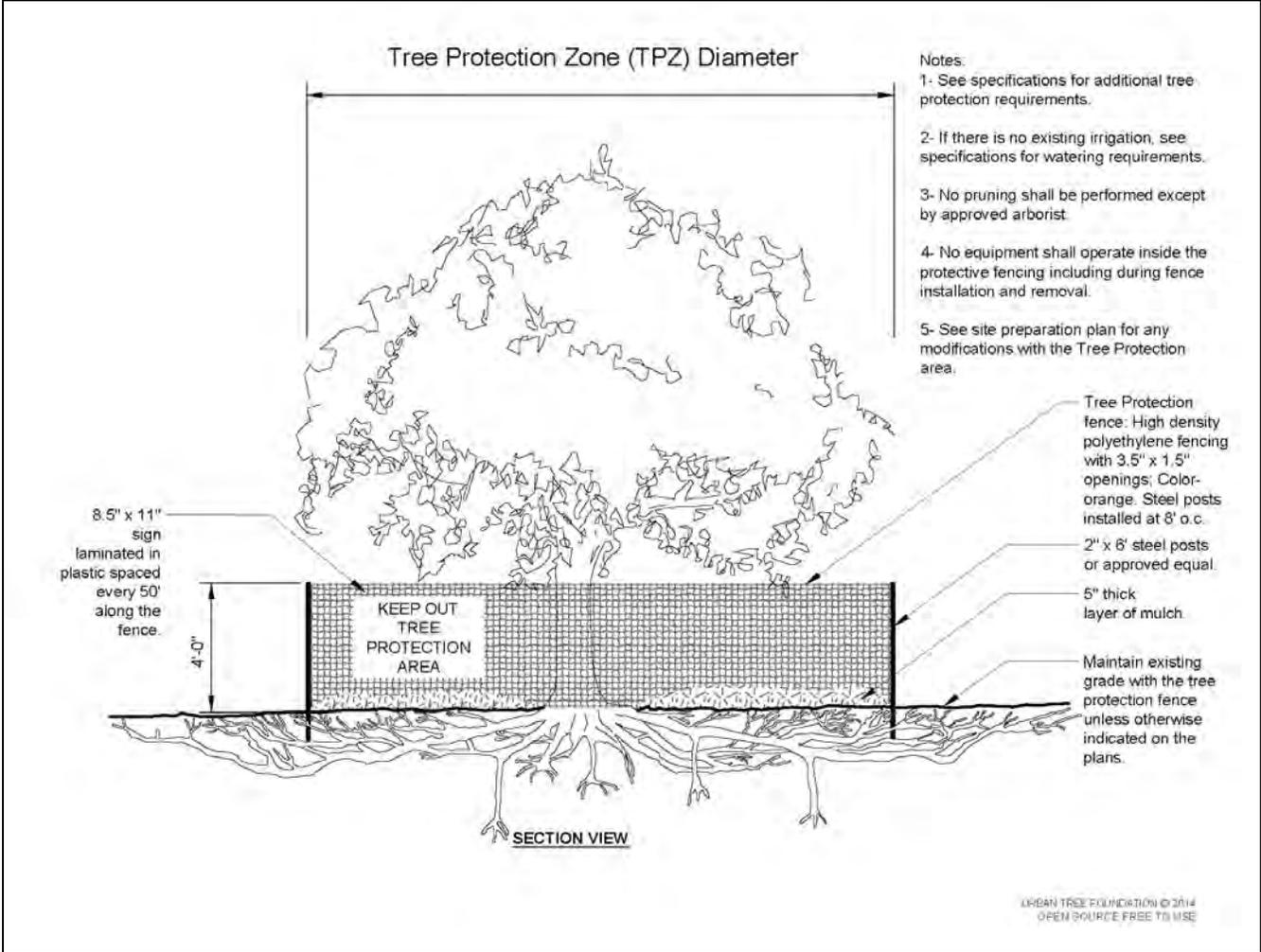


Figure 4 – Tree Protection Methods Recommended by the ISA

## 5. Certification Statement

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The signature below certifies that the information provided regarding protected oak trees within this report is true and accurate to the best of my knowledge and is based on the results of a survey of each tree that was conducted by qualified arborist Matthew South on May 2, 2019. If you have questions regarding the methodology or findings of the report you can contact me by email at [msouth@southenvironmental.com](mailto:msouth@southenvironmental.com).

Sincerely,



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Matthew South  
Principal Biologist  
South Environmental  
Mobile: 303.818-3632

# Appendix A: Oak Tree Data

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**Table A-1. Oak Tree Data**

ID#	Species	Height ft.	DBH in.	Canopy Measurements (feet)								Sym	Aesth	Disease	Pest	Vigor	Health	Recommendations and Notes
				N	NE	E	SE	S	SW	W	NW							
1	Can	25	11	3	2	5	8	12	15	5	15	3	UC				4	
2	Can	35	30	12	6	0	18	21	20	23	28	3	UC				4	
3	Can	35	26	12	25	24	24	25	20	22	18	3	UC				4	
4	Coast	35	43	24	20	18	35	30	28	30	24	4					5	2 large trunks, heritage oak
5	Coast	40	35	1	5	8	35	35	30	10	6	3	UC					2 trunks 1 dead
6	Can	45	45	28	30	30	25	18	15	30	30	5					5	up against building, 4 main trunks, heritage oak
7	Can	26	17	8	10	15	18	15	18	15	15	4					4	
8	Coast	25	15	8	10	12	18	15	12	12	10	4				Bark	4	included bark at branch union
9	Can	30	15	4	8	15	15	18	12	10	8	4					4	
10	Can	25	13	8	13	15	10	10	8	8	8	4					4	other plants growing at the base mirrors installed on trunk, heritage oak
11	Coast	35	80	35	30	20	35	35	25	35	35	3	UC				4	heritage oak
12	Coast	35	43	25	20	28	18	23	25	25	20	4					4	2 large trunks, heritage oak
13	Can	25	15	12	10	10	10	10	10	10	10	5			B		5	
14	Can	15	19	0	1	10	30	35	25	12	15	3	UC, HB	HR		Bark, Dead, thinning	3	underneath the canopy of 2 other oaks
15	Coast	12	45	10	5	1	0	0	10	5	10	1	BB,UC,HB			NTG, Dead, thinning	1	topped, 2 huge trunks, 1 is dead, other has new growth but poor health, beneath power lines, heritage oak
16	Can	18	14	12	12	12	12	12	12	12	12	5					5	near parking lot

ID#	Species	Height ft.	DBH in.	Canopy Measurements (feet)								Sym	Aesth	Disease	Pest	Vigor	Health	Recommendations and Notes
				N	NE	E	SE	S	SW	W	NW							
17	Can	22	15	6	2	2	2	15	15	15	15	4					4	
18	Can	30	22	12	5	5	25	25	20	20	20	4					4	
19	Can	8	13	0	0	5	20	22	20	12	0	2	UC,HB			thinning	3	
20	Can	18	9	3	2	10	15	15	18	6	3	3	UC				4	
21	Can	22	8	10	10	10	10	10	10	10	10	4					5	
22	Can	22	11	20	15	5	2	5	10	22	24	4					4	
23	Can	20	16	22	10	0	0	5	15	15	20	3	UC	HR			3	
24	Can	15	10	20	5	3	2	1	1	5	18	3	UC				4	likely burned on bark
25	Can	25	13	12	4	3	1	1	5	20	25	3	UC				4	
26	Coast	28	60	28	12	15	20	25	28	20	20	5	BB	CR,HR		Bark, thinning, Dead, LC	1	hollow inside, burned throughout won't survive, heritage oak
27	Coast	22	15	10	10	10	15	15	10	12	15	4	BB			Bark, Dead	3	burned
28	Coast	28	9	8	8	8	8	8	8	8	8	4				Dead, thinning	3	burned
29	Can	45	95	35	35	35	35	35	35	35	35	5	BB			Dead, thinning	4	burned, 3 large trunks, heritage oak
30	Coast	40	48	35	35	35	35	35	35	35	35	5	BB			Dead	4	burned, heritage oak
31	Can	45	42	30	20	15	15	20	25	25	30	4	BB					burned, heritage oak
32	Can	40	19	28	25	25	10	10	5	5	20	4					4	
33	Coast	45	50	35	35	35	35	35	35	35	35	5				thinning	4	heritage oak
34	Can	20	13	12	12	12	12	12	12	12	12	5			Parasite		4	on a fence at the road edge vine growing through it
35	Can	40	90	35	35	35	35	35	35	35	35	5	HB				4	burned, heritage oak
36	Can	25	10	8	2	2	2	10	15	15	18	3	UC				4	

ID#	Species	Height ft.	DBH in.	Canopy Measurements (feet)								Sym	Aesth	Disease	Pest	Vigor	Health	Recommendations and Notes
				N	NE	E	SE	S	SW	W	NW							
37	Can	15	18	0	10	18	25	25	20	5	0	2	UC				4	
38	Can	40	15	12	12	12	12	12	12	12	12	4					4	
39	Coast	25	10	5	5	15	15	15	15	15	5	4					4	vine on trunk
40	Coast	25	9	5	5	10	10	10	10	5	5	4					4	
41	Coast	20	8	2	2	5	10	10	10	5	2	3	UC				4	vines
42	Can	20	8	0	0	0	5	15	15	10	0	2	UC				4	
43	Can	30	9	10								5					5	
44	Coast	20	10	0				20				3	UC				4	
45	Can	30	20	5			20	20	20	10	10	4					4	
46	Can	25	10	5	15	15	15	5	0	5	5	3	UC			Bark	3	burned and wounded trunk
47	Can	30	29	15								4					4	2 trunks
48	Can	30	24	0	0		15	22	25	30	0	3	UC				4	
49	Can	35	50	20	20	20	20	20	20	20	20	5					4	heritage oak
50	Can	20	10	10	5	5	10	10	10	10	10	4					5	
51	Can	20	11	10	10	10	15	15	15	15	10	4					4	
52	Can	30	13	10	10	5	12	15	15	15	10	3					4	
53	Can	25	8	0	0	5	18	15	10	10	0	3	UC				4	
54	Coast	25	15	15								5					3	on road edge on cliff, exposed roots up to 6 ft
55	Coast	30	21	20								4		HR			4	
56	Can	45	65	25	20	25	35	40	20	12	20	4					4	burned, included bark, heritage oak
57	Can	30	22	22	3	5	10	12	20	20	20	3		HR		dead, thinning	3	burned, root rot and heart rot visible

## Appendix B: Photograph Exhibit

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Oak #1



# Oak #2



# Oak #3



Oak #4



# Oak #5



# Oak #6



# Oak #7



# Oak #8



# Oak #9



# Oak #10



# Oak #11



# Oak #12



# Oak #13



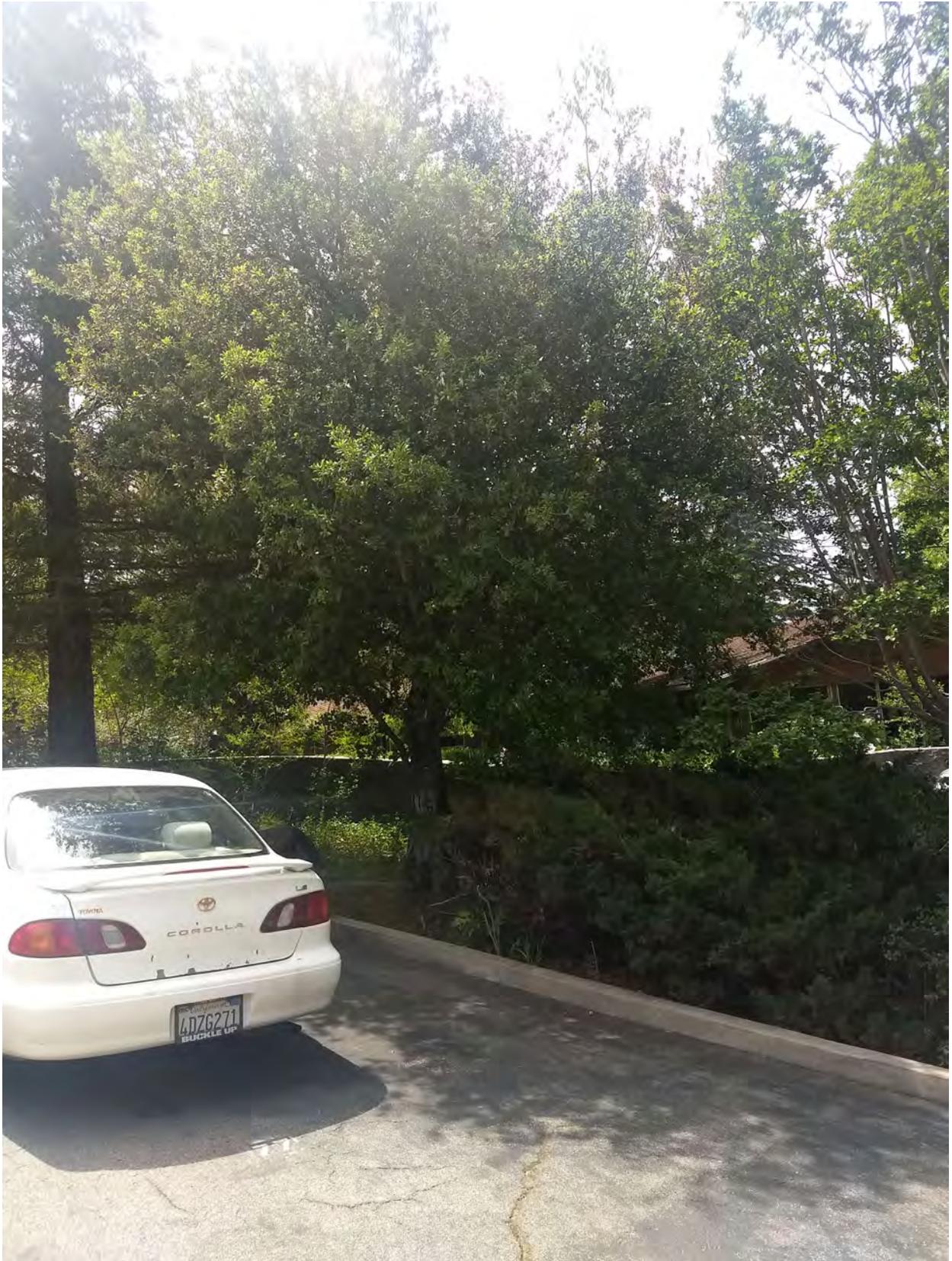
Oak #14



# Oak #15



# Oak #16



# Oak #17



# Oak #18



Oak #19



Oak #20



Oak #21



Oak #22



Oak #23



Oak #24



# Oak #25



## Oak #26 (Hollow Trunk)



# Oak #26



Oak #27



# Oak #28



Oak #29



Oak #30



# Oak #31



Oak #32



# Oak #33



# Oak #34



# Oak #35



Oak #36



# Oak #37



Oak #38



Oak #39



# Oak #40



# Oak #41



# Oak #42



# Oak #43



# Oak #44



# Oak #45



Oak #46



# Oak #47



Oak #48 (on R off photo)



Oak #49



# Oak #50



# Oak #51



# Oak #52



# Oak #53



Oak #54



Oak #55



# Oak #56



Oak #57

