

Tree Inventory Report

Peninsula School
920 Peninsula Way
Menlo Park, CA 94025

PREPARED FOR:
Peninsula School
C/O David Bailey
Menlo Park, CA 94025

PREPARED BY:
HortScience | Bartlett Consulting
2550 Ninth Street, Suite 112
Berkeley, CA 94710

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Tree Inventory Report

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Introduction and Overview

Peninsula School is planning the redevelopment of a portion of the property located at 920 Peninsula Way in Menlo Park, CA. The property falls under the authority of San Mateo County. The property consisted of multiple classrooms and individual school buildings. The property was mostly natural landscaping consisting of native trees with small pockets of non-native and ornamental plantings. I used the Boundary Survey – Location of Structures (BGT Land Surveying, September 2013) to define the property boundary. HortScience | Bartlett Consulting (Divisions of The F. A. Bartlett Tree Expert Co.) was asked to inventory all trees on the property and evaluate those trees potentially impacted by the project as required by the County of San Mateo. Development plans will be forthcoming, once conceptual or development plans are available, we can evaluate the potential impacts to trees.

This report provides the following information:

1. An assessment of the health and structural condition of the trees within the proposed project area based on a visual inspection from the ground.
2. Estimated value of all trees.
3. Tree risk assessment of coast live oak (*Quercus agrifolia*) #176.
4. Guidelines for tree preservation during the design, construction, and maintenance phases of development.

Tree Assessment Methods

Trees were assessed on October 9 and 10, 2023. The assessment included all trees with a trunk diameter of 6 inches or larger within the project boundary or with a canopy overhanging the property. Trees were tagged #1 – 335. The assessment procedure consisted of the following steps:

1. Identifying the tree species.
2. Tagging trees with an identifying number and recording their location on a map.
3. Measuring the trunk diameter at a point 54 inches above grade. Multi-stem trees were measured below the attachments in most cases.
4. Evaluating the health and structural condition using a scale of 1 – 5:
 - 5** - A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.
 - 4** - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
 - 3** - Tree with moderate vigor, moderate twig, and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
 - 2** - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
 - 1** - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.
5. Rating the suitability for preservation as “high”, “moderate” or “low”. Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.

High: Trees with good health and structural stability that have the potential for longevity at the site.

Moderate: Trees with somewhat declining health and/or structural defects than can be abated with treatment. The tree will require more intense management and monitoring and may have shorter life span than those in 'good' category.

Low: Trees in poor health or with significant structural defects that cannot be mitigated. The tree is expected to continue to decline, regardless of treatment. The species or individual may have characteristics that are undesirable for landscapes, and generally are unsuited for use areas.

Description of Trees

Three hundred and thirty five (335) trees were assessed, representing 44 species (Table 1). All species were relatively common native and ornamental trees found in the Bay Area. Coast live oak, valley oak, California buckeye, California black walnut and California bay are native to the area. Coast redwood, Catalina ironwood, Douglas-fir, hollyleaf cherry, elderberry, and blue oak are native to California but are not indigenous to Menlo Park. Most non-native trees were likely planted during earlier development. Overall, 40 trees (nearly 12%) were in good condition, 201 (60%) were fair and 93 (28%) were in poor condition. Descriptions of each tree are found in the **Tree Assessment Form** and approximate locations are shown on the **Tree Assessment Map** (see Exhibits).

**Table 1: Condition ratings and frequency of occurrence of trees.
 Peninsula School, Menlo Park**

Common Name	Scientific Name	Condition			Total
		Poor (1-2)	Fair (3)	Good (4-5)	
Blackwood acacia	<i>Acacia melanoxylon</i>	13	8	-	21
California buckeye	<i>Aesculus californica</i>	-	2	-	2
African fern-pine	<i>Afrocarpus falcatus</i>	-	1	-	1
Tree of heaven	<i>Ailanthus altissima</i>	6	8	-	14
Incense cedar	<i>Calocedrus decurrens</i>	-	3	-	3
Deodar cedar	<i>Cedrus deodara</i>	1	2	2	5
Carob	<i>Ceratonia siliqua</i>	2	-	-	2
Hawthorn	<i>Crataegus</i> sp.	1	-	-	1
Bronze loquat	<i>Eriobotrya deflexa</i>	2	1	-	3
Silver dollar gum	<i>Eucalyptus polyanthemus</i>	2	4	-	6
Raywood ash	<i>Fraxinus angustifolia</i> 'Raywood'	-	1	-	1
California black walnut	<i>Juglans hindsii</i>	-	1	-	1
Glossy privet	<i>Ligustrum lucidum</i>	11	2	-	13
Catalina ironwood	<i>Lyonothamnus floribundus</i>	-	1	-	1
Apple	<i>Malus domestica</i>	1	1	-	2
Crabapple	<i>Malus sylvestris</i>	-	1	-	1
Mulberry	<i>Morus</i> sp.	1	-	-	1
Olive	<i>Olea europaea</i>	2	3	-	5
Avocado	<i>Persea americana</i>	1	1	-	2

**Table 1 con't: Condition ratings and frequency of occurrence of trees.
 Peninsula School, Menlo Park**

Common Name	Scientific Name	Condition			Total
		Poor (1-2)	Fair (3)	Good (4-5)	
Photinia	<i>Photinia fraseri</i>	-	1	-	1
Canary Island pine	<i>Pinus canariensis</i>	-	-	1	1
Coulter pine	<i>Pinus coulteri</i>	1	1	-	2
Aleppo pine	<i>Pinus halepensis</i>	-	1	-	1
Italian stone pine	<i>Pinus pinea</i>	-	-	1	1
Victorian box	<i>Pittosporum undulatum</i>	9	-	-	9
Lombardy poplar	<i>Populus nigra</i> 'Italica'	1	-	-	1
Apricot	<i>Prunus armeniaca</i>	-	2	-	2
Cherry laurel	<i>Prunus caroliniana</i>	1	-	-	1
Plum	<i>Prunus domestica</i>	2	-	-	2
Hollyleaf cherry	<i>Prunus ilicifolia</i>	4	-	-	4
Douglas fir	<i>Pseudotsuga menziesii</i>	1	7	-	8
Coast live oak	<i>Quercus agrifolia</i>	13	117	27	157
Blue oak	<i>Quercus douglasii</i>	-	1	-	1
Valley oak	<i>Quercus lobata</i>	4	9	6	19
Italian buckthorn	<i>Rhamnus alaternus</i>	2	-	-	2
Black locust	<i>Robinia pseudoacacia</i>	2	-	-	2
Elderberry	<i>Sambucus</i> sp.	1	-	-	1
Coast redwood	<i>Sequoia sempervirens</i>	3	8	3	14
Yew	<i>Taxus baccata</i> cvs.	-	1	-	1
Chinese elm	<i>Ulmus parvifolia</i>	1	3	-	4
English elm	<i>Ulmus procera</i>	2	2	-	4
California bay	<i>Umbellularia californica</i>	2	6	-	8
Mexican fan palm	<i>Washingtonia robusta</i>	-	3	-	3
Xylosma	<i>Xylosma congestum</i>	1	-	-	1
Total		93	202	40	335

Coast live oak was the dominant species with 157 trees or just under 47% of all trees. One hundred and seventeen (117) trees were in fair condition, 27 were in good condition and 13 were poor with dead branches and structural defects. Trees were variable in size and shape due to competition from adjacent trees and site constraints. Trunk diameters ranged from 6 to 46 inches with an average of 17.7 inches. Most trees had a species' typical round crown with lateral branches arising between 6 – 20 feet. Small interior twig dieback was common in older coast live oaks.

Coast live oak #176 was in the middle of campus on the southeast side of the “Big Building” and had a tree house constructed in the crown (**Photo 1**). Cavities were noted on the south side of the upper branches and there was a history of branch failures. This tree was selected to perform a tree risk assessment (see page 12).

Photo 1. Coast live oak #176 had a tree house constructed in the upper crown.



Blackwood acacia was the second most common with 21 trees. Most trees were located on the northwest side of the property (**Photo 2**). Poor structure resulted from poor branch angles and irregular branching. Several trees were below power lines and had been topped to provide clearance. Thirteen (13) trees were in poor condition and eight were fair.

Nineteen (19) valley oaks were in variable condition: nine were fair, six were good and four were poor. Trees in poor condition had poor form, dead branches, or had been topped under the power lines. Trees in good condition had good structure and form, full crowns and several had large diameter trunks. Trunk diameters ranged from 6 – 38 inches with an average of 22 inches. Oak #143 was growing at the southeast corner of campus in a natural area. Trunk diameter was 38 inches. Tree condition was poor with multiple attachments at 20 feet, extensive decay in the lower trunk and long, heavy scaffold branches.



Photo 2. Blackwood acacia grove on the northwest side of the property.

Fourteen (14) coast redwoods were located throughout the campus. Eight were in fair condition with variable leaf color (green and brown). All redwood had an upright (excurrent) form that is typical of the species. Redwoods #218 and 219 were stump sprouts in poor condition due to extensive dieback. Redwood #200 was the largest tree on the property with a trunk diameter of 60 inches. It had a very tall, full crown (Photo 3).

Photo 3 (right). Coast redwood #200 had a 60 inch diameter trunk and was the tallest tree on the property.

Photo 4 (below). Evidence of soil heaving was found on the west side of redwood #200.

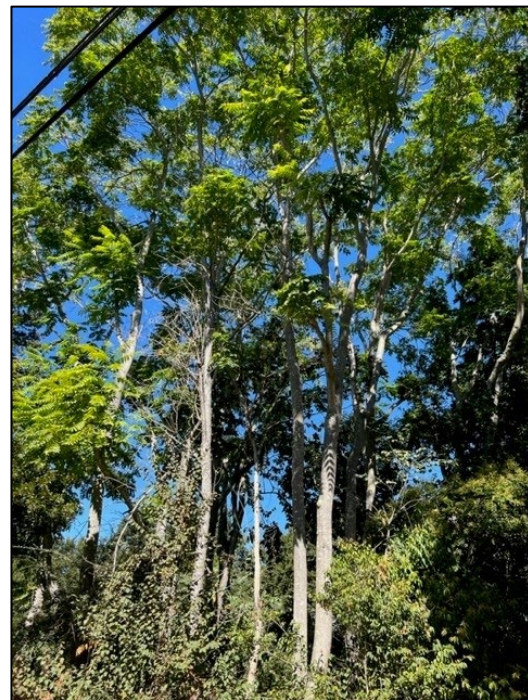
Minor soil heaving was present at the base on the west side (**Photo 4**). This may be an indication of root instability. The tree should be monitored after wind or storm events.



Most of the 14 tree of heaven averaged just over 15 inch diameter and were growing on the southwest side of the property (**Photo 5**). Eight trees were in fair condition and six were poor with poor form and structural defects. The upper crown was thin in several trees, an indication of low vigor.

Photo 5. Tree of heaven were concentrated on the southwest side of the property adjacent to the street.

Of the 13 glossy privets, 11 were in poor condition and two were fair. Trunk diameters ranged from 6 – 15 inches with an average of just under 11 inches. The majority had poor structure with either multiple attachments at the base or codominant trunks around 6 feet.



Nine (9) Victorian boxes were growing near the “Big Building”. All were in poor condition. They had large dead branches, poor structure and form and decay. Most of the trees were over-mature. Several had been previously topped creating crowns largely composed of epicormic growth sprouts.

Of the eight California bay trees, six were in fair condition and #45 and 49 were in poor condition with small, suppressed crowns. Bay #222 had a 23 inch diameter trunk and was codominant at 5 feet. Trunk diameters ranged from 6 – 23 inches with an average of 12.5 inches.

Eight (8) Douglas-fir trees were growing throughout the campus. Trunk diameters ranged from 13 – 32 inches with an average of just under 20 inches. These trees had an upright form except for #79 and 80 which had been topped. Douglas-fir # 212 had a previously broken top and poor form. Seven trees were in fair condition and #81 was poor.

Six (6) silver dollar gum trees were growing on the west side of the parking lot (**Photo 6**). Four had large crowns and were in fair condition. Gums #263 and 267 had 6 inch diameter trunks and were previously topped creating poor structure and form. Silver dollar gum #269 was one of the most unique trees on the property with the parent stem lying prostrate on the ground from which two large vertical stems formed the crown.



Photo 6. Silver dollar gums were growing on the west side of the parking area.

The remaining species were each represented by five or fewer trees.

These included:

- Five deodar cedars were mature trees with large crowns and trunk diameters ranging from 19 – 44 inches. The average diameter was just under 30 inches. Cedar #210 was in poor condition with a codominant trunk at 20 feet and dead branches. Cedars #65 and 298 were in fair condition with upright form (**Photo 7**). Cedar #296 had a large crown but was previously topped. Tree #322 had excellent structure and form with a balanced crown; Both #296 and 322 were in good condition.

Photo 7. Deodar cedar #298 had a 44 inch diameter trunk and had multiple attachments at 8 feet.

- Of the five olive trees, three were in fair condition with poor form and multiple attachments at the base. Olive #5 was in poor condition with a dead west stem and leaned south. Olive #72 was between the fence and oak #73 and was in very poor condition.
- Four hollyleaf cherries were all in poor condition with small crowns, dead branches and poor form.
- Of the three bronze loquat trees, #101 had an 18 inch diameter trunk with multiple attachments at the base and was in fair condition. Loquats #40 and 152 were in poor condition with poor structure and form and branch dieback. The trunk of tree #152 was splitting at the base.



- Three out of four Chinese elms were in fair condition with medium crowns. They all had poor structure and form. Elm #120 had been previously topped and was in poor condition with branch dieback.
- Three incense cedars were in fair condition with trunk diameters ranging from 10 – 30 inches. Cedar #280 had a twisted 30 inch trunk and was codominant at four feet with included bark and leaned south (**Photo 8**).

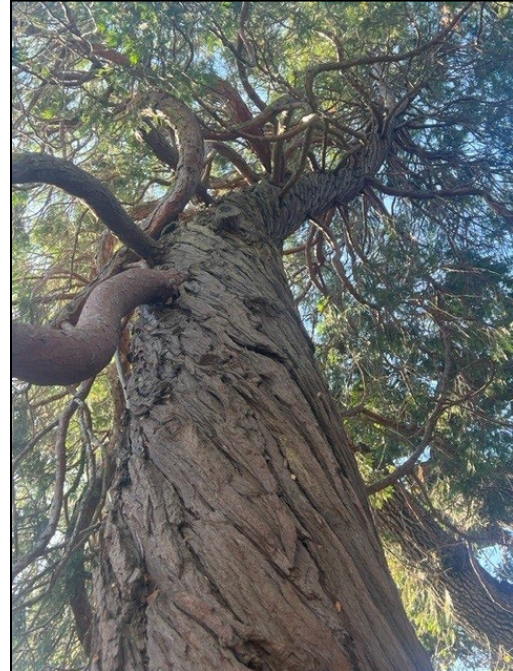
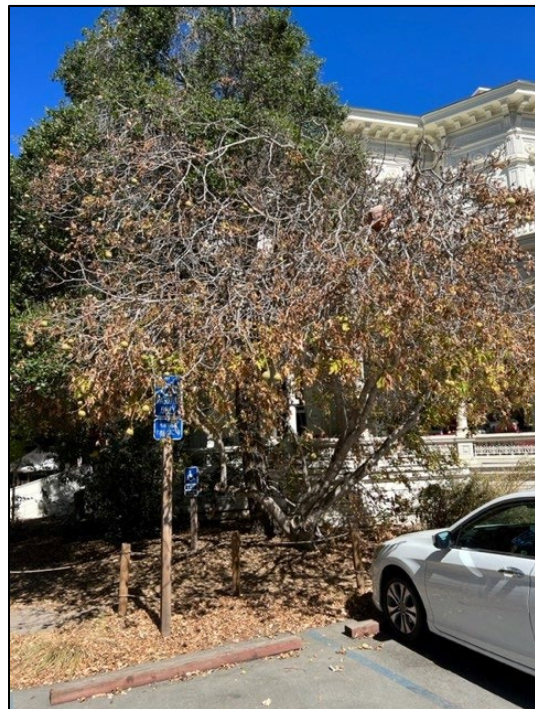


Photo 8. Incense cedar #280 had a 30 inch sinuous trunk.

- Three Mexican fan palms had an average of 13 inch diameter trunks and ranged between 8 – 20 feet of brown trunk. All were in fair condition with full skirts.
- Apple #116 was in fair condition with a 7 inch diameter trunk and multiple attachments at 5 feet. Apple #220 was in poor condition with very poor pruning leaving only the top of the crown and headed back side branches.
- Apricot trees #117 and 118 were in fair condition with 12 inch diameter trunks, branch and twig dieback and had poor form.
- Avocado #162 was in fair condition with three stems at the base, poor form and dead branches. Avocado #161 had an 11 inch diameter trunk and was in poor condition.
- Two black locust trees were in poor condition and all but dead. Locust #300 had a crack at the base of the main stem. Tree #301 had a cavity at the base on the north side. These trees have been left as wildlife habitat.
- California buckeyes #284 and 293 were in fair condition. Buckeye #293 had a 16 inch diameter trunk and had multiple attachments at 1 foot (**Photo 9**).

Photo 9. California buckeye #293 had multiple attachments at the base and was used as a climbing tree by children.



- Carobs #207 and 208 were in poor condition with multiple attachments at the base. The main stems were on the ground and crowns were composed largely of epicormic sprouts.
- Coulter pine #320 was in fair condition with an upright form and good structure. Pine #321 was 10 inches in diameter and was dead.

- Italian buckthorns #214 and 326 were in poor condition with poor form and #214 was growing into the fence.
- Plums #115 and 264 had multiple attachments at the base. Both were in poor condition with crowns comprised of mostly epicormic sprouts.
- African fern pine #154 was in fair condition with an 18 inch diameter trunk and codominant at 1 foot.
- Aleppo pine #147 was in fair condition with the main stem growing with a heavy lean to the southwest.
- Blue oak #153 was in fair condition with a 6 inch diameter trunk and codominant at 10 feet.
- California black walnut #158 had a 34 inch trunk diameter, was codominant at 3 feet, poor form, and leaned east. The tree was in fair condition.
- Canary Island pine #309 was in good condition with a 30 inch diameter trunk and slight bow to the south.
- Catalina ironwood #282 was a small tree in fair condition with codominant trunks at the base.
- Cherry laurel #166 was in poor condition with a 6 inch diameter trunk, codominant trunks at the base, and branch dieback.
- Crabapple #197 was in fair condition with an 8 inch diameter trunk, small crown, poor structure and branch dieback.
- Elderberry #209 was in poor condition with multiple attachments at 1 foot. The crown pushed against Building 8.
- Hawthorn #41 was previously topped, had poor form and was in poor condition.
- Off-site Italian stone pine #241 had a 35 inch diameter trunk with a large, wide spreading crown. It was in good condition.
- Lombardy poplar #51 had a 7 inch diameter trunk and was dead.
- Mulberry #124 had a 10 inch diameter trunk and was dead.
- Photinia #151 had a 14 inch diameter trunk and had four stems at the base. The tree was in fair condition with small twig dieback.
- Raywood ash #165 had a 6 inch diameter trunk and had codominant trunks at 5 feet. It was very close to building 5 and was in fair condition. It will likely be too large for this location in the future.
- Yew #223 was in fair condition with multiple attachments at the base and had a wide crown (**Photo 10**).
- Xylosma #325 had a 13 inch diameter trunk with multiple attachments at the base and contoured growth. The tree was in poor condition.



Photo 10. Yew #233 had multiple attachments at the base and had a wide crown.

San Mateo County Tree Protection Requirements

The County of San Mateo (Ordinance No. 3229, Section 12,000) considers trees *Significant* with a trunk diameter of 12 inches or greater when measured at 54 inches above grade. *Heritage* trees are defined as certain species with larger trunk diameters. *Heritage* tree species included coast live oaks and valley oaks larger than 48 inches in diameter and coast redwoods larger than 72 inches in diameter. None of the assessed trees were considered *Heritage*.

Two hundred thirteen (214) trees including: 107 coast live oaks, 13 valley oaks, 12 blackwood acacias, ten trees of heaven, eight Douglas-firs, seven coast redwoods, six glossy privet, five California bay, five deodar cedars, five Victorian boxes, four silver dollar gums, three Mexican fan palms, black locust #300 and 301, carob #207 and 208, Chinese elm #93 and 120, apricots #117 and 118, bronze loquat #101 and 152, incense cedars #190 and 280, olives #71 and 181, African fern-pine #153, Aleppo pine #147, apple # 220, avocado #162, Italian buckthorn #326, Italian stone pine #241, California black walnut #158, California buckeye #293, Canary Island pine #309, coulter pine #320, English elm #215, photinia #151, plum #115, xylosma #325 and yew #223 were over 12 inch diameter and have *Significant* tree status in San Mateo County.

A permit is required to remove any *Significant or Heritage* tree. In addition, replacement trees may be required as part of the mitigation.

Please refer to the **Tree Assessment Form** for the protected status of each tree.

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to make sure that they may survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability, and longevity. For trees growing in open fields, away from areas where people and property are present, structural defects and/or poor health present a low risk of damage or injury if they fail.

We must be concerned, however, about safety in use areas. Therefore, where development encroaches into existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment. Where development will not occur, the normal life cycles of decline, structural failure, and death should be allowed to continue.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than non-vigorous trees are. The coast live oaks in good condition would tolerate impacts better than the valley oaks in fair or poor condition.
- **Structural integrity**
Trees with significant amounts of wood decay and other structural defects that cannot be corrected are more likely to fail. Such trees should not be preserved in areas where damage to people or property is likely. Coast live oak #50 had a large branch failure with decay in the main stem and would likely not be an asset to the new project.
- **Species response**
There is a wide variation in the response of individual species to construction impacts and changes in the environment. For example, coast redwoods and coast live oaks are tolerant of construction impacts. Deodar cedars are only moderately tolerant to root disturbance. Trees respond best with irrigation following site disturbance.
- **Tree age and longevity**
Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change. For example, older, large diameter coast live oaks will generally not have the same vigor and respond to root injury as well as smaller diameter, younger live oaks with high vigor.
- **Invasiveness**
Species that spread across a site and displace desired vegetation are not always appropriate for retention. This is particularly true when indigenous species are displaced. The California Invasive Plant Inventory Database (<https://www.cal-ipc.org/pafi/>) lists species identified as being invasive. Tree of heaven and Mexican fan palm are moderately invasive while blackwood acacia, black locust and olive have limited invasive qualities.

Each tree was rated for suitability for preservation based upon its age, health, structural condition, and ability to safely coexist within a development environment (See **Tree Assessments** in Exhibits, and Table 2). We consider trees with high suitability for preservation to be the best candidates for preservation. We do not normally recommend the retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

**Table 2: Tree suitability for preservation.*
Peninsula School, Menlo Park**

High	Trees are in good health and with structural stability that have the potential for longevity at the site. Twenty one (21) trees had high suitability for preservation including: 14 coast live oaks, four valley oaks, Canary Island pine #309, coast redwood #243 and deodar cedar #322.
Moderate	Trees in fair health and/or with structural defects that may be abated with treatment. Trees in this category require more intense management and monitoring and may have shorter lifespans than those in the “high” category. One hundred fifty three (153) trees had moderate suitability for preservation including: 103 coast live oaks, nine valley oaks, eight coast redwoods, four Douglas-firs, three deodar cedars, three Mexican fan palms, three silver dollar gums, blackwood acacias #240 and 249, California bays #138 and 122, California buckeyes #284 and 293, incense cedars #198 and 280, African fern-pine #154, apple #116, blue oak #153, bronze loquat #101, California black walnut #158, Catalina ironwood #282, Chinese elm #93, coulter pine #320, English elm #215, Italian stone pine #241, olive #181 and tree of heaven #74.
Low	Trees in poor health or with significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. One hundred and fifty four (154) trees had low suitability for preservation including: 40 coast live oaks, 17 blackwood acacias, 13 tree of heavens, 12 glossy privets, nine Victorian boxes, six California bays, six valley oaks, five coast redwoods, four Douglas-firs, four hollyleaf cherries, four olives, three Chinese elms, three silver dollar gums, apricot #117 and 118, avocado #161 and 162, black locust #300 and 301, bronze loquat #40 and 152, carob #207 and 208, English elm #253 and 262, Italian buckthorn #214 and 326, plum #115 and 264, Aleppo pine #147, apple #220, cherry laurel #166, crabapple #197, deodar cedar #210, elderberry #209, hawthorn #41, incense cedar #190, photinia #151, Raywood ash #165, xylosma #325 and yew #223.

* Please note: blackwood acacia #24 and 25, Lombardy poplar #51, mulberry #124, English elm #255, glossy privet #275 and Coulter pine #321 were dead and not included in this table.

Tree Risk Evaluation: Coast live oak #176

The assessment procedure consisted of a Level 2 Basic Inspection of coast live oak #176 as described by terminology and methods described in *Tree Risk Assessment Best Management Practices* (2nd Ed., International Society of Arboriculture, 2017). The inspection involved a 360° visual assessment from the ground. Only a sounding hammer and diameter tape were used in this assessment. The time frame for the assessment was three years. Risk is described in the *Best Management Practices* publication as the combination of the likelihood of a tree failure striking people or property and the consequences of that failure. The goal of the risk evaluation process is to enhance public safety and reduce property damage. This is accomplished by assessing the consequences to people or property if a tree or one of its parts fails, then taking action to reduce that risk.

Risk ratings are categorized into four levels of increasing severity: *low*, *moderate*, *high*, and *extreme*. Trees rated as *low* may benefit from mitigation and monitoring. Immediate action is not normally required. In contrast, *extreme* rating involves a tree with an imminent likelihood of failure, where the likelihood of impacting a target is *high* and the consequences would be *severe*. Immediate action would be required.

We assessed the risk of coast live oak #176 considering one combination of tree part (branches) and target was evaluated: a branch falling and striking a person during the school day. Targets included students, teachers and other people using the tree house or walking under the tree canopy. Paths under the crown are used with high frequency during the school day.

The tree risk rating was **Moderate**. The likelihood of a branch failure was assessed as *possible*. The likelihood of impacting a person during the school day was *high*. The consequence of a branch failure would be *severe*. The risk of falling from the ropes or tree house was not considered in my assessment, nor was the structural integrity of the tree house. Pruning of dead branches, evaluating defects and reducing weight on branch ends in the upper crown would reduce the potential for branch failure. The only way to reduce the risk level to low is to restrict access from walking under the tree.

Estimate of Value

Peninsula School asked that the estimated value of all trees be established. To accomplish this, I used the standard methods found in *Guide for Plant Appraisal*, 10th edition (published in 2018 by the International Society of Arboriculture, Champaign IL). In addition, I referred to *Species Classification and Group Assignment* (2004), a publication of the Western Chapter of the International Society of Arboriculture. These two documents outline the methods employed in tree appraisal.

The reproduction cost of landscape trees is based on four factors: size, condition, functional limitations and external limitations. Size is measured as trunk diameter 54" above grade. Condition reflects the health and structural integrity of the individual, as noted in the **Tree Assessment** (see Exhibits). Functional limitations consider the interaction of the tree with its site currently and for the foreseeable future. I did not identify any external limitations at this site. The estimated value of the total of all trees was \$1,274,200.

Preliminary Tree Preservation Guidelines

The goal of tree preservation is not merely tree survival during development but maintenance of tree health and beauty for many years. Trees retained on sites that are either subject to extensive injury during construction or are inadequately maintained become a liability rather than an asset. The response of individual trees depends on the amount of excavation and grading, care with which demolition is undertaken, and construction methods. Coordinating any construction activity inside the **TREE PROTECTION ZONE** can minimize these impacts.

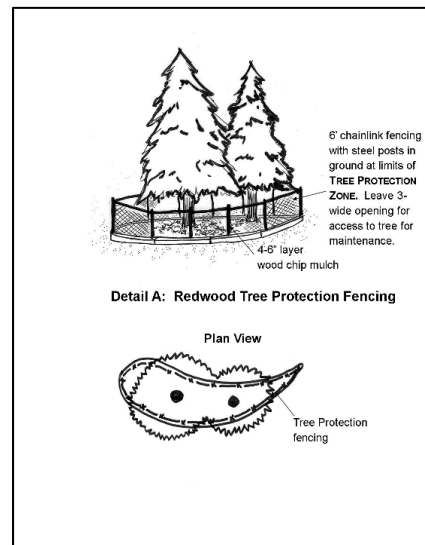
The following recommendations will help reduce impacts to trees from development as well as maintain and improve their health and vitality through the clearing, grading and construction phases. The key elements of a tree preservation plan for this site would include:

- Retaining select trees with moderate or high suitability for preservation.
- Retain select trees with moderate suitability for preservation where impacts will be within the tolerance of the trees.
- Establishing **TREE PROTECTION ZONES** for each tree to be preserved.
- Providing supplemental irrigation for trees proposed for preservation during the demolition and construction phases.

Tree Protection Zone

A TREE PROTECTION ZONE shall be identified for each tree to be preserved on the Tree Protection Plan prepared by the project arborist.

- a. Fence all trees at the edge of the dripline or project limits to exclude the trees from the work area. Fencing should be installed prior to demolition, grubbing or grading. Fences shall be 6 ft. chain link with posts sunk into the ground or equivalent as approved by the City. Fencing should incorporate groups of trees where possible (**Detail A**).
- b. Fences must be installed prior to beginning demolition and must remain until construction is complete.
- c. No grading, excavation, construction, or storage or dumping of materials shall occur within the **TREE PROTECTION ZONE**.
- d. No underground services including utilities, sub-drains, water, or sewer shall be placed in the **TREE PROTECTION ZONE**.



Design recommendations

1. Plot accurate locations of all trees to be preserved on all project plans. Identify the **TREE PROTECTION ZONE** for each tree. Create a Tree Protection Plan showing the location of the **TREE PROTECTION ZONE** for each tree. For design purposes, the Tree Protection Zone shall be defined as the area between the trunk and the dripline. Where impacts are within this zone, create a TPZ that is 1 foot away from construction activities to limit root disturbances.

2. Plan for tree preservation by designing adequate space around trees to be preserved. This is the **TREE PROTECTION ZONE**: No grading, excavation, construction, or storage of materials should occur within that zone. Route underground services including utilities, sub-drains, water, or sewer around the **TREE PROTECTION ZONE**.
3. Consider the vertical clearance requirements near trees during design. Avoid designs that would require pruning more than 20% of a tree's canopy.
4. Irrigation systems must be designed so that no trenching severs roots larger than 1 inch in diameter will occur within the **TREE PROTECTION ZONE**.
5. **Tree Preservation Guidelines** prepared by the Consulting Arborist, which include specifications for tree protection during demolition and construction, should be included on all plans.
6. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.
7. Do not lime the subsoil within 50 feet of any tree. Lime is toxic to tree roots.
8. As trees withdraw water from the soil, expansive soils may shrink within the root area. Therefore, foundations, footings, and pavements on expansive soils near trees should be designed to withstand differential displacement.
9. Ensure adequate but not excessive water is supplied to trees; in most cases occasional irrigation will be required. Avoid directing runoff toward trees.

Pre-demolition and pre-construction treatments and recommendations

1. The demolition and construction superintendents shall meet with the Consulting Arborist before beginning work to review all work procedures, access routes, storage areas, and tree protection measures.
2. Where demolition must occur close to trees, such as removing curb and pavement, install temporary trunk protection devices such as winding silt sock wattle around tree trunks to a height of approximately 5 feet (see photo). Any low branches that are within the work zone should also be protected. Remove trunk protection after demolition is completed and install a protective fence at the limits of the tree protection zone. **Do not retain wattling around tree trunks for more than 2-3 weeks to avoid damaging trunks from excess moisture.**
3. Apply and maintain 4-6 inches of wood chip mulch within the **TREE PROTECTION ZONE**. Keep the mulch 2 feet from the base of tree trunks.
4. Prune trees to be preserved to clean the crown of dead branches 1 inch and larger in diameter, raise canopies as needed for construction activities.
 - a. Do not remove more than 20-25% of each tree's crown.
 - b. All pruning shall be done by a State of California Licensed Tree Contractor (C61/D49). All pruning shall be done by Certified Arborist or Certified Tree Worker in accordance with the Best Management Practices for Pruning (International Society of Arboriculture, 2002) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300).



- c. Branches extending into the work area that can remain following demolition shall be tied back and protected from damage.
 - d. While in the tree, the arborist shall perform an aerial inspection to identify any defects, weak branch and trunk attachments and decay not visible from the ground. Any additional work needed to mitigate defects shall be reported to the property owner.
5. Tree(s) to be removed that have branches extending into the canopy of tree(s) or located within the **TREE PROTECTION ZONE** of tree(s) to remain shall be removed by a Certified Arborist or Certified Tree Worker and not by the demolition contractor. The Certified Arborist or Certified Tree Worker shall remove the trees in a manner that causes no damage to the tree(s) and understory to remain. Stumps shall be ground below grade.
6. Trees to be removed shall be felled so as to fall away from **TREE PROTECTION ZONE** and avoid pulling and breaking of roots of trees to remain. If roots are entwined, the Consulting Arborist may require first severing the major woody root mass before extracting the trees or grinding the stump below ground.
7. Structures and underground features to be removed within the **TREE PROTECTION ZONE** shall use equipment that will minimize damage to trees above and below ground and operate from outside the **TREE PROTECTION ZONE**. Tie back branches and wrap trunks with protective materials to protect from injury as directed by the Project arborist. The Project arborist shall be on-site during all operations within the **TREE PROTECTION ZONE** to monitor demolition activity.
8. All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. To the extent feasible tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work. Qualified biologists should be involved in establishing work buffers for active nests.

Recommendations for tree protection during construction

1. Prohibit grading, construction, demolition or other work within the **TREE PROTECTION ZONE**. Any modifications must be approved and monitored by the Consulting Arborist.
2. All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved.
3. Tree protection devices are to remain until all site work has been completed within the work area. Fences or other protection devices may not be relocated or removed without permission of the Consulting Arborist.
4. Construction trailers, traffic and storage areas must remain outside **TREE PROTECTION ZONE** at all times.
5. Any root pruning required for construction purposes shall receive prior approval of and be supervised by the Consulting Arborist. Roots should be cut with a saw to provide a flat and smooth cut. Removal of roots larger than 2 inches in diameter should be avoided.
6. If roots 2 inches and greater in diameter are encountered during site work and must be cut to complete the construction, the Consulting Arborist must be consulted to evaluate effects on the health and stability of the tree and recommend treatment.
7. Any brush clearing required within the **TREE PROTECTION ZONE** shall be accomplished with hand-operated equipment.

8. Trees to be removed shall be felled so as to fall away from **TREE PROTECTION ZONE** and avoid pulling and breaking of roots of trees to remain. If roots are entwined, the Consulting Arborist may require first severing the major woody root mass before extracting the trees or grinding the stump below ground.
9. All down brush and trees shall be removed from the **TREE PROTECTION ZONE** either by hand, or with equipment sitting outside the **TREE PROTECTION ZONE**. Extraction shall occur by lifting the material out, not by skidding across the ground.
10. Prior to grading or trenching, trees may require root pruning outside the **TREE PROTECTION ZONE**. Any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the Consulting Arborist.
11. Spoil from trench, footing, utility, or other excavation shall not be placed within the **TREE PROTECTION ZONE**, neither temporarily nor permanently.
12. All grading within the dripline of trees shall be done using the smallest equipment possible. The equipment shall operate perpendicular to the tree and operate from outside the **TREE PROTECTION ZONE**. Any modifications must be approved and monitored by the Consulting Arborist.
13. All trees, except oaks, shall be irrigated on a schedule to be determined by the Consulting Arborist (every 3 to 6 weeks is typical). Each irrigation shall wet the soil within the **TREE PROTECTION ZONE** to a depth of 30 inches.
14. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
15. No excess soil, chemicals, debris, equipment, or other materials shall be dumped or stored within the **TREE PROTECTION ZONE**.
16. Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.
17. Trees that accumulate a sufficient quantity of dust on their leaves, limbs and trunk as judged by the Consulting Arborist shall be spray-washed at the direction of the Project Arborist.

Maintenance of impacted trees

Preserved trees will experience a physical environment different from that of pre-development. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority. Inspect trees annually and following major storms to identify conditions requiring treatment to manage risk associated with tree failure.

Our procedures included assessing trees for observable defects in the structure. This is not to say that trees without significant defects will not fail. Failure of apparently defect-free trees does occur, especially during storm events. Wind forces, for example, can exceed the strength of defect-free wood causing branches and trunks to break. Wind forces coupled with rain can saturate soils, reducing their ability to hold roots and blow over defect-free trees. Although we cannot predict all failures, identifying those trees with observable defects is a critical component of enhancing public safety.

Furthermore, trees change over time. Our inspections represent the condition of the tree at the time of inspection. As trees age, the likelihood of failure of branches or entire trees increases. Annual tree inspections are recommended to identify changes to tree health and structure. In addition, trees should be inspected after storms of unusual severity to evaluate damage and structural changes. Initiating these inspections is the responsibility of the client and/or tree owner.

If you have any questions about my observations or recommendations, please contact me.

HortScience | Bartlett Consulting

Prepared by:



Scott Stringer
Consulting Arborist & Urban Forester
ISA Certified Arborist, WE-5544A, ISA Tree Risk Assessment Qualified



Exhibits

Tree Assessment Form

Tree Assessment Plan



Tree Assessment

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
1	Coast live oak	7	No	2	Low	Codominant at 15'; very thin crown; 1 foot off driveway.
2	Coast live oak	26	Yes	3	Moderate	Codominant at base; minor included bark; wide crown; 3 foot off driveway.
3	Coast live oak	13	Yes	3	Low	Codominant at 1'; leans heavy west toward driveway; small crown; one foot crack on north side; previous broken branches over driveway.
4	Coast live oak	12	Yes	3	Moderate	Codominant at 10'; leans south: one sided south.
5	Olive	7	No	2	Low	Codominant at base; west stem dead; leans south: one sided south.
6	Coast live oak	11	No	3	Moderate	Heavy lean south; topped under power line, small crown; one sided south.
7	Coast live oak	10	No	3	Moderate	Sinuus trunk; topped under power line, small crown.
8	Blackwood acacia	16	Yes	2	Low	3 stems at base; poor form; topped under power line.
9	Coast live oak	15	Yes	3	Moderate	Heavy lean south; one sided south; topped under power line.
10	Coast live oak	11	No	3	Moderate	Slight lean south; one sided south; thin crown; topped under power line.
11	Coast live oak	6	No	3	Moderate	Slight lean east; codominant at 10'; small crown.
12	Coast live oak	7	No	3	Moderate	Moderate lean south; codominant at 10'; small crown; white x on base.
13	Coast live oak	12	Yes	3	Moderate	Upright form; codominant at 20'; slight lean south.
14	Coast live oak	14	Yes	3	Moderate	Heavy crook at 4'; leans southeast; codominant at 20'; slight lean south.
15	Coast live oak	10	No	3	Moderate	Codominant at 10'; slight lean south; topped under power line.
16	Coast live oak	26	Yes	3	Moderate	Codominant at 1'; 2' included bark; wide crown; topped under power line.
17	Coast live oak	6	No	3	Moderate	Small crown; leans west; suppressed.
18	Valley oak	32	Yes	3	High	Large, wide crown; branch dieback; multiple attachments at 15'.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
19	Coast live oak	9	No	3	Moderate	Small crown; codominant at 8'; topped under power line.
20	Coast live oak	7	No	3	Moderate	Sinuous trunk; topped under power line; small crown.
21	Coast live oak	8	No	3	Moderate	Sinuous trunk; topped under power line; slight lean east; small crown.
22	Coast live oak	8	No	3	Moderate	Heavy lean southeast; crown resting on utility lines.
23	Coast live oak	7	No	3	Moderate	Codominant at 5'; small crown; suppressed.
24	Blackwood acacia	7	No	1	-	Dead, leans west.
25	Blackwood acacia	14	Yes	1	-	Dead, 3 stems at base.
26	Valley oak	15	Yes	2	Low	Poor form; dead branches; small crown; topped under power line.
27	Tree of heaven	9	No	2	Low	Poor form; small crown; topped under power line.
28	Coast live oak	13	Yes	2	Low	Poor form; codominant at 2'; small crown; topped under power line.
29	Coast live oak	10	No	2	Low	Heavy lean south; small crown; rubbing on utility wires.
30	Coast live oak	13	Yes	3	Moderate	Sinuous trunk; codominant at 15'; small crown.
31	California bay	13	Yes	3	Low	Codominant at base; thin crown; twig dieback.
32	Blackwood acacia	11	No	2	Low	Poor form; 5" broken branch in crown; dead branches.
33	Blackwood acacia	13	Yes	2	Low	Poor form; 5" branch resting on valley oak; metal post on north side of trunk; dead branches.
34	Valley oak	6	No	2	Low	Poor form; highly suppressed; very small crown.
35	Coast live oak	19	Yes	3	Moderate	Heavy lean south; 8' tension crack on north side; codominant at 12'.
36	Coast live oak	18	Yes	3	Moderate	Codominant at 12'; fair form; small cracks on north and south side of stem.
37	Coast live oak	18	Yes	3	Moderate	Codominant at 12'; leaning south; resting on utility lines.
38	Coast live oak	12	Yes	3	Low	Codominant at 4'; leaning north; one sided north.
39	Coast live oak	6	No	3	Low	Small crown; thin; leans northeast.
40	Bronze loquat	9	No	2	Low	Codominant at 1'; twig dieback; poor form.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
41	Hawthorn	6	No	2	Low	Codominant at 2'; twig dieback; topped; poor form.
42	Coast live oak	6	No	3	Low	Small crown; topped under utility; pipe at base on east side.
43	Valley oak	6	No	3	Low	Small crown; lessens east; dead branches.
44	Coast live oak	21	Yes	3	Moderate	Codominant at 20'; leans north; thin crown; topped under power line.
45	California bay	6	No	2	Low	Poor form; growing by fence; leans northeast; small suppressed crown.
46	Valley oak	26	Yes	3	Moderate	Poor form; codominant at 5 and 12'; large dead branches; topped under power line; large wound on west side of trunk.
47	Glossy privet	9	No	2	Low	Codominant at base; poor form; crown mostly epicormics.
48	Valley oak	32	Yes	3	Moderate	Codominant at 10'; fair form; wide crown; wound on north side at base and decay on south side old pruning cut.
49	California bay	6	No	2	Low	Codominant at base; poor form; small crown.
50	Coast live oak	27	Yes	2	Low	Large previous branch failure; decay in main stem; poor form; one sided south; codominant at 15'.
51	Lombardy poplar	7	No	1	-	Dead; ivy in crown.
52	Coast redwood	22	Yes	3	Low	Topped under power line; rubbing on utility wires.
53	Coast live oak	8	No	3	Low	Heavy lean east; very small crown; crown over slide.
54	Coast live oak	14	Yes	3	Moderate	Upright; medium crown; crook in trunk at 15'.
55	Coast live oak	11	No	3	Moderate	Moderate lean north; medium crown; one sided north leaning over fence.
56	Coast live oak	16	Yes	3	Moderate	Moderate lean east; medium crown; one sided east; codominant at 7'.
57	Coast live oak	21	Yes	3	Moderate	Codominant at 6'; leans south; wide crown; fair form.
58	Coast live oak	15	Yes	3	Moderate	Heavy lean southeast; base outside dripline.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
59	Coast live oak	8	No	2	Low	Poor form; bleeding canker; base outside dripline; leaning over sandbox.
60	Coast live oak	20	Yes	3	Moderate	Poor form; heavy lean east; codominant at 15'; topped under power line.
61	Coast live oak	14	Yes	3	Moderate	Thin crown; codominant at 5'; twig dieback.
62	Coast live oak	16	Yes	3	Moderate	Thin crown; codominant at 12'; heavy lean south; twig dieback.
63	Coast live oak	20	Yes	4	High	Codominant at 20'; good form; moderate vigor.
64	Coast live oak	23	Yes	3	Moderate	Codominant at 4'; fair form; decay in old pruning cuts.
65	Deodar cedar	19	Yes	3	Moderate	Upright form; thin crown; one sided south.
66	Coast live oak	6	No	3	Low	Small crown; base outside dripline; heavy lean south.
67	Coast live oak	14	Yes	2	Low	Poor form; rook in trunk at base; heavy frass on trunk; leans north.
68	Coast live oak	10	No	3	Low	Poor form; leans south; one sided south; thin crown.
69	Coast live oak	16	Yes	2	Low	Poor form; leans south; one sided south; thin crown; major decay in trunk; recommend removal.
70	Coast live oak	26	Yes	3	Low	Codominant at 10' and 20'; decay on east side of two stems; one sided south.
71	Olive	16	Yes	3	Low	Codominant at 1'; branch dieback; poor form.
72	Olive	6	No	1	Low	All but dead; between fence and oak #73.
73	Coast live oak	13	Yes	3	Low	Poor form; heavy lean south; resting on utility lines.
74	Tree of heaven	25	Yes	3	Moderate	Poor form; multiple attachments at 10'; topped under power line; oozing on trunk.
75	Coast live oak	13	Yes	3	Moderate	Leans northwest; twig dieback; fair form.
76	Coast live oak	10	No	3	Moderate	Leans south; poor form; base outside drip line.
77	Douglas fir	17	Yes	3	Moderate	Crook in trunk at 10'; leans west and north.
78	Douglas fir	14	Yes	3	Moderate	Crook in trunk at 20'; upright; leans east.
79	Douglas fir	14	Yes	3	Low	Topped under power line; poo form; leans east.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
80	Douglas fir	15	Yes	3	Low	Topped under power line; poor form; dead branches.
81	Douglas fir	13	Yes	2	Low	Sinuous trunk; leans west; poor form.
82	Tree of heaven	14	Yes	3	Low	Multiple attachments at base; poor form; small crown.
83	Coast live oak	7	No	3	Moderate	Small crown; codominant at 6'; one sided south.
84	Coast live oak	23	Yes	4	Moderate	Large, wide crown; multiple attachments at 5'; twig dieback.
85	Coast live oak	16	Yes	4	Moderate	Wide crown; irregular form; twig dieback.
86	Coast live oak	11	No	3	Moderate	One sided south; leans south; codominant at 10'.
87	Coast live oak	17	Yes	3	Moderate	One sided south; leans south; codominant at 10'; thin crown, branch dieback.
88	Olive	11	No	3	Low	Poor form; multiple attachments at base; low vigor.
89	Coast live oak	6	No	3	Moderate	Small crown; leans east; codominant at 12'; twig dieback.
90	Coast live oak	16	Yes	4	Moderate	Medium crown; small branch dieback; good form.
91	Coast live oak	14	Yes	3	Moderate	Medium crown; twig dieback; good form.
92	Coast live oak	14	Yes	3	Moderate	Medium crown; twig dieback; poor form; thin crown.
93	Chinese elm	12	Yes	3	Moderate	Codominant at 4'; thin crown; twig dieback.
94	Coast live oak	16	Yes	3	Moderate	Codominant at 10'; thin crown; leans east; twig dieback.
95	Coast live oak	17	Yes	3	Moderate	Codominant at 10'; medium crown; good vigor.
96	Coast live oak	14	Yes	3	Moderate	Heavy lean south; branch dieback; poor form.
97	Coast live oak	18	Yes	4	Moderate	Medium crown; good structure and form;; twig dieback.
98	Coast live oak	19	Yes	4	Moderate	Medium crown; fair structure and form; moderate vigor.
99	Coast live oak	14	Yes	3	Moderate	Heavy lean south; branch dieback; one sided south.
100	Coast live oak	19	Yes	3	Moderate	Codominant at 6'; thin crown; branch dieback.
101	Bronze loquat	18	Yes	3	Moderate	Multiple attachments at the base; twig dieback; poor form.
102	Coast live oak	11	No	4	Moderate	Codominant at 6'; medium crown; fair form.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
103	Coast live oak	21	Yes	3	Moderate	Codominant at 10'; large crown; fair form; low vigor; twig and tip dieback.
104	Coast live oak	19	Yes	3	Moderate	Codominant at medium crown; poor form; thin on north side.
105	Coast live oak	8	No	3	Low	Small crown; heavy lean southwest; poor form.
106	Glossy privet	9	No	3	Low	Small crown; codominant at base; poor form.
107	California bay	9	No	3	Low	Small crown; heavy lean north; poor form.
108	California bay	14	Yes	3	Low	Medium crown; multiple attachments at 6'; thin crown; one sided west.
109	Glossy privet	14	Yes	3	Low	Codominant at 1'; poor structure; branch dieback.
110	Glossy privet	10	No	2	Low	Codominant at base; poor structure; branch dieback.
111	Coast live oak	12	Yes	3	Moderate	Heavy lean south; poor form; thin crown.
112	Coast live oak	36	Yes	3	Moderate	Large, wide crown; history of branch failures.
113	Coast live oak	23	Yes	3	Moderate	Medium crown; codominant at 6'; twig dieback; leans southwest.
114	Coast live oak	34	Yes	3	Moderate	Large; wide crown; basal decay; multiple attachments at 5'; frass on east side of trunk.
115	Plum	14	Yes	2	Low	Multiple attachments at base; all but dead; poor structure and form.
116	Apple	7	No	3	Moderate	Multiple attachments at 5'; dead branches; fair form.
117	Apricot	12	Yes	3	Low	Codominant at 1'; poor form; branch dieback.
118	Apricot	12	Yes	3	Low	Poor form; branch dieback; thin crown.
119	Coast live oak	38	Yes	4	High	Large, wide crown; tip dieback; thin crown; codominant at 12'.
120	Chinese elm	14	Yes	2	Low	Previously topped; poor structure; branch dieback.
121	Chinese elm	8	No	3	Low	Previously topped; poor structure; leans north.
122	Chinese elm	8	No	3	Low	Heavy lean east; poor form; branch dieback.
123	Coast live oak	10	No	3	Moderate	Codominant at base; small crown; poor form.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
124	Mulberry	10	No	1	-	Dead.
125	Coast live oak	29	Yes	4	Moderate	Large; wide crown; good structure; multiple attachments at 10'.
126	Coast live oak	20	Yes	3	Low	Medium crown; history of branch failure; large lead removed; cracks on trunk.
127	Coast redwood	9	No	4	Moderate	Small crown; upright form; good structure.
128	Coast live oak	8	No	3	Moderate	Small crown; fair form; moderate vigor.
129	Coast live oak	16	Yes	3	Moderate	Codominant at 10'; slight lean south; small branch dieback.
130	Coast live oak	17	Yes	3	Low	Base outside dripline; heavy lean east; poor form.
131	Coast live oak	27	Yes	4	High	Large, wide crown; good structures and form.
132	Coast live oak	9	No	3	Low	Small crown; one sided south; poor form.
133	Coast live oak	18	Yes	3	Moderate	Medium crown; one sided south; codominant at 7'; poor form.
134	Coast live oak	23	Yes	4	High	Large crown; good structure; power service drop in crown.
135	Coast live oak	11	No	3	Moderate	Leans east; poor form; branch dieback; thin crown.
136	Coast live oak	20	Yes	3	Low	Three stem at base; poor form; leans west; thin crown.
137	Coast live oak	16	Yes	3	Moderate	Medium crown; poor form; crowded by bay.
138	California bay	17	Yes	3	Moderate	3 stem at base; poor form; medium crown.
139	Blackwood acacia	6	No	2	Low	Heavy lean east; poor form overextended top.
140	Blackwood acacia	6	No	2	Low	Poor form; resting on valley oak; sinuous trunk.
141	Valley oak	35	Yes	3	Moderate	Large, wide crown; multiple attachments at 8'; small branch dieback.
142	Coast live oak	37	Yes	3	Moderate	Large, wide crown; heavy lean southwest; codominant trunk at 30'; good vigor; 8" cavity on south stem at 20'; reduced under power lines.
143	Valley oak	38	Yes	2	Low	Large, wide crown; multiple attachments at 20'; leans south; major decay on south and east sides at base.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
144	Glossy privet	8	No	2	Low	Poor form; branch dieback; epicormics.
145	Coast redwood	6	No	3	Moderate	Small tree; upright form.
146	Coast redwood	6	No	3	Moderate	Small tree; upright form.
147	Aleppo pine	16	Yes	3	Low	Main stem growing prostrate; poor form; heavy lean southwest.
148	Coast live oak	31	Yes	3	Low	Sinuous trunk; large wound on east side; branches self bracing on ground.
149	Glossy privet	15	Yes	2	Low	Poor structure and form; dead root flare on west side; major cracks on trunks.
150	Tree of heaven	6	No	2	Low	Poor structure and form; beside concrete garden area.
151	Photinia	14	Yes	3	Low	Poor structure and form; 4 stems at base; twig dieback..
152	Bronze loquat	14	Yes	2	Low	Poor structure and form; codominant at base; major branch dieback; splitting at base.
153	Blue oak	6	No	3	Moderate	Small tree; fair form; codominant at 10'.
154	African fern-pine	18	Yes	3	Moderate	Codominant at 1'; poor structure; natural bracing branch in the middle.
155	Coast live oak	33	Yes	4	High	Large, wide crown; codominant at 8'; leans east; several cavities on branches.
156	Glossy privet	6	No	2	Low	Poor form; leans northeast; codominant at 10'.
157	Coast live oak	34	Yes	3	Low	Large crown comprised of large epicormics; decay in several locations.
158	California black walnut	34	Yes	3	Moderate	Codominant at 3'; leans east; poor form.
159	Coast redwood	20	Yes	3	Low	Topped at 30'; poor form.
160	Coast live oak	43	Yes	4	High	Large, wide crown; good structure; decay in east stem with cable; two cables in crown.
161	Avocado	11	No	2	Low	3 stem at base; poor form; branch dieback.
162	Avocado	15	Yes	3	Low	3 stem at base; poor form; dead branches.
163	Coast live oak	28	Yes	3	Moderate	Codominant at 2'; poor structure; heavy lean south; crack noted on south stem just above attachment.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
164	Valley oak	35	Yes	4	Moderate	Very large crown; codominant at 15'; dead branches; history of branch failures.
165	Raywood ash	6	No	3	Low	Codominant at 5'; poor form; twig dieback; close to building 5.
166	Cherry laurel	6	No	2	Low	Codominant at base; poor form; branch dieback.
167	Coast live oak	32	Yes	3	Moderate	Codominant at 2'; wide crown; leans northwest; dead branches.
168	Coast live oak	17	Yes	4	Moderate	Codominant at 5'; medium crown; good form; twig dieback.
169	Coast live oak	6	No	3	Moderate	Small crown; twig dieback; codominant at 6'.
170	Valley oak	9	No	4	High	Small crown; codominant at 12'; fair form.
171	Victorian box	15	Yes	2	Low	Codominant at base; poor form; branch dieback; dead top.
172	Victorian box	17	Yes	2	Low	Codominant at 1'; poor form; branch dieback; previously topped; decay in main stem.
173	Victorian box	14	Yes	2	Low	Codominant at 10'; poor form; branch dieback; previously topped; metal bar at base; decay in main stem.
174	Victorian box	7	No	2	Low	Codominant at 10'; poor form; branch dieback; previously topped; lean east.
175	Victorian box	14	Yes	2	Low	Codominant at 1'; poor form; branch dieback; previously topped; leans south.
176	Coast live oak	33	Yes	4	Moderate	Large, wide crown; tree house in upper canopy; previous branch failures; cavities noted on south side. □ □
177	Coast live oak	29	Yes	4	Moderate	Branches-possible; frequent; 10"; high; severe. Large, wide crown; leans north; multiple attachments at 10'; good structures.
178	Coast live oak	26	Yes	3	Moderate	Large, wide crown; leans east; cable attached to adjacent tree; stem in contact with building.
179	Coast live oak	21	Yes	3	Moderate	Large, wide crown; cable attached to adjacent tree.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
180	Coast live oak	33	Yes	3	Moderate	Large crown; previous branch failure; decay in south stem; poor attachment above decay.
181	Olive	18	Yes	3	Moderate	Large crown; decay at base; codominant at 7'; twig dieback.
182	Coast live oak	17	Yes	3	Low	Heavy lean east; codominant at 6'; poor form; branches running on building.
183	Coast live oak	17	Yes	3	Moderate	Leans south; medium narrow crown; fair structure.
184	Coast live oak	14	Yes	2	Low	Leans heavy south; major vertical cracks on north and south sides.
185	Coast live oak	10	No	3	Low	Leans heavy east; poor form; branch dieback.
186	Valley oak	28	Yes	3	Moderate	Large, wide crown; dead branches; codominant at 20'.
187	Coast redwood	26	Yes	3	Moderate	Upright form; good structure and leaf color.
188	Coast live oak	16	Yes	3	Moderate	Multiple attachments at 6' fair form; twig dieback.
189	Coast live oak	11	No	3	Moderate	Codominant at 15'; fair form; twig dieback.
190	Incense cedar	14	Yes	3	Low	Codominant at 12'; poor form; branch dieback.
191	Coast live oak	12	Yes	3	Low	Heavy lean south; codominant at 12'; branch dieback.
192	Coast live oak	7	No	3	Low	Prominent at 8'; thin crown; poor form.
193	Coast live oak	29	Yes	3	Moderate	Large; wide crown; decay in southeast stem with overextended branches; branch dieback.
194	Coast live oak	16	Yes	3	Moderate	Medium crown; multiple attachments at 12'; fair form.
195	Coast live oak	12	Yes	3	Moderate	Medium crown; codominant at 12'; branch dieback; fair form.
196	Coast live oak	21	Yes	3	Moderate	Medium crown; codominant at 15'; branch dieback; fair form; slight lean south.
197	Crabapple	8	No	3	Low	Small crown; poor structure; branch dieback.
198	Incense cedar	10	No	3	Moderate	Upright form; small branch dieback.
199	Coast redwood	8	No	3	Moderate	Upright form; narrow, suppressed form.
200	Coast redwood	60	Yes	4	Moderate	Upright form; very large crown; soil heaving on south side.

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201	Coast redwood	12	Yes	3	Moderate	Upright form; narrow, twig dieback.
202	Coast live oak	23	Yes	3	Moderate	Medium crown; cavity on east side at 12'; several cavities at old pruning cuts.
203	Coast live oak	39	Yes	4	High	Large, wide crown; multiple attachments at 15'; burl on south stem.
204	Coast live oak	29	Yes	4	High	Large crown; heavy lean north east; codominant at 8'; dead 12' branch on east side.
205	Coast live oak	38	Yes	4	High	Large crown; heavy lean south east; codominant at 6'; cavity on east stem; 8 feet up.
206	Hollyleaf cherry	8	No	2	Low	Multiple attachments at base; poor form; top dieback.
207	Carob	12	Yes	2	Low	Multiple attachments at base; poor form; main stem on ground; crown consists of epicormics.
208	Carob	15	Yes	2	Low	Multiple attachments at base; main stem on the ground; crown consists of epicormics.
209	Elderberry	9	No	2	Low	Multiple attachments at 1'; poor form; in contact with building 8.
210	Deodar cedar	20	Yes	2	Low	Codominant at 20'; poor form; dead branches.
211	Victorian box	6	No	2	Low	Dead top, poor form; branch dieback.
212	Douglas fir	32	Yes	3	Low	Broken top; poor form; ivy on trunk was cut at 5'.
213	Coast live oak	14	Yes	5	High	Good structure and form; codominant at 8'; twig dieback.
214	Italian buckthorn	7	No	2	Low	Growing on fence; poor form; twig dieback.
215	English elm	22	Yes	3	Moderate	Codominant at 4 and 12'; fair form; numerous epicormics around trunk.
216	Victorian box	7	No	2	Low	Poor form; leans south; smothered by elm sprouts.
217	Victorian box	12	Yes	2	Low	Poor form; dead top; dieback throughout crown..
218	Coast redwood	10	No	2	Low	Stump sprout; poor form; branch dieback.
219	Coast redwood	11	No	2	Low	Stump sprout; poor form; branch dieback.
220	Apple	16	Yes	2	Low	Crown only on top; lower branches headed back to stubs.
221	Coast redwood	26	Yes	3	Moderate	Upright form; browning needles; thin crown.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
222	California bay	23	Yes	3	Moderate	Codominant at 5'; previously topped at 10'; small branch dieback.
223	Yew	12,10,9,8,8,6,6,5	Yes	3	Low	Multiple attachments at base; wide crown; dense crown.
224	Coast live oak	35	Yes	4	High	Large, wide crown; multiple attachments at 10'; decay in cavities throughout.
225	Mexican fan palm	13	Yes	3	Moderate	Small crown; 12' brown trunk; full skirt.
226	Hollyleaf cherry	6	No	2	Low	Heavy lean east; dead branches; poor form.
227	Hollyleaf cherry	6	No	2	Low	Leans east; poor form; suppressed.
228	Hollyleaf cherry	7	No	2	Low	Leans east; poor form; suppressed.
229	Glossy privet	9	No	2	Low	Multiple attachments at base; poor form; dead branches.
230	Valley oak	31	Yes	4	High	Large , wide crown; tree house platform around trunk; moderate branch dieback on south side.
231	Coast live oak	30	Yes	4	Moderate	Large crown; decay in east stem, old pruning cuts.
232	Mexican fan palm	13	Yes	3	Moderate	Small crown; 8' brown trunk; full skirt.
233	Mexican fan palm	12	Yes	3	Moderate	Small crown; 20' brown trunk; full skirt.
234	Coast live oak	46	Yes	2	Low	Large crown; decay 1/3 diameter around base; large, multiple cavities on south stem; 3 cables in crown.
235	Valley oak	6	No	3	Low	Small crown; leans east; one sided east; branch dieback.
236	Blackwood acacia	9	No	3	Low	Upright form; ; codominant at 25'.
237	Blackwood acacia	9	No	3	Low	Upright form; ; narrow crown; twig dieback.
238	Blackwood acacia	11	No	3	Low	Codominant at 1'; included bark; poor form.
239	Blackwood acacia	19	Yes	2	Low	Codominant at 1'; included bark; previous branch failure on east side; poor form.
240	Blackwood acacia	14	Yes	3	Moderate	Upright; good form; twig dieback.
241	Italian stone pine	35	Yes	4	Moderate	Off-site; large, wide crown; small dead branches.
242	Coast live oak	39	Yes	2	Low	Off-site; major decay in east stem; small crown; previously topped.
243	Coast redwood	30	Yes	4	High	Upright form; small branch dieback; good leaf color.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
244	Coast live oak	19	Yes	4	Moderate	Multiple attachments at 9'; guy wire from power pole on trunk; one sided south.
245	Douglas fir	25	Yes	3	Moderate	Large crown; upright; low live crown ratio.
246	Tree of heaven	23	Yes	2	Low	Multiple attachments at 6'; poor form; topped on power line side.
247	Blackwood acacia	15	Yes	2	Low	Multiple attachments at 5'; poor form; decay in attachments; branch dieback.
248	Blackwood acacia	10	No	2	Low	Mostly dead; topped under power line.
249	Blackwood acacia	14	Yes	3	Moderate	Codominant at 20'; branch dieback; fair form.
250	Blackwood acacia	5	No	2	Low	Topped at 20'; poor form; crown from epicormics.
251	Blackwood acacia	13	Yes	3	Low	Tall crown; narrow form; thin top.
252	Blackwood acacia	19	Yes	3	Low	Codominant at 6'; upright; tall crown; branch dieback.
253	English elm	7	No	3	Low	Small crown; slight lean north; suppressed.
254	Tree of heaven	15	Yes	2	Low	Codominant at 8'; poor form; thin top.
255	English elm	9	No	1	-	Dead.
256	Tree of heaven	12	Yes	3	Low	Codominant at 25'; tall; low live crown ratio.
257	Tree of heaven	28	Yes	3	Low	Codominant at 3'; wood inserted between attachment; thin top.
258	Tree of heaven	16	Yes	2	Low	Codominant at 15'; poor form and structure.
259	Tree of heaven	21	Yes	3	Low	Codominant at 2'; poor form; U shoe crotch.
260	Tree of heaven	13	Yes	3	Low	Leans north; embedded in bay tree; top heavy.
261	California bay	12	Yes	3	Low	Sinuous trunk; embedded in elm branch; twig dieback.
262	English elm	6	No	2	Low	Small crown; suppressed; sinuous trunk.
263	Silver dollar gum	17	Yes	3	Low	Medium crown; codominant at 7'; poor form; previously topped.
264	Plum	10	No	2	Low	Small crown; poor form; multiple attachments at base; crown mostly epicormics.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
265	Silver dollar gum	23	Yes	3	Moderate	Slight leans south; previously topped; one sided south; previously topped.
266	Silver dollar gum	6	No	2	Low	Slight leans south; previously topped; one sided south; previously topped.
267	Silver dollar gum	6	No	2	Low	Slight leans south; previously topped; one sided south; previously topped.
268	Silver dollar gum	28	Yes	3	Moderate	Leans north; wide crown; codominant at 20'; fair form.
269	Silver dollar gum	19, 9,8	Yes	3	Moderate	Main stem laying on the ground; two main epicormic stems off trunk.
270	Glossy privet	13	Yes	2	Low	Poor form; codominant at 6"; poor form; twig dieback.
271	Glossy privet	12	Yes	2	Low	Poor form; codominant at 6"; poor form; twig dieback.
272	Glossy privet	14	Yes	2	Low	Poor form; codominant at 6"; poor form; twig dieback.
273	Tree of heaven	11	No	2	Low	Poor form; codominant at 5'; poor form; leans east; twig dieback.
274	Blackwood acacia	23	Yes	3	Low	Codominant at 1'; leans north east; poor form; bark inclusion at attachment.
275	Glossy privet	14	Yes	1	-	Dead.
276	Tree of heaven	13	Yes	3	Low	Codominant at 10'; fair form.
277	Tree of heaven	10	No	3	Low	Codominant at 8'; thin crown; fair form.
278	Douglas fir	28	Yes	3	Moderate	Fair form; previous branch failures; dead 10" branch on west side.
279	Valley oak	29	Yes	3	Moderate	Previous branch failure on north side; crown mostly over building 12; fair form.
280	Incense cedar	30	Yes	3	Moderate	Codominant at 4'; included bark; twisted trunk; leans south.
281	Valley oak	31	Yes	3	Moderate	Codominant at 7'; branch dieback; wide crown.
282	Catalina ironwood	6	No	3	Moderate	Codominant at base; small crown; poor form.
283	Valley oak	9	No	4	Moderate	Small crown; good form; twig dieback.
284	California buckeye	6	No	3	Moderate	Small crown; multiple attachments at 1'; poor form.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
285	Coast live oak	7	No	3	Low	Small crown; poor form; leans heavy west; bleeding trunk on west side.
286	Coast live oak	7	No	3	Low	Small crown; twig dieback; leans north east; crowded.
287	Victorian box	11	No	2	Low	Small crown; twig dieback; codominant at 1'; leans north east; branch dieback.
288	Coast live oak	26	Yes	3	Moderate	Large, wide crown; multiple attachments at 10'; branch dieback.
289	Coast live oak	19	Yes	3	Moderate	Slight lean; codominant at 20'; twig dieback; leans south.
290	Coast live oak	15	Yes	3	Moderate	Heavy lean south; base outside drip line; twig dieback.
291	Valley oak	9	No	4	Moderate	Small crown; twig dieback; good form.
292	Coast live oak	20	Yes	3	Moderate	Medium crown; twig dieback; good form; front of big building.
293	California buckeye	16	Yes	3	Moderate	Medium crown; twig dieback; poor form; multiple attachments at 1'; front of the big building.
294	Valley oak	30	Yes	4	High	Large, wide crown; good structure; twig dieback.
295	Coast live oak	44	Yes	4	Moderate	Large, wide crown; good structure; decay in north branch at 20'.
296	Deodar cedar	39	Yes	4	Moderate	Large, wide crown; good structure; previously lost top.
297	Coast live oak	39	Yes	4	High	Large, wide crown; good structure; multiple attachments at 20'. minor decay in old pruning cuts.
298	Deodar cedar	44	Yes	3	Moderate	Very large crown; multiple attachments at 8'; poor form.
299	Coast live oak	37	Yes	4	High	Very large crown; codominant at 20'; heavily weighted to the south.
300	Black locust	23	Yes	1	Low	All but dead; crack at base of main stem.
301	Black locust	27	Yes	1	Low	All but dead; cavity at base on north side.
302	Coast live oak	40	Yes	3	Moderate	Very large crown; weighted heavy to the south; codominant at 9'; over extended branches.
303	Coast live oak	21	Yes	3	Moderate	Leans east; codominant at 12'; twig dieback.
304	Coast live oak	12	Yes	3	Moderate	Codominant at 6'; frass around trunk; slight lean south.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
305	Coast live oak	7	No	3	Moderate	Small crown; narrow; low live crown ratio.
306	Coast live oak	14	Yes	3	Moderate	Medium crown; codominant at 6'; fair form; twig dieback.
307	Coast live oak	11	No	3	Moderate	Medium crown; leans south; codominant at 68; fair form; twig dieback.
308	Coast live oak	6	No	2	Low	Codominant at 6'; poor form; overextended lateral branch.
309	Canary Island pine	30	Yes	4	High	Slight bow in trunk south; tall; upright form.
310	Coast live oak	7	No	3	Moderate	Codominant at 7'; thin crown; broken 2" branch.
311	Coast live oak	28	Yes	3	Moderate	Multiple attachments at 8'; fair form; leans south; small branch dieback.
312	Coast live oak	10	No	2	Low	Poor form; topped under power line; branch dieback.
313	Coast live oak	10	No	3	Moderate	Small crown; branch dieback; under power line.
314	Coast live oak	14	Yes	3	Moderate	Base outside dripline; heavy lean south; codominant at 9'.
315	Coast live oak	8	No	2	Low	Base outside dripline; heavy lean southwest; poor form.
316	Coast live oak	11	No	3	Low	Slight lean south; branches resting on utility wires; topped under power line.
317	Coast live oak	8	No	3	Low	Slight lean south east; poor form; crook in trunk at 10'.
318	Coast live oak	10	No	3	Low	Poor form; sinuous trunk; leans east.
319	Coast live oak	9	No	3	Low	Poor form; codominant at 8'; leans south.
320	Coulter pine	20	Yes	3	Moderate	Upright form; good structure; large cones.
321	Coulter pine	10	No	1	-	Dead.
322	Deodar cedar	25	Yes	5	High	Good structure and form; upright; balanced crown.
323	Coast live oak	15	Yes	3	Low	Leans heavy south; branch rubbing on utility lines; twig dieback.
324	Coast live oak	15	Yes	3	Moderate	Good form; twig dieback; frass at base.
325	Xylosma	13	Yes	2	Low	Multiple attachments at base; contorted growth.
326	Italian buckthorn	12	Yes	2	Low	Multiple attachments at base; poor form.
327	Coast live oak	8	No	3	Moderate	Codominant at 10'; fair form; twig dieback.

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Tree No.	Species	Trunk Diameter (in.)	Significant Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
328	Coast live oak	8	No	3	Moderate	Small crown; twig dieback; dense crown.
329	Coast live oak	32	Yes	3	Moderate	Wide crown; leans southeast; overextended branches; topped under power line.
330	Coast redwood	10	No	2	Low	Topped under power line; poor form.
331	Blackwood acacia	26	Yes	2	Low	Poor structure and form; poor attachments at 5'.
332	Blackwood acacia	18	Yes	2	Low	Poor structure and form; multiple attachments at base.
333	Valley oak	18	Yes	2	Low	Poor form; topped under power line; very thin crown.
334	Glossy privet	7	No	2	Low	Poor form; topped under power line; very thin crown.
335	Coast live oak	31	Yes	4	High	Multiple attachments at 12'; wide crown; good form.

