

MEMO

To:

Susie Murray

Copies:

Lee Miles

Larry Thom

Arcadis U.S., Inc.
2300 Clayton Road
Suite 400
Concord
California 94520
Tel 925 274 1100
Fax 925 726 0121

From:

Joshua Tallis

Date:

May 10, 2019 (updated)

Arcadis Project No.:

RV009362.0003

Subject:

Certified Arborist Report: 4224 Highway 12, Santa Rosa, Ca

A certified arborist tree survey was completed at 4224 Highway 12, Santa Rosa, California on June 8th, 2018 by ISA Certified Arborist Joshua Tallis (#WE-11583A). This report and associated attachments documents the findings of this survey.

Site Description

The site at 4224 Highway 12, Santa Rosa, California contains a single-family home and several outbuildings on a flat weedy lot. The southeast end of the parcel contains a fence which separates the disturbed northwestern portion ("onsite") from a southeast facing slope with dense native vegetation ("offsite"; Attachment 1), however both areas are located on the parcel. Further southeast the parcel contains a public pedestrian walkway which is mowed on either side and does not contain trees. This survey does not include trees east of the pedestrian walkway.

Methodology

1. Identify each tree species.
2. Mark the general location of each tree species subject to permitting on a site map.
3. Measure each trunk circumference at 4.5 feet above surrounding grade using a diameter at breast height (dbh) tape.
4. Evaluate the health and structure of each tree.

Summary of Findings

On June 8th, 2018 Joshua Tallis conducted a survey of 60 trees that are classified as protected or heritage trees and could require permits to remove or disturb under the City of Santa Rosa Tree Ordinance, Chapter 17-24. These trees included one Big Leaf Maple (*Acer macrophyllum*), four California Bay (*Umbellularia californica*), 52 Coast Live Oak (*Quercus agrifolia*), one Northern California Black Walnut (*Juglans hindsii*), and two Valley Oak (*Quercus lobata*). Only native trees greater than four inches diameter at breast height were recorded (Tables 1-5).

Tree species that are exempt from permit requirements under Santa Rosa's tree removal and preservation ordinance were not assessed but locations were documented on Attachment 1. The exempt species observed included Ligustrums, Monterey pine (*Pinus radiata*), Black Elderberry (*Sambucus nigra*; generally a shrub), Western Sycamore (*Platanus racemosa*), and fruit and nut trees (excluding northern California black walnut).

Proposed Impacts to Native Trees

It is proposed that all but two (Table 1 Trees #24 and #25) native trees at 4224 Highway 12 will be removed and will require replacement.

Replacement Requirements

All approved native trees removed for development must be replaced at the following calculations based on the Santa Rosa City code Chapter 17-24 and verbal communications with Santa Rosa City Planner Susie Murray.

For every 6-inches dbh of native tree removed there must be two 15-gallon native trees of the same genus planted elsewhere on the site. For heritage trees removed a heritage tree species must be replaced. Based on the species observed at the site it is recommended that all native trees removed be replaced with coast live oak (*Quercus agrifolia*) because it is the predominant tree species growing throughout the site and is expected to have the best survival rate. The diameter of protected tree species with multiple trunks are calculated as the sum of the trunk diameters at breast height.

In addition:

- For every three 15-gallon replacement container tree there can alternatively be one 24-inch box container; or,
- For every five 15-gallon replacement container tree there can alternatively be one 36-inch box container.

To determine the total number of native replacement trees the sum calculated is shown on Table 5 and as calculated below:

The sum of the diameters of all native trees to be removed = 689 inches

$689 \text{ inches} / 6 \text{ inches} = 114.8 \text{ inches} * 2 = \mathbf{230 \text{ 15-gallon trees}}$

Associated documents

Table 1: Arborist Report Tree Findings

Table 2. Tree Quantity by Species

Table 3. Tree Quantity by Size

Table 4. Heritage Trees

Table 5. Total Diameter of Native Trees

Attachment 1: Tree Location Map

Table 1
Arborist Report Tree Findings
4424 CA-12, Santa Rosa, CA 95409
Revised May 10, 2019

| Tree # | Species | Trunk Diameter (In.) | General Condition | Structural Integrity | Recommendations |
|--------|--|----------------------|-------------------|---|--|
| 2 | Coast Live Oak/ <i>Quercus agrifolia</i> | 5" | Excellent | Excellent | To be removed for construction |
| 3 | Coast Live Oak/ <i>Quercus agrifolia</i> | 7" | Excellent | Good | To be removed for construction |
| 4 | Valley Oak/ <i>Quercus lobata</i> | 5" | Excellent | Good. Light competition causes tree to lean. | To be removed for construction |
| 5 | Coast Live Oak/ <i>Quercus agrifolia</i> | 8.5" | Good | Good. Light competition causes tree to lean. | To be removed for construction |
| 6 | Coast Live Oak/ <i>Quercus agrifolia</i> | 12" | Good | Good | To be removed for construction |
| 7 | Coast Live Oak/ <i>Quercus agrifolia</i> | 7.5" | Good | Good | To be removed for construction |
| 8 | Coast Live Oak/ <i>Quercus agrifolia</i> | 16" | Excellent | Good. Relatively straight trunk. | To be removed for construction |
| 9 | Coast Live Oak/ <i>Quercus agrifolia</i> | 7.5" | Good | Poor. Leaning due to light competition. | To be removed for construction |
| 10 | Coast Live Oak/ <i>Quercus agrifolia</i> | 10.5" | Good | Poor. Leaning due to light competition. | To be removed for construction |
| 11 | Coast Live Oak/ <i>Quercus agrifolia</i> | 9" | Good | Good. Leaning due to light competition. | To be removed for construction |
| 12 | Coast Live Oak/ <i>Quercus agrifolia</i> | 10" | Good | Good. Leaning due to light competition. | To be removed for construction |
| 13 | Big Leaf Maple/ <i>Acer macrophyllum</i> | 7" | Poor | Poor. Cracked trunk and leaning due to light competition. | To be removed for construction |
| 14 | Coast Live Oak/ <i>Quercus agrifolia</i> | 15" | Excellent | Excellent | To be removed for construction |
| 15 | Coast Live Oak/ <i>Quercus agrifolia</i> | 11" | Good/ Excellent | Excellent | To be removed for construction |
| 16 | Coast Live Oak/ <i>Quercus agrifolia</i> | 30" | Good/ Excellent | Excellent | To be removed for construction |
| 17 | Coast Live Oak/ <i>Quercus agrifolia</i> | 9"/11"/12" | Good | Poor | To be removed for construction |
| 18 | Coast Live Oak/ <i>Quercus agrifolia</i> | 14" | Good | Good/Poor. Light deprived. | To be removed for construction |
| 19 | Coast Live Oak/ <i>Quercus agrifolia</i> | 5"/5"/5"/5"/5" | Good | Good | To be removed for construction |
| 20 | Coast Live Oak/ <i>Quercus agrifolia</i> | 8" | Good/Poor. | Good. Light deprived. | To be removed for construction |
| 21 | Coast Live Oak/ <i>Quercus agrifolia</i> | 12"/16"/9"/14" | Good | Good | To be removed for construction |
| 23 | Coast Live Oak/ <i>Quercus agrifolia</i> | 5" | Good | Poor. Leaning. | To be removed for construction |
| 24 | Coast Live Oak/ <i>Quercus agrifolia</i> | 10" | Good | Good | To be maintain and protected during construction |
| 25 | Coast Live Oak/ <i>Quercus agrifolia</i> | 12" | Good | Good/Poor. Has some injury. | To be maintain and protected during construction |

Table 1
Arborist Report Tree Findings
4424 CA-12, Santa Rosa, CA 95409
Revised May 10, 2019

| Tree # | Species | Trunk Diameter (In.) | General Condition | Structural Integrity | Recommendations |
|--------|---|----------------------|-------------------|--|--------------------------------|
| 26 | Coast Live Oak/ <i>Quercus agrifolia</i> | 7" | Good | Good | To be removed for construction |
| 27 | Coast Live Oak/ <i>Quercus agrifolia</i> | 25" | Good | Good | To be removed for construction |
| 28 | Coast Live Oak/ <i>Quercus agrifolia</i> | 10" | Good | Good | To be removed for construction |
| 29 | Coast Live Oak/ <i>Quercus agrifolia</i> | 5" | Good | Poor | To be removed for construction |
| 30 | Coast Live Oak/ <i>Quercus agrifolia</i> | 9" | Good | Good | To be removed for construction |
| 31 | Coast Live Oak/ <i>Quercus agrifolia</i> | 14"/5"/5" | Good | Good/Poor. One trunk injured and oozing. | To be removed for construction |
| 32 | Coast Live Oak/ <i>Quercus agrifolia</i> | 5" | Good | Good | To be removed for construction |
| 34 | California Bay/ <i>Umbellularia californica</i> | 8" | Good | Good | To be removed for construction |
| 35 | California Bay/ <i>Umbellularia californica</i> | 10" | Good | Good | To be removed for construction |
| 36 | California Bay/ <i>Umbellularia californica</i> | 7"/7"/7"/5"/10"/7" | Good | Good | To be removed for construction |
| 37 | California Bay/ <i>Umbellularia californica</i> | 4" | Good | Good | To be removed for construction |
| 38 | Coast Live Oak/ <i>Quercus agrifolia</i> | 5" | Good | Good | To be removed for construction |
| 39 | Coast Live Oak/ <i>Quercus agrifolia</i> | 11" | Good | Good | To be removed for construction |
| 43 | Coast Live Oak/ <i>Quercus agrifolia</i> | 4.5" | Good | Good | To be removed for construction |
| 44 | Coast Live Oak/ <i>Quercus agrifolia</i> | 4.5" | Good | Good | To be removed for construction |
| 45 | Valley Oak/ <i>Quercus lobata</i> | 4" | Good | Good | To be removed for construction |
| 46 | Coast Live Oak/ <i>Quercus agrifolia</i> | 10" | Good | Good | To be removed for construction |
| 48 | Coast Live Oak/ <i>Quercus agrifolia</i> | 10" | Good/poor | Multi-stem close together. | To be removed for construction |
| 49 | Coast Live Oak/ <i>Quercus agrifolia</i> | 6"/6"/6" | Good | Good | To be removed for construction |
| 51 | Coast Live Oak/ <i>Quercus agrifolia</i> | 4"/6"/5"/5"/5" | Good | Good | To be removed for construction |
| 52 | Coast Live Oak/ <i>Quercus agrifolia</i> | 5"/6"/6" | Good | Good | To be removed for construction |
| 53 | Coast Live Oak/ <i>Quercus agrifolia</i> | 5" | Good | Good | To be removed for construction |

Table 1
Arborist Report Tree Findings
4424 CA-12, Santa Rosa, CA 95409
Revised May 10, 2019

| Tree # | Species | Trunk Diameter (In.) | General Condition | Structural Integrity | Recommendations |
|--------|--|----------------------|-------------------|---|--------------------------------|
| 54 | Coast Live Oak/ <i>Quercus agrifolia</i> | 8" | Good | Good | To be removed for construction |
| 55 | Coast Live Oak/ <i>Quercus agrifolia</i> | 4" | Good | Good | To be removed for construction |
| 57 | Coast Live Oak/ <i>Quercus agrifolia</i> | 10" | Poor | Poor. Tree is fallen but alive. Portions have been cut off. Tree should be removed. | To be removed for construction |
| 58 | Northern California Black Walnut/ <i>Juglans hindsii</i> | 5" | Good | Good | To be removed for construction |
| 59 | Coast Live Oak/ <i>Quercus agrifolia</i> | 6" | Excellent | Good | To be removed for construction |
| 60 | Coast Live Oak/ <i>Quercus agrifolia</i> | 4" | Excellent | Good | To be removed for construction |
| 61 | Coast Live Oak/ <i>Quercus agrifolia</i> | 5" | Good | Good | To be removed for construction |
| 62 | Coast Live Oak/ <i>Quercus agrifolia</i> | 4" | Good | Good | To be removed for construction |
| 63 | Coast Live Oak/ <i>Quercus agrifolia</i> | 7"/11" | Good | Good | To be removed for construction |
| 64 | Coast Live Oak/ <i>Quercus agrifolia</i> | 14" | Good | Good | To be removed for construction |
| 65 | Coast Live Oak/ <i>Quercus agrifolia</i> | 20" | Good | Good, but can't access tree well to assess health. | To be removed for construction |
| 66 | Coast Live Oak/ <i>Quercus agrifolia</i> | 8" | Good | Good/Poor. Leaning due to light competition. | To be removed for construction |
| 67 | Coast Live Oak/ <i>Quercus agrifolia</i> | 7" | Good | Good | To be removed for construction |
| 68 | Coast Live Oak/ <i>Quercus agrifolia</i> | 9"/11" | Good | Good | To be removed for construction |
| 69 | Coast Live Oak/ <i>Quercus agrifolia</i> | 6"/3" | Good | Good | To be removed for construction |

| Table 2. Tree Quantity by Species | |
|--|--|
| Species | Quantity |
| Big Leaf Maple/ <i>Acer macrophyllum</i> | 1 |
| California Bay/ <i>Umbellularia californica</i> | 4 |
| Coast Live Oak/ <i>Quercus agrifolia</i> | 52 |
| Northern California Black Walnut/ <i>Juglans hindsii</i> | 1 |
| Valley Oak/ <i>Quercus lobata</i> | 2 |
| Total | 60 |
| Table 3. Tree Quantity by Size* | |
| DBH | Quantity |
| 4 to <6" | 16 |
| 6 to <12" | 25 |
| 12 to <18" | 7 |
| 18+" | 12 |
| Total | 60 |
| *Multi-trunk trees based on sum of trunk diameters | |
| Table 4. Heritage Trees | |
| Species | Diameter at Breast Height |
| Coast Live Oak/ <i>Quercus agrifolia</i> | 30 |
| Coast Live Oak/ <i>Quercus agrifolia</i> | 25 |
| Coast Live Oak/ <i>Quercus agrifolia</i> | 20 |
| Table 5. Total Diameter of Native Trees | |
| Species | Sum of Diameters at Breast Height (Inches) |
| Single Trunk Trees | 367 |
| Multi-Trunk Trees (all trunk diameters) | 269 |
| Heritage Trees | 75 |
| Total: | 711 |

Google Maps 4224 California 12, Santa Rosa, CA



Imagery ©2018 Google, Map data ©2018 Google 50 ft