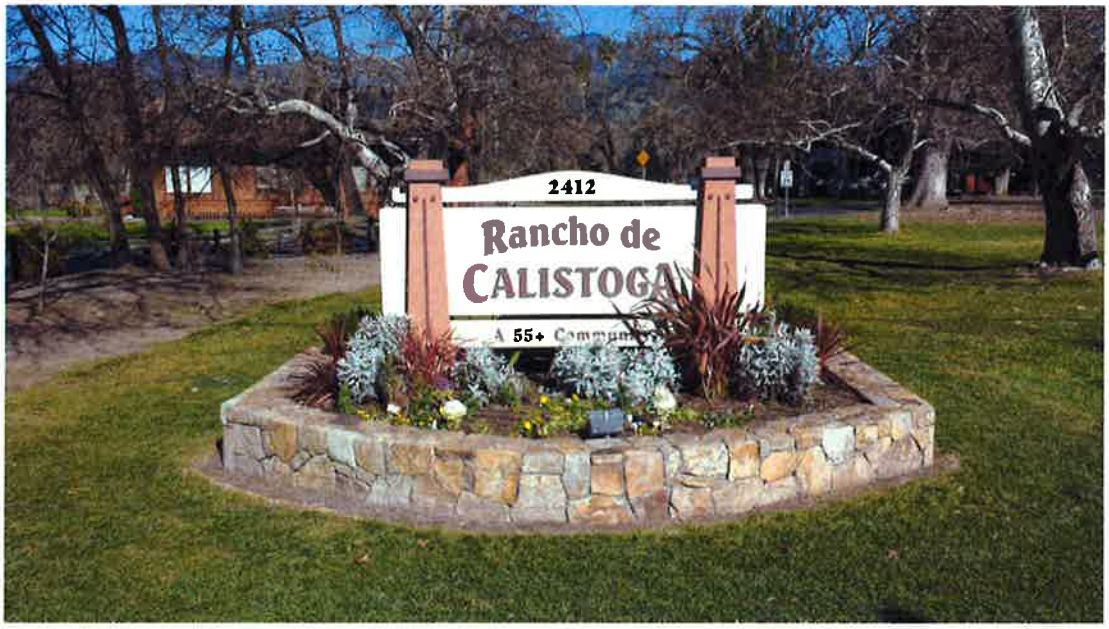
Arborist Report

Prepared for:



Rancho de Calistoga, HCA Management
1450 Grant Ave, Novato, CA

Prepared by Deva Braden, CA WE-7034A
January 25, 2015

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Attention:

HCA Management
Dean Moser
1450 Grant Ave
Novato CA 94945

Site Address:

Site Manager: Tony & Kim Leo
2412 Foothill Blvd
Calistoga, CA

Scope of Work:

Perform a site visit to view, measure and evaluate eleven trees proposed to be removed for new development at Rancho de Calistoga site. Prepare an arborist report and tree protection plan per City of Calistoga for remaining trees that fall within 25 feet of the development footprint and suggest mitigation. Trees in this report are labeled using the same labels as used by Client's Landscape Plan, Tree Inventory and Site Demolition Plans. Please refer to Site Demolition Plan for locations of removals and Landscape Plan for locations of protected trees.

Trees to be removed:

R001:14" DBH Sequoia; 35' tall; 15' wide canopy, good condition, falls within development footprint. **Protected** by City of Calistoga.

R002: unknown evergreen treelike shrub, 5" DBH, 16' tall, 16' wide canopy, good condition, up against office building to be removed. Not protected by City of Calistoga.

R003: 7" DBH Halloway Juniper, 25' tall, 15' wide canopy. Good condition, up against office building to be removed. Not protected.

R004: 9" DBH Italian Cypress, 50' tall, 4' wide canopy. Good condition. Falls within development footprint. Not protected.

R005: 5.5" DBH Juniper tree, 20' tall, 12' wide canopy. Good condition. Falls within development footprint. Not protected.

R006: 5" DBH (Diameter at 4.5 feet was less than 0). Palm tree, 6' tall, 6' wide canopy, good condition. Falls within development footprint. Not protected.

R007: 4" DBH (Diameter at 4.5 feet was less than 0) palm tree, 3.5' tall, 2' wide canopy, good condition. Falls within development footprint. Not protected.

R008: 4.5" DBH Juniper tree, 20' tall, 10' wide canopy, good condition. Falls within development footprint. Not protected.

R009: 16" DBH Fig tree, 25' tall, 18' wide canopy, poor condition, large basal cavity. Falls within development footprint. **Protected** by City of Calistoga.

R010: 28" DBH Coast Live Redwood, 65' tall, 24' wide canopy, good condition. Falls within development footprint. **Protected** by City of Calistoga.

R011: 4" DBH Liquidambar tree, 20' tall, 15' wide canopy, good condition. Falls within development footprint. Not protected.

R012: 6" DBH Liquidambar tree, 20' tall, 15' wide canopy, good condition. Falls within new sidewalk area. Not protected.

Tree Protection Plan

Per the City of Calistoga a tree protection plan must be implemented for any tree that has a trunk or dripline within 25' of disturbed soil of the development project.

City of Calistoga defines protected trees as:

1. Any tree with DBH greater than 12 inches.
2. Any native oak with a DBH greater than six inches.
3. Any Valley Oak, seedling, sapling, or older.
4. Any tree bearing an active nest of a fully protected bird

Index of existing trees to be protected.

P001, 36" DBH, 65' tall and 40' wide canopy, Valley oak tree, good condition, good structure. No major visible defects.

P002, 22" DBH, 50' tall and 40' wide canopy, Walnut tree, good condition, good structure. No major visible defects.

P003, 20" DBH, 80' tall and 30' wide canopy, Pine tree, good condition, good structure. No major visible defects.

P004, 21" DBH, 50' tall and 20' wide canopy, Pine tree, good condition, good structure. No major visible defects.

P005, 50" DBH, 75' tall and 55' wide canopy, Valley oak tree, good condition considering, good structure. Tree has been retrenched, severely pruned years and years ago and most likely has decay due to age. Though, despite all this it seems to be doing well.

E008, 66" DBH, 80' tall and 80' wide canopy, Valley oak tree, good condition, good structure. No major visible defects.

E015, 24" DBH, 60' tall and 40' wide canopy, Madrone tree, good condition, good structure. No major visible defects.

E022, 24" DBH, 75' tall and 40' wide canopy, Valley oak tree, good condition, good structure. No major visible defects.

E023, 22" DBH, 35' tall and 35' wide canopy, Walnut tree, good condition, good structure. No major visible defects.

E026, 12" DBH, 30' tall and 15' wide canopy, Redwood tree, good condition, good structure. No major visible defects.

E032, 12" DBH 40' tall and 25' wide canopy, Catalpa tree, good condition, good structure. No major visible defects.

E033, 17" DBH 40' tall and 25' wide canopy, Catalpa tree, good condition, good structure. No major visible defects.

E035, 17" DBH, 40' tall and 30' wide canopy, Catalpa tree, good condition, good structure. No major visible defects
E039, 19" DBH, 65' tall and 25' wide canopy, Sycamore tree, good condition, good structure. No major visible defects.

Cluster, 2sparx9" DBH, 25' tall and 20' wide canopy, Fig tree at NE corner of Pond House (existing), fair condition, terrible previous pruning, poor structure.

City of Calistoga Public Code

Section 19.01B states. **Temporary Protective Fencing**. Before the start of any on-site work, every protected tree within or immediately adjacent to the area of on-site work shall have installed around it a temporary protective fence at the outer margin of the root protection zone. It shall remain in place and be properly maintained for the duration of all work at the site.

Section 19.01C states everything that is prohibited inside the Tree Protection Zone or Root Protection Zone. 1. Removal of a protected tree; 2. Removal of any heritage tree without specific approval of the Council; 3. Removing, moving, or failing to install and maintain proper temporary protective fencing prior to completion of all on-site work; 4. Parking or use of vehicles, equipment, or of other devices which might compact the soil; 5. Storage or use of construction materials; 6. Storage or use of chemicals or of other substances which might be harmful to trees; 7. Pruning shall be performed in accordance with WCISA standards; 8. Trenching, including that required for an irrigation system; 9. Any permanent or temporary structures; 10. Grading, cutting, filling, or changing the natural grade in any way; 11. Installation of irrigation system; 12. Irrigation within 10 feet of a trunk of a tree; 13. Attaching signs, posters, notices, wires, or devices of any sort to the trunk; 14. Covering with any substance impermeable to air and rain water, such as asphalt, concrete, plastic, etc.; 15. Burning, open fires, open flames; 16. Chemical toilets; 17. Compaction of the soil; 18. Cleaning or washing any tools or equipment such as paint brushes, masonry trowels, cement mixtures, etc.; 19. Installation of a septic system and/or leach lines immediately up-grade from a protected tree; 20. Installation of a drainage barrier such as a swimming pool, retaining wall, etc., immediately down-grade from a protected tree.

In summary, stay out of TPZ, do nothing inside TPZ. This tree protection zone (TPZ) around the tree is marked with stakes and snow fence or chain link fence if a more permanent long term TPZ is needed. **The TPZ is placed preferably at the edge of the drip line or as far out as possible and delineated with stakes and snow fence per City of Calistoga**.

If work must occur inside the TPZ here are some best management practices.

- Prior to beginning work, the contractor is required to meet with the consultant at the site to review all work procedures, access routes, storage areas and tree protection measures.

- Structures and underground features to be removed from the TPZ shall use the smallest equipment possible and operate from outside the TPZ. The consultant shall be on-site during all operations within the TPZ to monitor demolition activity.

- Ideally, a six-foot chain link posts sunk into the ground shall be erected to enclose the TPZ. Fences shall remain until all work has been completed. Fences may not be relocated or removed without the written permission of the consultant. Some manner of barrier not readily or easily moved delineating the TPZ.

- No materials, equipment, spoil, waste or wash out water may be deposited, stored or parked within the TPZ or fenced area.

- Construction trailers, traffic, and storage areas must remain outside the TPZ. Avoid compaction in TPZ.

- Prior to grading, pad preparation, excavation for foundations/footings/walls, trenching, the tree shall be root pruned if need be. Since all work is taking place within the TPZ, any root pruning that is required will be done by manually digging and exposing interfering roots and using a saw, or vibrating knife, rock saw, or other approved root pruning equipment. Avoid tools that pull and shatter roots. Avoid cutting roots greater than 1" in diameter. Ideally expose the planned impacted root zone with a pneumatic air spade and then root prune by hand cleanly cutting back to laterals. Backfill with amended soil.

- Any grading, construction, demolition or other work that is expected to encounter tree roots must be monitored by the consulting arborist.

- All underground utilities, drain lines, irrigation lines shall be routed outside the TPZ. If lines must traverse the TPZ they will be tunneled or bored under the tree. Consolidate all lines in one trench.

- Any roots damaged during grading or construction shall be exposed to sound tissue and cut cleanly with a saw.

- If temporary compaction is imminent within root area of TPZ a bed of 6" of mulch or gravel can be laid in order to protect the roots, mulch or gravel must be removed after the use of it is no longer needed.

- Spoils from trenching or any other excavation shall not be placed within the TPZ, either temporarily or permanently.

- Avoid stripping away topsoil around trees. Avoid stepping on bare roots because they are fragile.

- Avoid impervious materials used to cover root area. Pavers, Bricks and other materials that allow atmospheric oxygen and water to permeate down into the tree roots promote greater tree health.

- Avoid continuous footings adjacent to trees. Use pier foundations with grade beam above grade instead of slab foundations. Orient piers to avoid major roots.

- Where surface grades are to be modified, make sure that water will flow away from the trunk, ie that trunk is not the lowest point. If tree is in low point, design a drain system with least impact to roots.

- Match irrigation requirements of tree and understory landscape to avoid over irrigation.

Tree Survival depends on how it's treated during the construction phase. Rather than dying quickly, the tree may decline gradually and eventually reach the point that removal is required. This is typical when impacts are indirect and cause chronic stress to which the tree never adapts. Examples of site changes that can cause chronic stress include:

Soil compaction and root injury that stems from construction activity near trees is very difficult to rectify. Therefore, the principle focus should be to protect the root area from impacts. This is best accomplished by establishing a protection zone around the tree in which no grading or construction activity may occur.

Direct hits, damage, wounding or injury to tree can interrupt sap flow and lead to decay. Wrapping the tree in erosion wattles or other defensible measures guard against direct contact with injury.

Excavation and grading. Root injury and loss resulting from excavation can have a devastating impact on tree health, stability and longevity.

Trenching. Trenching for underground utilities or drains can result in significant root loss. Route trenches around or under roots.

Fill soils. Fill soil placed on the surface within TPZ or RPZ can adversely affect trees, particularly if the soil is highly compacted to support concrete or structures. Fill soils restrict the movement of air and water in to existing root zone.

Pavement. Pavement installation typically involves surface grading, compaction. This can sever roots and, create conditions that inhibit root growth and cause tree health decline.

Removal of leaf litter layer. Trees usually have a soil surface covered with a layer of fallen leaves and other woody debris. This litter mulch layer moderates temperature, reduces evaporative water loss, improves soil structure and inhibits weed development. If this is disrupted it can tip the health of the tree. If it must be cleared replace it with 4" of wood chips or mulch across the TPZ.

Let's be careful of damaging those trees and follow best management practices. By doing the right thing we can lessen our impact and expand our success.

Deva Braden
ISA Certified Arborist WE-7034A
CSLB 878691

Photo1. Showing R001

Photo2. Showing R002, R003, R004

Photo3. Showing R005, R006, R007, R008.

Photo4. Showing R009.

Photo5. Showing R010 and R011.

ASSUMPTIONS AND LIMITING CONDITIONS

1. This report and the opinions expressed within it have been prepared in good faith and to accepted arboricultural standards within the scope afforded by its terms of reference and the resources made available to the consultant. The report provides no undertakings regarding the future condition or behavior of the trees reviewed within it. Tree hazard and condition assessments are not an exact science. Both qualities can and do change over time and should be reappraised periodically.

2. This assessment was limited to a visual tree evaluation only. No core samples were taken. No tissue samples have been cultured or analyzed by plant pathologists. No root or root crown excavations were undertaken. No aerial reconnaissance was attempted, beyond that made possible by binoculars. The evaluation period for this assessment is 6 months unless otherwise noted.

3. Any legal description provided to the consultant is assumed to be correct. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.

4. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other governmental regulations.

5. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant/appraiser can neither guarantee nor be responsible for the information provided by others.

6. The consultant/appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.

7. Loss or alteration of any part of this report invalidates the entire report.

8. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the company, ArborMD Tree Care Professionals.

9. Neither all nor any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of the consultant/appraiser— particularly as to value conclusions, identity of the consultant/appraiser, or any reference to any professional society or institute or to any initiated designation conferred upon the consultant/appraiser as stated in his qualification.

10. All trees will fail at some point in time; this report and its recommendations are based on average conditions for the tree(s) and site. Failure due to an extreme event or a combination of events is unforeseeable and therefore unpredictable.

11. Tree assessments are based on the condition of the tree and site at the time of assessment. No guarantees of certainties are given with regard to the future condition or behavior of the trees including failure in whole or in part for any reason.