04/10/2019

To the Planning Commission,

On behalf of the owners of 1 Edge Road, the following application requests a permit for the removal of eight heritage trees and a tree protection zone exception of two trees. The proposed plans may include demolition of the existing house and construction of a new single-family residence. Design of the new residence has not begun due to the nature of the site. The current density of trees significantly limits the buildable area of the lot. In considering the site, there are also several nonnative trees requested for removal. The eight trees requested would be replaced with eight, 36" container trees. There are also many diseased trees in poor condition which may be referenced in the arborist report.

Please find the following supporting exhibits in addition to our letter of intent

Exhibits:

1. Planning Commission Application for Heritage Tree Removal Permit
2. Environmental Information Form
3.
    a. Arborist Report prepared by McClenahan Consulting, LLC
    b. Arborist Supplemental note prepared by McClenahan Consulting, LLC
4. Three (3) folded 24"x36" copies of and one 8.5" x 11" copy of the Existing Site Survey
5. Three (3) folded 24"x36" copies of and one 8.5" x 11" copy of the Site plan with existing trees with 8x TPZ and 10x TPZ
6. Three (3) folded 24"x36" copies of and one 8.5" x 11" copy of a Potential Site Plan and Replanting Plan
7. Journal of Arboriculture Summer Branch Drop
8. Arboriculture Research Note regarding Summer Branch Drop
9. Cal-IPC article on the Phoenix Canariensis (Canary Island Date Palm)
10. Cal-IPC article on the Washingtonia Robusta (Mexican Fan Palm)
11. Site Plan updated per the Town Arborist memo

E STEVEN EHRLICH, FAIA Founding Partner
Y TAKASHI YANAI, FAIA Partner
R PATRICIA RHEE, FAIA Partner
C MATHEW CHANEY, AIA Partner

Ehrlich Yanai Rhee Chaney Architects LLP eyrc.com
LA 10865 Washington Blvd Culver City CA 90232 310 838 9700
SF 355 11th St Ste 200 San Francisco CA 94103 310 838 9700

Project Objectives and Justifications

A. Adequate buildable area

It is the desire of the owner to build a home that suits the needs of their family. Though the owners were initially drawn to the site due to its wooded character, the Town's Tree Protection Zones have rendered the site unbuildable. The available buildable area is roughly 10,500 square feet without considering Tree Protection Zones. When considering a 10x TPZ radius, the remaining buildable area is roughly 850 square feet (8% of the available buildable area). In accordance with Atherton Municipal Code 17.42.040, the clients can build a residence of up to 7,804 square feet in area. Trees #25, 53, 55, and 56 have been identified as the trees that encroach the most into the buildable area. (Refer to exhibit '5' here) With the removal of the trees 55 and 56 and a reduced TPZ of 6x for 25 and 53, the majority of the buildable area will be restored. As an example of a potential development, Exhibit '6' shows the restored buildable area with a 6,100 SF building footprint.

The existing house was built 50 years ago in 1969. While the house may have avoided trees when built, it is clear the trees have grown and the current house, would not be approved by Atherton's standards today. The existing house and site paving violate twenty-some Tree Protection Zones. The proximity of the trees to the house may put both the building and residents along with the tree's health at risk. To create enough space to build a new house, one Coast Live Oaks (#56) and one Redwoods (#55) will need to be removed. We recognize the beauty of trees #53 and 25, also an oak and a Redwood, but to restore the buildable area we request a TPZ exception of 6x the diameter for the two trees. It is our intent to make these decisions in an educated and responsible manner and have been discussing the best potential solutions with the Town Arborist. During a discussion on April 8th, the Town Arborist supported the removal of 54 and 56 and a 6x TPZ for 53 and 25.

B. Safety

The requested removals are also a matter of safety. 2019 was a very hot summer in Atherton, tree #10 dropped 4 limbs. While fortunately, this tree is located far from the living spaces, it was not lost on the Owners that this could have had a catastrophic impact if any of the several other trees adjacent to their house had a limb failure. Summer Branch Drop Syndrome has

been recorded as a phenomenon occurring in seemingly healthy and mature trees (see exhibit '7'). According to the Journal of Arboriculture *"Seemingly healthy limbs up to a meter in diameter occasionally break out of mature trees during or following hot calm summer afternoons…In California this type of limb failure occurs on both native and planted trees as well as in irrigated and unirrigated landscapes."*

With so many mature trees adjacent to the existing house, the situation could be precarious. Considering climate change and current weather patterns, the high temperatures are not an anomaly and the heat may continue to cause further limb failure. A combination of strategic tree removal and replanting with a proper siting of a new house would afford the Owners an increased level of safety in relation to tree failure.

C. Palms

This application requests removal of six Palms #17, 31, 32, 50, 51, and 54. The palms on site are a mix of Canary Island Date Palms and Mexican Fan Palms neither of which are native to California. The following excerpt from the California Invasive Plant Council deems the Canary Island Date Palm as hazardous to surrounding native plant life.

> *"Canary Island date palm is native to the Canary Islands off the coast of Africa. Growing to 25 m tall, Canary Island date palms tend to grow in clusters that form a dense canopy that excludes light from reaching beneath them, leading to a loss of native plants."*

The CAL-IPC also lists the Mexican Fan Palm as moderately invasive siting several potential risks related to the species.

> *"Mexican fan palm is a common landscape ornamental that has become invasive in riparian areas, orchards and landscaped areas. This palm is known to create monospecific stands in riparian areas, and dead fronds of the tree can create a fire hazard."*

Not only are Palms non-native and potentially invasive, they are not characteristic of the surrounding neighborhood. As the palms are not representative of Atherton's wooded charm and appeal, they should not be considered protected trees. Canary Island Date Palms and

Mexican Fan Palms do not provide the same benefits that broad- leaved trees provide. It is the intent to replace these palms with the more densely native leaved tree species that are distinctive of Atherton. During a site visit between the Project Arborist and the Town Arborist on July 22, 2019, it was determined that #17 and 50 were particularly insignificant to the site and were young volunteers recommended for removal.

Most of the palms on site exist along the perimeter and do not create adequate screening due to the height of their foliage. Once removed, the space will allow for planting that can adequately screen the future new residence pursuant of AMC 17.50.030 *"Plantings shall be provided by the owners and located to reduce the visual impact of structures. Planting with appropriate trees and plants shall be used where necessary to provide privacy."*

D. Replacement Plan

The Architectural drawings note the trees for removal along with the Tree Protection Zones. As there is no proposed building design yet, the plans illustrate the remaining buildable area on top of a survey of the existing house and hardscape. With the proposed removal of eight heritage trees, we are proposing to replace the trees with at least eight - 36" container size replacement trees. The replacement trees will include two Coast Live Oaks, two Monterey Pines, two Deodar Cedars, and two Coast Redwoods. (Refer to exhibit '6' for replacement tree plan) It is the owners' intent to replant the site with species native to Atherton and to maintain the dense wooded nature of the neighborhood and property. All recommended replacement trees are preliminary in nature and subject to change as the new proposed residence has not begun its design process due to the unbuildable site conditions. All proposed replanting is to be reviewed and designated by a landscape architect during the new house design process and will be subject to Planning review and approval. Additionally, as part of this tree removal request, is a request to address tree removal and replacement during construction of the future built project. By replanting during construction, it affords more area for maneuvering on site and will avoid potential damage to the new replanting.

Conclusions

The Town Municipal Code requires that removal of heritage trees be granted when in accordance with the general plan of the town.

> AMC 8.10.040E *"At the public meeting, the planning commission shall hear all evidence presented, and shall grant the heritage tree removal permit unless it finds that the removal of the subject tree would be contrary to the purpose and intent of the general plan of the town"*

The site is uniquely quite wooded with heritage trees densely planted across the site. Unfortunately, the trees render 92% of the available buildable area unbuildable. This undue hardship is specific to the site and we request the Planning Commission's understanding towards this situation. Overall, it is the Owners' wish to maintain the lush quality of the site, but in order to create a safe and buildable environment for their new home, respectfully request removal of the trees mentioned above along with the adjusted TPZ for trees 25 and 53.

TOWN OF ATHERTON
PLANNING COMMISSION APPLICATION

	TYPE OF APPLICATION	FEE
	Appeal	$750.00
	Special Structure Permit	$2,684.24
	Conditional Use Permit	$2,684.24
X	Environmental Impact Report	Actual cost
	Final Parcel Map	$2,684.24
	General Plan Amendment	$5,162.00
	Heritage Tree Removal Permit	$2,064.80
	Initial Review/Negative Declaration	$2,064.80
	Lot Line Adjustment	$1,548.60
	Lot Line Redesignation	$2,684.24
	School Master Plan	$774.30
	Tentative Parcel Map	$2,684.24
	Variance	$2,684.24
	Zoning Ordinance Amendment	$5,162.00

SITE ADDRESS: 1 Edge Rd Atherton, CA 94027 APN: 061252010

Provide a brief description of the proposed project:

Proposed removal of 4 heritage trees that dramatically limit site use within the buildable foot print.
Additionally requesting removal of 6 insignificant palms.

PROPERTY OWNER:

Name: Joe White, Wendy White
Mailing Address: 1 Edge Rd Atherton, CA 94027
Phone: 650 304 6431
Email: joe@curiouswhite.com wendy@curiouswhite.com
Signature:

APPLICANT:

Name: Jessica Chang, Jessica Moon
Mailing Address: 10865 Washington Blvd, Culver City, CA 90232
Phone: MAIN: (310) 838-9700 JESSICA CHANG: (310) 238-0875 JESSICA MOON: (310) 237-0892
Email: JESSICA CHANG: jchang@eyrc.com JESSICA MOON: jmoon@eyrc.com
Signature:

FOR COMPLETION BY TOWN OF ATHERTON:

Amount Paid: _____ Received by: _____ Date Submitted: _____

Project #: _____

Town of Atherton

Planning Department
91 Ashfield Road
Atherton, California 94027
Phone: (650) 752-0544
Fax: (650) 614-1224

Environmental Information Form
(to be completed by applicant)

Date Filed: NOVEMBER 04 2019

General Information

1. Name and address of developer or project sponsor:

JOE WHITE AND WENDY WHITE
1 EDGE ROAD, ATHERTON, CA 94027

JESSICA CHANG: (310) 238-0875 JESSICA MOON: (310) 237-0892
10865 WASHINGTON BLVD, CULVER CITY, CA 90232

2. Address of project: 1 EDGE ROAD, ATHERTON, CA 94027

   Assessor's Lot and Block Number: 061252010

3. Name, address, and telephone number of person to be contacted regarding this project:

JESSICA CHANG: (310) 238-0875 JESSICA MOON: (310) 237-0892
10865 WASHINGTON BLVD, CULVER CITY, CA 90232

4. List and describe any other related permits and other public approvals required for this project, including those required by the city, regional, state, and federal agencies:

CEQA REVIEW TO BE PERFORMED BY TOWN OF ATHERTON

5. Existing Zone District:

6. Proposed Use of Site (Project for which this form is filled): RESIDENTIAL SINGLE FAMILY HOME

NOT YET DESIGNED AS SITE IS UNBUILDABLE WITH EXISTING TREES

Project Description

7. Site Size: 43,427 SQ FEET

8. Number of Floors of Construction: TBD

9. Square Footage: TBD

10. Amount of off-street parking provided: TBD

11. Attach Plans

12. Proposed Scheduling: PROPOSED PERMIT FOR REMOVAL SO DESIGN CAN BEGIN
REMOVAL AND REPLANTING OF TREES TO OCCUR PRIOR TO CONSTRUCTION

13. Associated Projects: N/A

14. Anticipate Incremental Development:

15. ☒ If residential, indicate the number of units, schedule of unit sizes, range of sale prices or rents, and type of household size expected: ONE SINGLE FAMILY HOME

16. ☐ If commercial, indicate the type, whether neighborhood, city, or regionally oriented, and square footage of sales area, and loading facilities: _____

17. ☐ If industrial, indicate type, estimated employment per shift and loading facilities: _____

18. ☐ If industrial, indicate the major function, estimated employment per shift, estimated occupancy, loading facilities, and community benefits to be derived from the project:_____

19. ☐ If the project involves a variance, conditional use permit, or rezoning application, state this and indicate clearly why the application is required:_____

Are the following items applicable to the project or its effects? Discuss below all items checked yes (attach additional sheets if necessary.

YES	NO	
☐	☒	20. Change in existing features or any bays, tidelands, beaches, lakes -or hills, or substantial alteration of ground contours.
☐	☒	21. Change in scenic views or vistas from existing residential areas or public lands or roads.
☐	☒	22. Change in pattern, scale or character of general area of project.
☐	☒	23. Significant amounts of solid waste or litter.
☐	☒	24. Change in dust, ash, smoke, fumes or odors in Vicinity.
☐	☒	25. Change in ocean, bay, lake, stream or ground water quality or quantity, or alteration of existing drainage patterns.
☐	☒	26. Substantial change in existing noise *oi* vibration levels in the vicinity.
☐	☒	27. Site on filled land or on slope of 10% or more.
☐	☒	28. Use or disposal of potentially hazardous materials, such as toxic substances, flammable or explosives.
☐	☒	29. Substantial change in demand for municipal services (police, fire, water, sewage, etc.).
☐	☒	30. Substantially increase fossil fuel consumption (electricity, oil, natural gas, etc.).

☐ ☒ 31. Relationship to a larger project or series of projects.

Environmental Setting

32. Describe the project site as it exists before the project, including information on topography, soil stability, plants and animals, and any cultural, historical or scenic aspects. Describe any existing structures on the site, and the use of the structures. Attach photographs of the site.

33. Describe the surrounding properties, including information on plants and animals and any cultural, historical or scenic aspects. Indicate the type of land use (residential, commercial, etc.), intensity of land use (one-family, apartment houses, shops, department stores, etc.), and scale of development (height, frontage, setback, rear yard, etc.). Attach photographs of the vicinity.

Certification: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: 11/1/2019

Signature

JESSICA CHANG / JESSICA MOON

For

EXHIBIT 03a

ARBORIST REPORT

Submitted To:

Mr. Joe White
1 Edge Road
Atherton, CA 94027

Project Location:

1 Edge Road
Atherton, CA 94027

Submitted By:
McCLENAHAN CONSULTING, LLC
John H. McClenahan
ISA Board Certified Master Arborist, WE-1476B
member, American Society of Consulting Arborists
September 18, 2019
October 26, 2019 Revised

McClenahan Consulting, LLC
Arboriculturists Since 1911
1 Arastradero Road, Portola Valley, CA 94028-8012
Telephone (650) 326-8781
Fax (650) 854-1267
www.spmcclenahan.com

September 18, 2019
October 26, 2019 Revised

Mr. Joe White
1 Edge Road
Atherton, CA 94027

Assignment

As requested, I performed a visual inspection of four trees to determine species, size and condition and provide tree protection and tree preservation guidelines.

Summary

Proposed plans include demolition of existing house and construction of a new single-family residence. The current density of trees significantly limits buildable area of the lot. To create enough space to build a new house, trees 25, 55 and 56 (a coast live oak and two redwoods) will need to be removed. Most of the oak trees have some fill around them but the root flares are exposed and maintained at natural grade. Eight protected trees are recommended for removal due to condition or risk factors associated with recent failures (10, 35, 38, 41, 44, 45, 49, and 52). Tree nine is not protected and will be removed. Trees 17 and 50 are undesirable young palms that contribute poorly to site and are poorly placed. Trees 29 and 30 will likely be removed and are not protected. A more detailed evaluation may be necessary for some oaks (11, 33 and 34) to better define health and risk. Trees highlighted red are recommended for removal, trees highlighted yellow are deemed necessary to build a new house and highlighted orange are requested for removal to make the lot more buildable and eliminate less desirable trees to homeowner (palms). Grading and drainage improvements will need to utilize space under the driveway as the rest of the lot will be in a Tree Protection Zone, including parts of the driveway.

Methodology

No root crown exploration, climbing or plant tissue analysis was performed as part of this survey. For purposes of identification, trees have been marked with aluminum tags and numbered on the attached site plan.

In determining Tree Condition several factors have been considered which include:

Rate of growth over several seasons;
Structural decays or weaknesses;
Presence of disease or insects; and
Life expectancy.

TREE PRESERVATION GUIDELINES

Tree Preservation and Protection Plan

In providing recommendations for tree preservation, we recognize that injury to trees as a result of construction include mechanical injuries to trunks, roots and branches, and injury as a result of changes that occur in the growing environment.

To minimize these injuries, we recommend grading operations encroach no closer than six times the trunk diameter, (i.e. 30" diameter tree x 6=180" distance). At this distance, buttress/anchoring roots would be preserved and minimal injury to the functional root area would be anticipated. Should encroachment within the area become necessary, hand digging is ***mandatory.***

Barricades

Prior to initiation of construction activity, temporary barricades should be installed around all trees in the construction area. Six-foot high, chain link fences are to be mounted on steel posts, driven 2 feet into the ground, at no more than 10-foot spacing. The fences shall enclose the entire area under the drip line of the trees or as close to the drip line area as practical. These barricades will be placed around individual trees and/or groups of trees as the existing environment dictates.

The temporary barricades will serve to protect trunks, roots and branches from mechanical injuries, will inhibit stockpiling of construction materials or debris within the sensitive 'drip line' areas and will prevent soil compaction from increased vehicular/pedestrian traffic. No storage of material, topsoil, vehicles or equipment shall be permitted within the tree enclosure area. The ground around the tree canopy shall not be altered. Designated areas beyond the drip lines of any trees should be provided for construction materials and onsite parking.

Root Pruning (if necessary)

During and upon completion of any trenching/grading operation within a Tree Protection Zone, clean pruning cuts of exposed, damaged or severed roots greater than one inch diameter should be accomplished under the supervision of a qualified Arborist to minimize root deterioration beyond the soil line ***within twenty-four (24) hours.***

Pruning

Pruning of the foliar canopies to include removal of deadwood is recommended and should be initiated prior to construction operations. Such pruning will provide any necessary construction clearance, will lessen the likelihood or potential for limb breakage, reduce 'windsail' effect and provide an environment suitable for healthy and vigorous growth.

Irrigation

A supplemental irrigation program is recommended for the trees and should be accomplished at regular three to four-week intervals during the period of May 1st through October 31st. Irrigation is to be applied at or about the 'drip line' in an amount sufficient to supply approximately ten (10) gallons of water for each inch in trunk diameter.

Irrigation can be provided by means of a soil needle, 'soaker' or permeable hose. When using 'soaker' or permeable hoses, water is to be run at low pressure, avoiding runoff/puddling, allowing the needed moisture to penetrate the soil to feeder root depths.

Fertilization

A program of fertilization by means of deep root soil injection is recommended with applications in spring and summer for those trees to be impacted by construction. Fertilizer should include organic blends and components such as mycorrhizae and bio stimulants.

Such fertilization will serve to stimulate feeder root development, offset shock/stress as related to construction and/or environmental factors, encourage vigor, alleviate soil compaction and compensate for any encroachment of natural feeding root areas. The use of a tree growth regulator may also serve to reduce the impacts of construction.

Inception of this fertilizing program is recommended prior to the initiation of construction activity.

Mulch
Mulching with wood chips (maximum depth 3”) within tree environments (outer foliar perimeter) will lessen moisture evaporation from soil, protect and encourage adventitious roots and minimize possible soil compaction.

Inspection
Periodic inspections by the ***Site Arborist*** are recommended during construction activities, particularly as trees are impacted by trenching/grading operations.

Inspections at approximate four (4) week intervals would be sufficient to assess and monitor the effectiveness of the Tree Preservation Plan and to provide recommendations for any additional care or treatment.

We thank you for this opportunity to be of assistance in your tree preservation concerns.

Should you have any questions, or if we may be of further assistance in these concerns, kindly contact our office at any time.

Very truly yours,

McCLENAHAN CONSULTING, LLC

By: **John H. McClenahan**
ISA Board Certified Master Arborist, WE-1476B
member, American Society of Consulting Arborists

JHMc: cm

Number	Name	Diameter	Trunk Type	TPZ 8x	TPZ 10x	Condition	Observation
1	Bay laurel *(Umbellularia californica)*	29.1”	Low branching	20'	25'	Poor to Fair	Topped for line clearance. Street creates poor root environment. Conks on low stem indicate the presence of heart rot.
2	Bay laurel	44.8”	Low branching	30'	38'	Poor	Dieback of crown observed.
3	Bay laurel	39.7”	Low branching	27'	34'	Poor to Fair	Dieback of crown observed.
4	Coast live oak *(Quercus agrifolia)*	44.2”	Low branching	30'	37'	Poor to Fair	Dieback of crown observed.
5	Coast live oak	16.7”		12'	14'	Fair	Grows to an exaggerated lean over street.
6	Deodar cedar *(Cedrus deodara)*	13.1”		9'	11'	Poor to Fair	Codominant leaders at 20-feet. Sparse crown.
7	Deodar cedar	24.5”	Low branching	17'	21'	Fair	Bifurcation at 4-feet creates an inherent structural defect. Moderate accumulation of deadwood.
8	Deodar cedar	21.5”		15'	18'	Poor to Fair	Previously topped at 20-feet. Moderate accumulation of deadwood.
9	Deodar cedar	14.1”		NA	NA	Poor	Topped for line clearance. Moderate accumulation of deadwood. Recommend removal.
10	Coast live oak	38.3”		26'	32'	Poor to Fair	Crown is one sided with average vigor. Stubs and limbs on the ground indicate a history of four recent limb failures 6 to 12-inches diameter. An old stub visible on the other side of the tree 50 percent of root area is concrete driveway and tree leans toward street.
11	Coast live oak	23.5”		16'	20'	Poor to Fair	History of small limb failure. Slight lean. Old decay pocket observed in tension side of root flare.
12	Coast redwood *(Sequoia sempervirens)*	17.6”		12'	15'	Fair	Sparse crown, competes with adjacent trees for light.
13	Coast redwood	19.8”		14'	17'	Poor to Fair	Codominant leaders at 30-feet.
14	Coast live oak	14.8”		10'	13'	Fair	Grows to a slight lean. Narrow branch attachments.
15	Coast live oak	17.3”		12'	15'	Fair	Grows to a slight lean. Narrow branch attachments.
16	Coast live oak	16.5”	Low branching	11'	14'	Fair	Crown exhibits average vigor and a moderate accumulation of deadwood.
17	Canary Island date palm *(Phoenix canariensis)*	27.9”		NA	NA	Fair	Insignicant to site. Unsuitable for retention, young volunteer. Recommend removal.
18	Coast redwood	25.9”		18'	22'	Fair	Crown overlaps with adjacent redwood.
19	Coast redwood	43.5”		29'	37'	Fair	Crown overlaps with adjacent redwood.
20	Coast redwood	36.6”		25'	31'	Fair	Crown overlaps with adjacent redwood.
21	Atlas cedar *(Cedrus atlantica)*	20.7”		14'	18'	Fair	Crown exhibits moderate accumulation of deadwood. Codominant leaders at 20-feet.
22	Atlas cedar	17.5”		12'	15'	Fair	Leans toward house. Narrow scaffold limb attachments.
23	Coast redwood	23.9”		16'	20'	Poor to Fair	Crown is one sided. Competes with adjacent trees for light.
24	Blue atlas cedar *(Cedrus atlantica 'glauca')*	16.8”		12'	14'	Fair	Moderate accumulation of deadwood. Grows to phototropic lean over house.

Number	Name	Diameter	Trunk Type	TPZ 8x	TPZ 10x	Condition	Observation
25	Coast redwood	38.7”		NA	NA	Fair	Crown exhibits below average vigor and low dead limbs. 5-feet from existing house. Size and location limits site use for new home construction.
26	Coast redwood	27.1”		18'	23'	Fair	Appears somewhat water stressed.
27	Blue atlas cedar	30.7”		21'	26'	Fair	Crown overlaps with adjacent trees. Ivy covers low stem.
28	Coast redwood	45.5”		23'	38'	Fair	Crown overlaps with adjacent trees.
29	Bay laurel	10, 6.4”	Multi trunk	NA	NA	Fair	Ivy covers trunk to 10-feet.
30	Bay laurel	11.4”		NA	NA	Fair	Topped. Leans toward house.
31	Canary Island date palm	32.7”		22'	28'	Fair	Fronds exhibit average vigor.
32	Canary Island date palm	33.6”		23'	28'	Fair	Fronds exhibit average vigor.
33	Coast live oak	20.0”		14'	17'	Poor to Fair	Grows to a phototropic lean toward rear setback.
34	Coast live oak	39.5, 22.7”	Multi trunk	34'	43'	Poor	Crown is sparse with low vigor. Old sapwood decay visible on low stem. Frass from clear wing borders observed. Girdling and circling roots visible.
35	Coast live oak	25.8”		NA	NA	Poor	Crown is sparse with below average vigor. Leans slightly toward house. Extensive decay of secondary stubbed scaffold limb observed. Symptoms of sapwood decay observed in tension wood. Recommend removal.
36	Bay laurel	14.3, 12.4”	Low branching	14'	17'	Fair	Partially topped for line clearance. Moderate accumulation of deadwood. Leans toward street.
37	Bay laurel	22.4”		15'	19'	Fair	Crown exhibits a moderate accumulation of deadwood. Competes with adjacent trees for light.
38	Coast live oak	35.4”		24'	30'	Poor	Canopy is slightly sparse. Large dead decaying stub extends down stem to 3-foot height. Wound wood developing well. Recommend root collar inspection to determine presence and extent of root rot organisms and /or boring insects. Without inspection recommend removal.
39	Bay laurel	20.1”		14'	17'	Poor to Fair	Partially topped for line clearance. Moderate accumulation of deadwood. Leans toward street.
40	Coast live oak	22.9”		16'	19'	Fair	Pruned for line clearance. 12-inch dead snag hanging over road. Slight lean toward street.
41	Coast live oak	25.4”			NA	Poor	Fruiting bodies from *Hypoxylon spp* . and bleeding cankers from *Phytophthora spp* . Visible on 50 percent of low stem. Leans to south. Recommend removal.
42	Coast redwood	24.0”		NA	NA	Fair	Crown overlaps with adjacent trees. Proposed for removal, in footprint.
43	Coast redwood	20.0”		14'	17'	Fair	Crown overlaps with adjacent trees.

Number	Name	Diameter	Trunk Type	TPZ 8x	TPZ 10x	Condition	Observation
44	Monterey pine *(Pinus radiata)*	17.2”			NA	Poor	Grows to a significant lean into adjacent redwood. Foliage not easily visible from ground.
45	Monterey pine	21.2”			NA	Poor	Grows to a slight lean. Below average vigor with an accumulation of dead limbs.
46	Atlas cedar	20.7”		14'	18'	Fair	Grows to a slight lean.
47	Coast redwood	27.0”		18'	23'	Fair	Competes with adjacent trees for light. Pine stem grows into crown.
48	Blue atlas cedar	21.8”		15'	19'	Poor	Crown exhibits a heavy accumulation of deadwood. Codominant leaders at 7-feet.
49	Coast live oak	33.0”		NA	NA	Poor to Fair	Low Branching growth habit creates an inherent structural weakness. Secondary stem exhibits a large old wound with significant decay. Form is irregular due to larger competing trees.
50	Canary Island date palm	32.2”		NA	NA	Good	Volunteer monocot. Should not be considered protected tree.
51	Mexican fan palm *(Washingtonia robusta)*	15.9”		11'	14'	Fair	Heavy accumulation of hanging dead fronds
52	Deodar cedar	16.1”		NA	NA	Dead	Dead. Recommend removal.
53	Coast live oak	28.1”		19'	24'	Fair	Adjacent to driveway. Pockets of decay visible between buttress roots. Old decayed wound on side of stem at 10-feet.
54	Mexican fan palm	17.4”		12'	15'	Fair	Fronds exhibit average vigor.
55	Coast redwood	44.8”		NA	NA	Fair	Low dead limbs visible. Poor root environment created by driveway, wall and pool. Size and location limits site use for new home construction.
56	Coast live oak	30.6”		NA	NA	Poor to Fair	Crown exhibits below average vigor with interior deadwood. An old 6-inch dead limb overhangs driveway. Tree grows to a lean toward driveway. Existing hard scapes and water feature create a limited root environment. Current health,structure and form are below average for the species. Although this tree is not an imminent risk of failure it dramatically limits site use and building footprint.

McClenahan Consulting, LLC
Arboriculturists Since 1911
1 Arastradero Road, Portola Valley, CA 94028-8012
Telephone (650) 326-8781
Fax (650) 854-1267
www.spmcclenahan.com

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Trees can be managed, but they cannot be controlled. To live near a tree is to accept some degree of risk. The only way to eliminate all risks is to eliminate all trees.

Arborist: John H. McClenahan
Date: September 18, 2019


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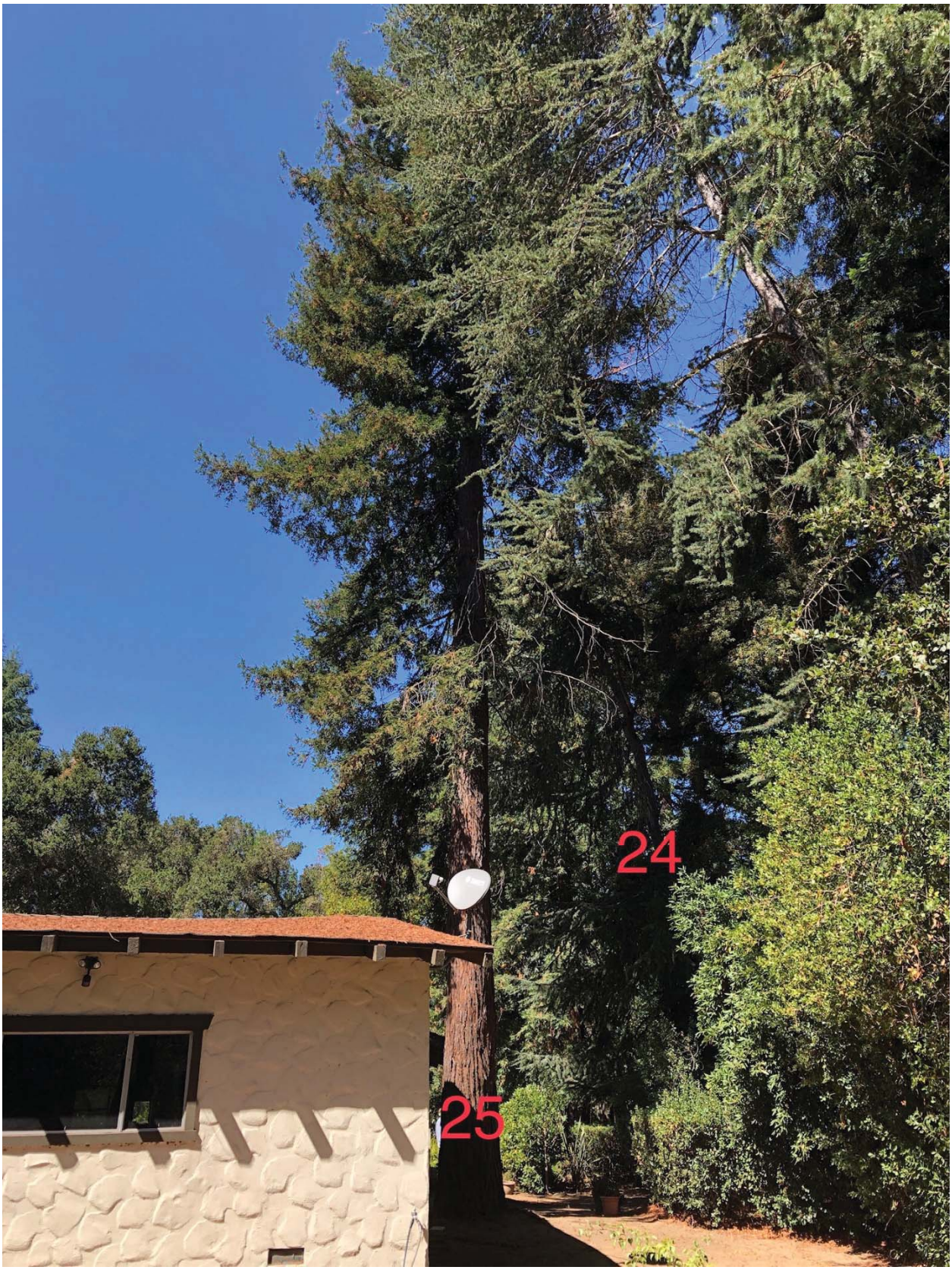
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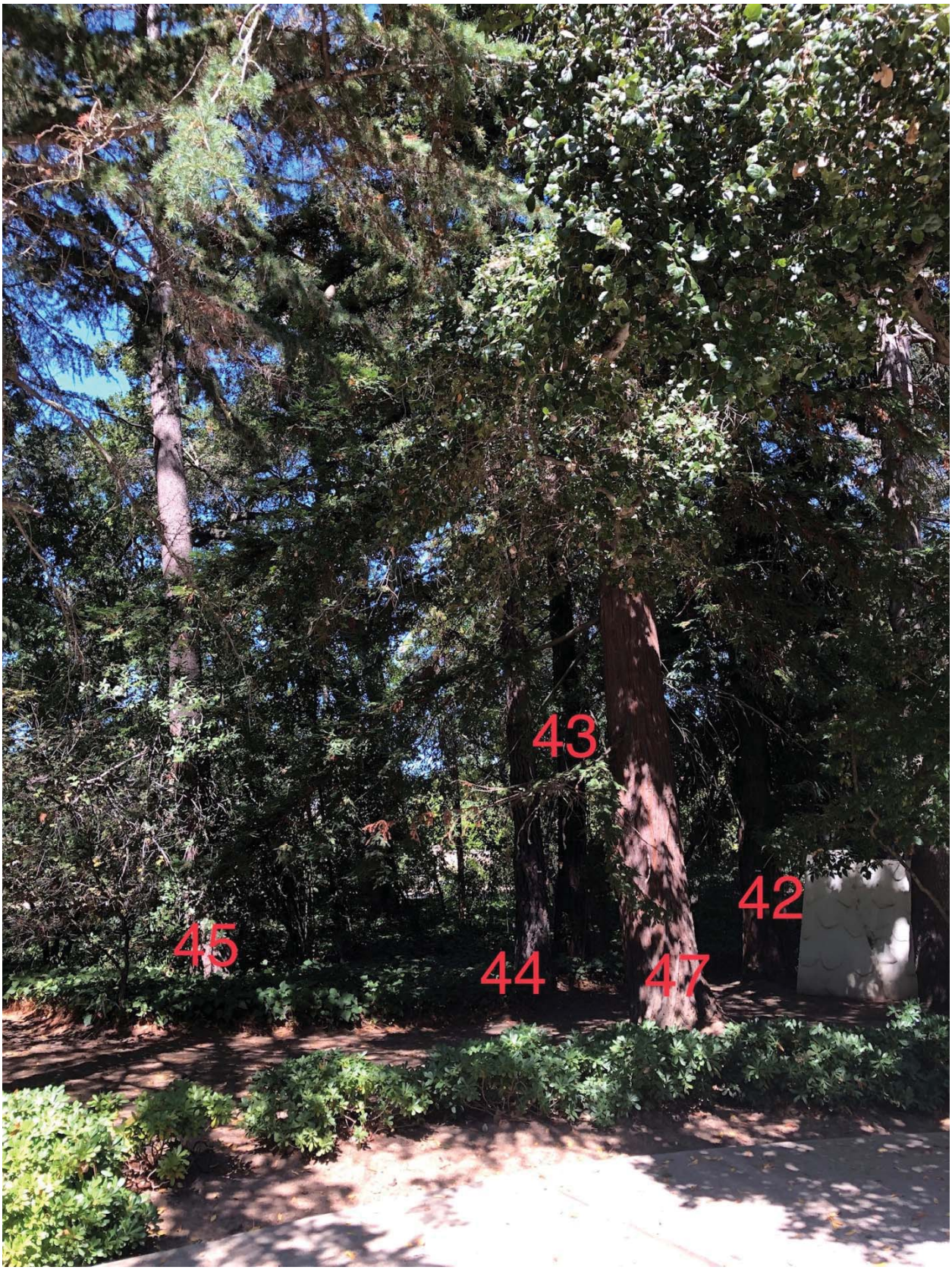
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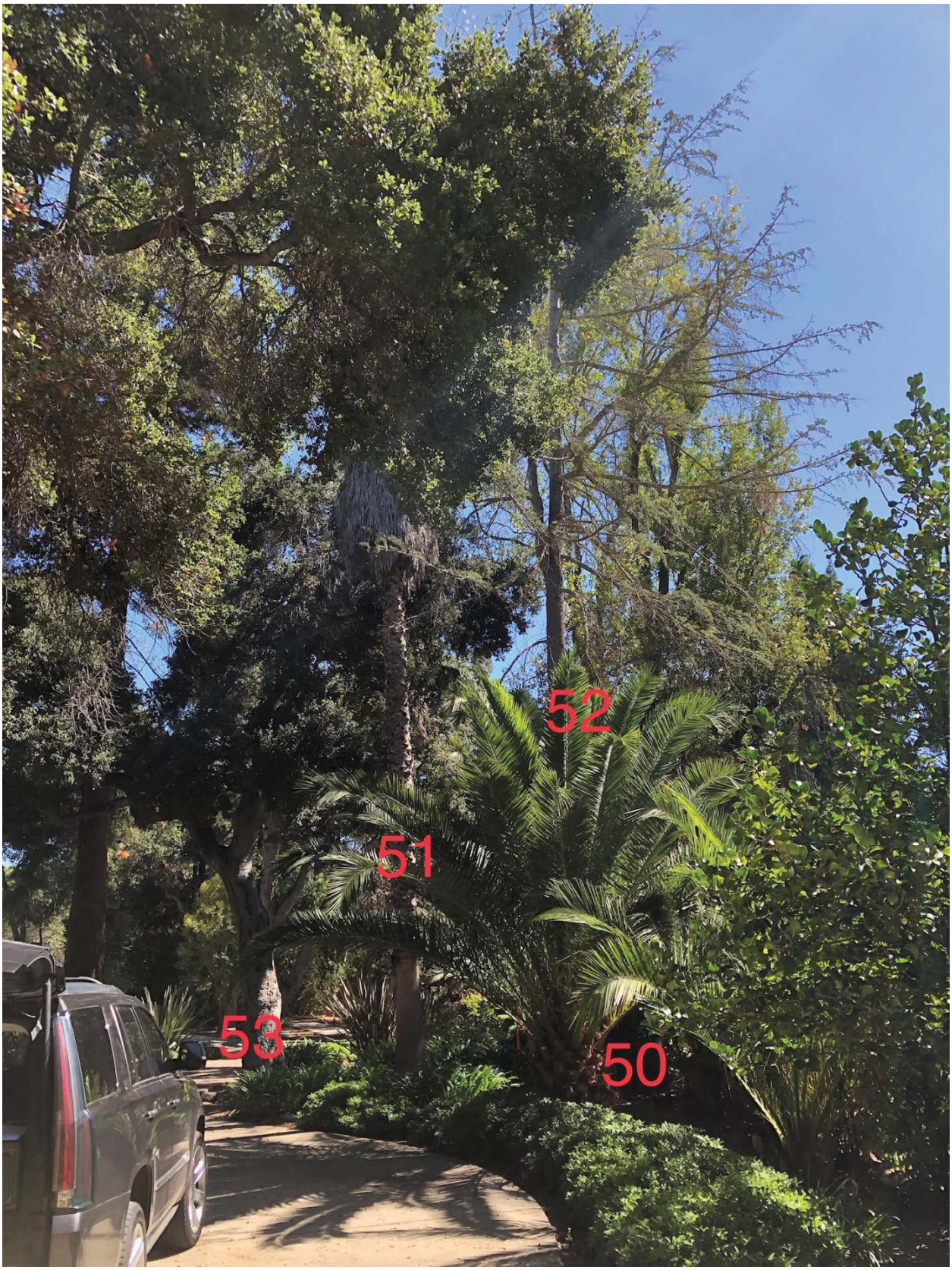
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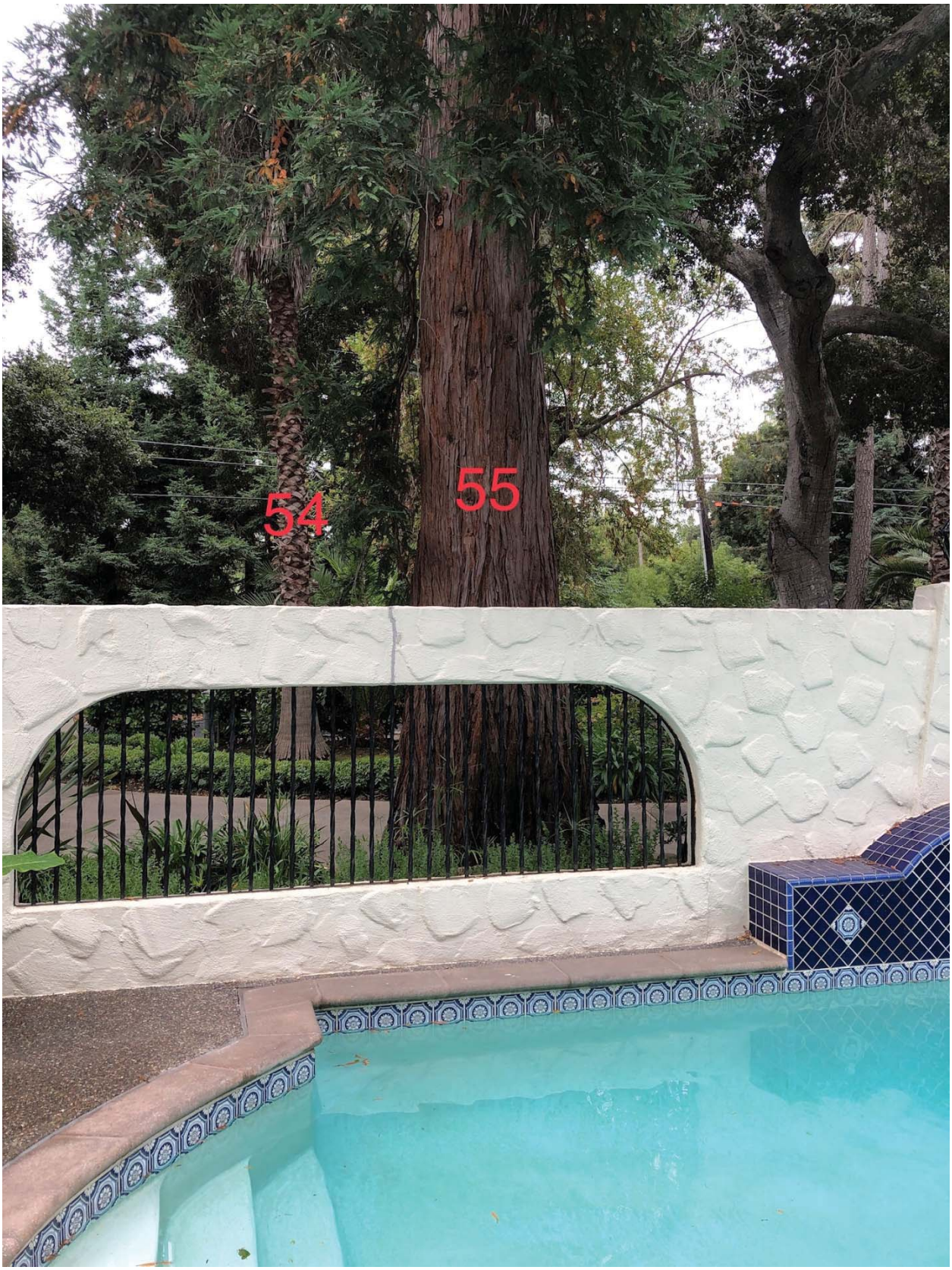
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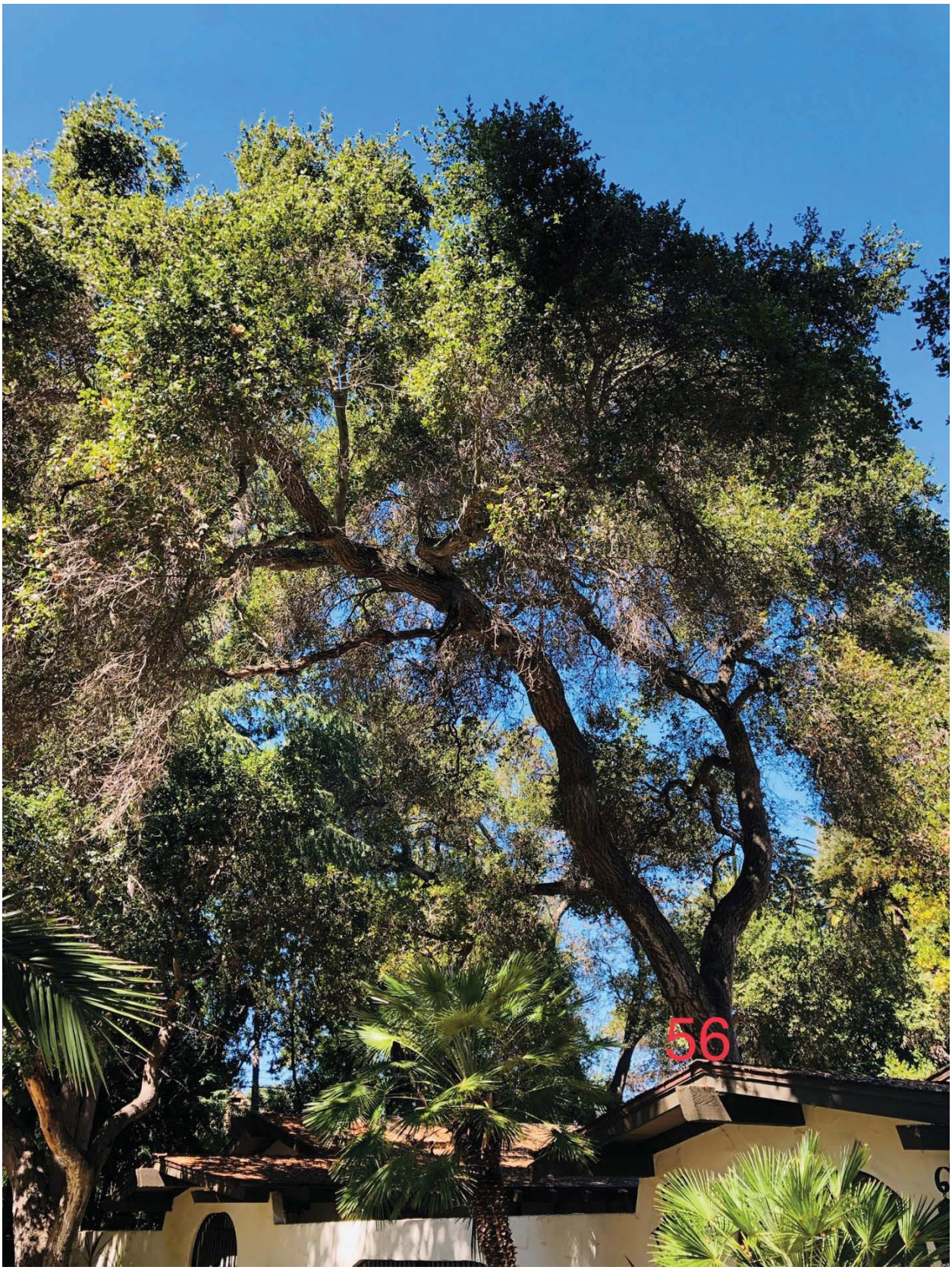
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EXHIBIT 03b

McClenahan Consulting, LLC
Arboriculturists Since 1911
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April 9, 2020 Revised

Mr. Joe White
1 Edge Road
Atherton, CA 94027

Assignment

As requested, this is an addendum to our previously submitted report to address Tree Protection Zone revisions for trees 25 and 53, indicate tree removals that staff is supporting and provide proposed tree removals for Planning Commission review.

Summary

Proposed plans may include demolition of existing house and construction of a new single-family residence. The current density of trees significantly limits the buildable area of lot. Most of the oak trees have some fill around them but the root flares are exposed and maintained at natural grade. During preliminary meetings with town arborist, nine trees would likely be approved at staff level (9, 10, 35, 38, 41, 44, 45, 49 and 52). Trees highlighted red are recommended for removal and orange to build a house. Eight protected size trees are requested for removal (17, 31, 32, 50, 51 and 54-56). Grading and drainage improvements will need to utilize space under the driveway as the rest of the lot will be in a Tree Protection Zone, including parts of the driveway. Tree Protection Zones for 8 and 10 times the trunk diameter are included in the attached worksheet. An exception for a TPZ of 6 times the trunk diameter is requested for trees 25 and 53. This exception is supported by the ANSI A300 (Part 8)-2013 Root Management Subclause 84.5.5 ("When roots are damaged within six times the trunk diameter, mitigation shall be recommended").

Methodology

No root crown exploration, climbing or plant tissue analysis was performed as part of this survey. For purposes of identification, trees have been marked with aluminum tags and numbered on the attached site plan.

In determining Tree Condition several factors have been considered which include:

Rate of growth over several seasons;
Structural decays or weaknesses;
Presence of disease or insects; and
Life expectancy.

Number	Name	Diameter	Trunk Type	TPZ 8x	TPZ 10x	Condition	Observation
1	Bay laurel *(Umbellularia californica)*	29.1”	Low branching	20'	25'	Poor to Fair	Topped for line clearance. Street creates poor root environment. Conks on low stem indicate the presence of heart rot.
2	Bay laurel	44.8”	Low branching	30'	38'	Poor	Dieback of crown observed.
3	Bay laurel	39.7”	Low branching	27'	34'	Poor to Fair	Dieback of crown observed.
4	Coast live oak *(Quercus agrifolia)*	44.2”	Low branching	30'	37'	Poor to Fair	Dieback of crown observed.
5	Coast live oak	16.7”		12'	14'	Fair	Grows to an exaggerated lean over street.
6	Deodar cedar *(Cedrus deodara)*	13.1”		9'	11'	Poor to Fair	Codominant leaders at 20-feet. Sparse crown.
7	Deodar cedar	24.5”	Low branching	17'	21'	Fair	Bifurcation at 4-feet creates an inherent structural defect. Moderate accumulation of deadwood.
8	Deodar cedar	21.5”		15'	18'	Poor to Fair	Previously topped at 20-feet. Moderate accumulation of
9	Deodar cedar	14.1”		NA	NA	Poor	Topped for line clearance. Moderate accumulation of deadwood. Recommend removal.
10	Coast live oak	38.3”		NA	NA	Poor to Fair	Crown is one sided with average vigor. Stubs and limbs on the ground indicate a history of four recent limb failures 6 to 12-inches diameter. An old stub visible on the other side of the tree 50 percent of root area is concrete driveway and tree leans toward street.
11	Coast live oak	23.5”		16'	20'	Poor to Fair	History of small limb failure. Slight lean. Old decay pocket observed in tension side of root flare.
12	Coast redwood *(Sequoia sempervirens)*	17.6”		12'	15'	Fair	Sparse crown, competes with adjacent trees for light.
13	Coast redwood	19.8”		14'	17'	Poor to Fair	Codominant leaders at 30-feet.
14	Coast live oak	14.8”		10'	13'	Fair	Grows to a slight lean. Narrow branch attachments.
15	Coast live oak	17.3”		12'	15'	Fair	Grows to a slight lean. Narrow branch attachments.
16	Coast live oak	16.5”	Low branching	11'	14'	Fair	Crown exhibits average vigor and a moderate accumulation of
17	Canary Island date palm *(Phoenix canariensis)*	27.9”		NA	NA	Fair	Insignicant to site. Unsuitable for retention, young volunteer. Recommend removal.
18	Coast redwood	25.9”		18'	22'	Fair	Crown overlaps with adjacent redwood.
19	Coast redwood	43.5”		29'	37'	Fair	Crown overlaps with adjacent redwood.
20	Coast redwood	36.6”		25'	31'	Fair	Crown overlaps with adjacent redwood.
21	Atlas cedar *(Cedrus atlantica)*	20.7”		14'	18'	Fair	Crown exhibits moderate accumulation of deadwood. Codominant leaders at 20-feet.
22	Atlas cedar	17.5”		12'	15'	Fair	Leans toward house. Narrow scaffold limb attachments.
23	Coast redwood	23.9”		16'	20'	Poor to Fair	Crown is one sided. Competes with adjacent trees for light.
24	Blue atlas cedar *(Cedrus atlantica 'glauca')*	16.8”		12'	14'	Fair	Moderate accumulation of deadwood. Grows to phototropic lean over house.
25	Coast redwood	38.7”		TPZ is 20-feet		Fair	Crown exhibits below average vigor and low dead limbs. 5-feet from existing house. Size and location limits site use for new home construction.

Number	Name	Diameter	Trunk Type	TPZ 8x	TPZ 10x	Condition	Observation
26	Coast redwood	27.1”		18'	23'	Fair	Appears somewhat water stressed.
27	Blue atlas cedar	30.7”		21'	26'	Fair	Crown overlaps with adjacent trees. Ivy covers low stem.
28	Coast redwood	45.5”		23'	38'	Fair	Crown overlaps with adjacent trees.
29	Bay laurel	10, 6.4”	Multi trunk	9'	11'	Fair	Ivy covers trunk to 10-feet.
30	Bay laurel	11.4”		8'	10'	Fair	Topped. Leans toward house.
31	Canary Island date palm	32.7”		22'	28'	Fair	Fronds exhibit average vigor.
32	Canary Island date palm	33.6”		23'	28'	Fair	Fronds exhibit average vigor.
33	Coast live oak	20.0”		14'	17'	Poor to Fair	Grows to a phototropic lean toward rear setback.
34	Coast live oak	39.5, 22.7”	Multi trunk	34'	43'	Poor	Crown is sparse with low vigor. Old sapwood decay visible on low stem. Frass from clear wing borders observed. Girdling and circling roots visible.
35	Coast live oak	25.8”		NA	NA	Poor	Crown is sparse with below average vigor. Leans slightly toward house. Extensive decay of secondary stubbed scaffold limb observed. Symptoms of sapwood decay observed in tension wood. Recommend removal.
36	Bay laurel	14.3, 12.4”	Low branching	14'	17'	Fair	Partially topped for line clearance. Moderate accumulation of deadwood. Leans toward street.
37	Bay laurel	22.4”		15'	19'	Fair	Crown exhibits a moderate accumulation of deadwood. Competes with adjacent trees for light.
38	Coast live oak	35.4”		NA	NA	Poor	Canopy is slightly sparse. Large dead decaying stub extends down stem to 3-foot height. Wound wood developing well. Recommend root collar inspection to determine presence and extent of root rot organisms and /or boring insects. Without inspection recommend removal.
39	Bay laurel	20.1”		14'	17'	Poor to Fair	Partially topped for line clearance. Moderate accumulation of deadwood. Leans toward street.
40	Coast live oak	22.9”		16'	19'	Fair	Pruned for line clearance. 12-inch dead snag hanging over road. Slight lean toward street.
41	Coast live oak	25.4”		NA	NA	Poor	Fruiting bodies from *Hypoxylon spp* . and bleeding cankers from *Phytophthora spp* . Visible on 50 percent of low stem. Leans to south. Recommend removal.
42	Coast redwood	24.0”		NA	NA	Fair	Crown overlaps with adjacent trees. Proposed for removal, in footprint.
43	Coast redwood	20.0”		14'	17'	Fair	Crown overlaps with adjacent trees.
44	Monterey pine *(Pinus radiata)*	17.2”		NA	NA	Poor	Grows to a significant lean into adjacent redwood. Foliage not easily visible from ground.
45	Monterey pine	21.2”		NA	NA	Poor	Grows to a slight lean. Below average vigor with an accumulation of dead limbs.
46	Atlas cedar	20.7”		14'	18'	Fair	Grows to a slight lean.
47	Coast redwood	27.0”		18'	23'	Fair	Competes with adjacent trees for light. Pine stem grows into crown.
48	Blue atlas cedar	21.8”		15'	19'	Poor	Crown exhibits a heavy accumulation of deadwood. Codominant leaders at 7-feet.

Number	Name	Diameter	Trunk Type	TPZ 8x	TPZ 10x	Condition	Observation
49	Coast live oak	33.0”		NA	NA	Poor to Fair	Low Branching growth habit creates an inherent structural weakness. Secondary stem exhibits a large old wound with significant decay. Form is irregular due to larger competing trees.
50	Canary Island date palm	32.2”		22'	27'	Good	Volunteer monocot. Should not be considered protected tree.
51	Mexican fan palm *(Washingtonia robusta)*	15.9”		11'	14'	Fair	Heavy accumulation of hanging dead fronds
52	Deodar cedar	16.1”		NA	NA	Dead	Dead. Recommend removal.
53	Coast live oak	28.1”		TPZ is 15-feet		Fair	Adjacent to driveway. Pockets of decay visible between buttress roots. Old decayed wound on side of stem at 10-feet.
54	Mexican fan palm	17.4”		12'	15'	Fair	Fronds exhibit average vigor.
55	Coast redwood	44.8”		30'	38'	Fair	Low dead limbs visible. Poor root environment created by driveway, wall and pool. Size and location limits site use for new home
56	Coast live oak	30.6”		21'	26'	Poor to Fair	Crown exhibits below average vigor with interior deadwood. An old 6-inch dead limb overhangs driveway. Tree grows to a lean toward driveway. Existing hard scapes and water feature create a limited root environment. Current health,structure and form are below average for the species. Although this tree is not an imminent risk of failure it dramatically limits site use and building footprint.

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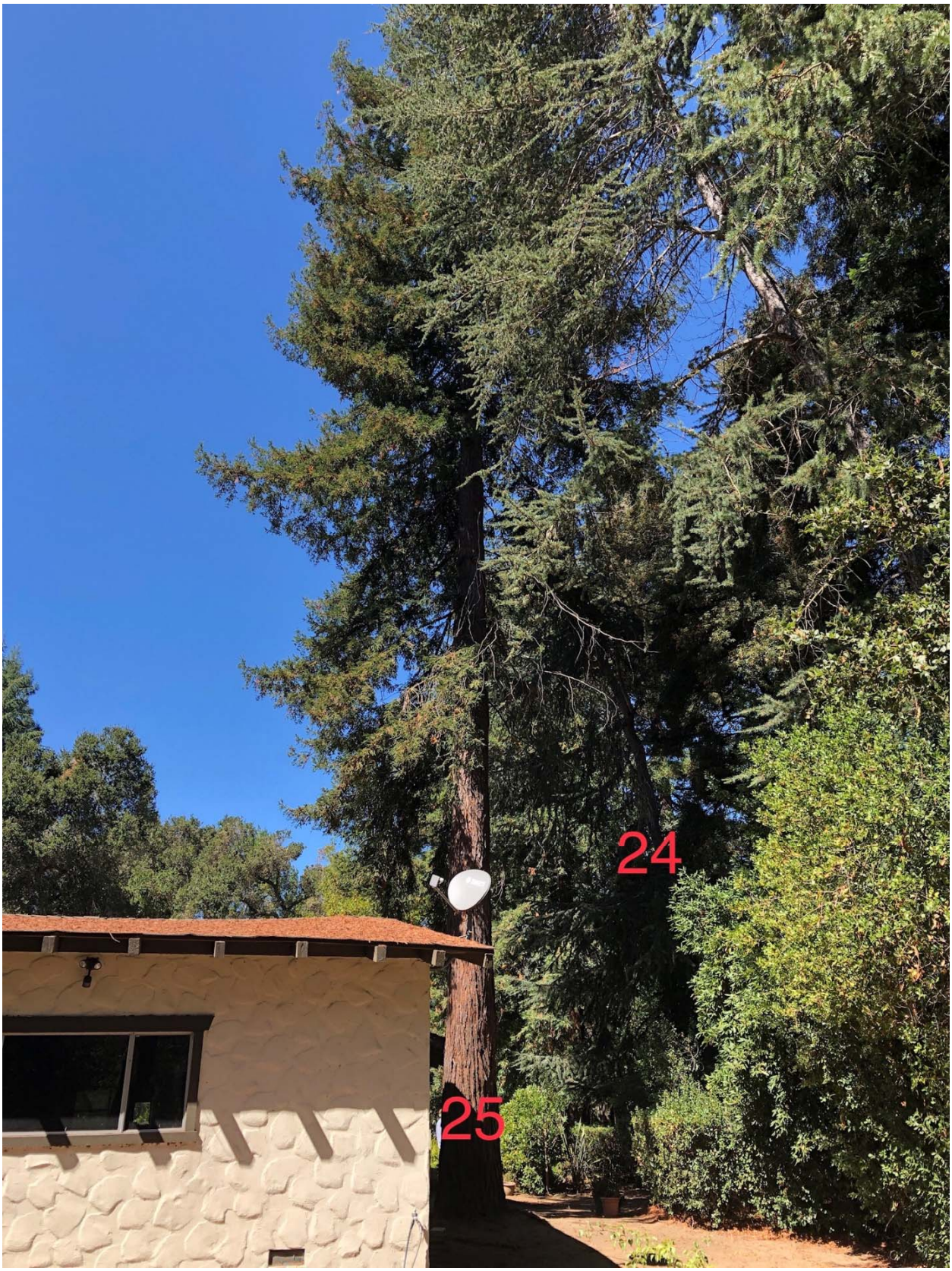
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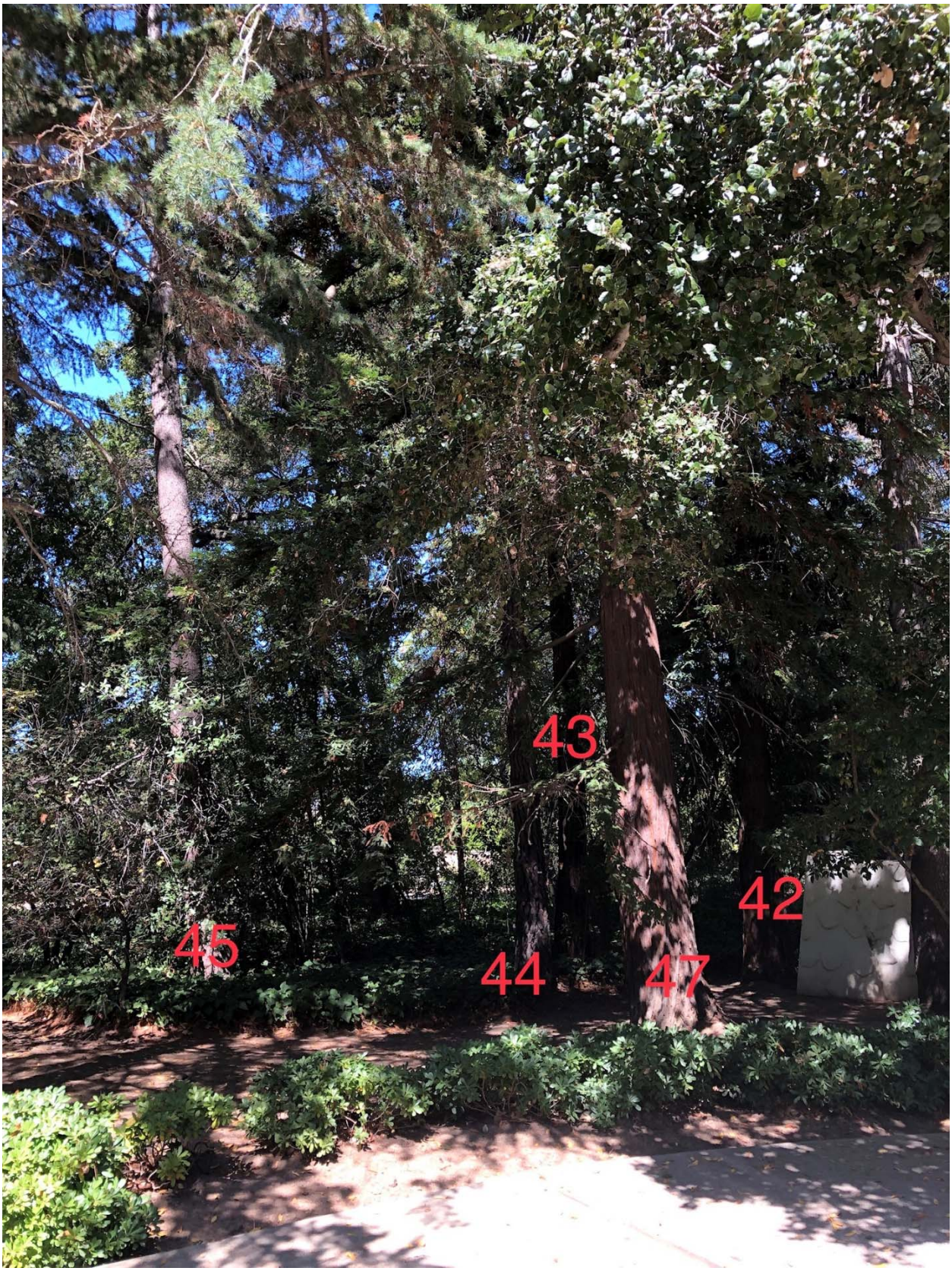
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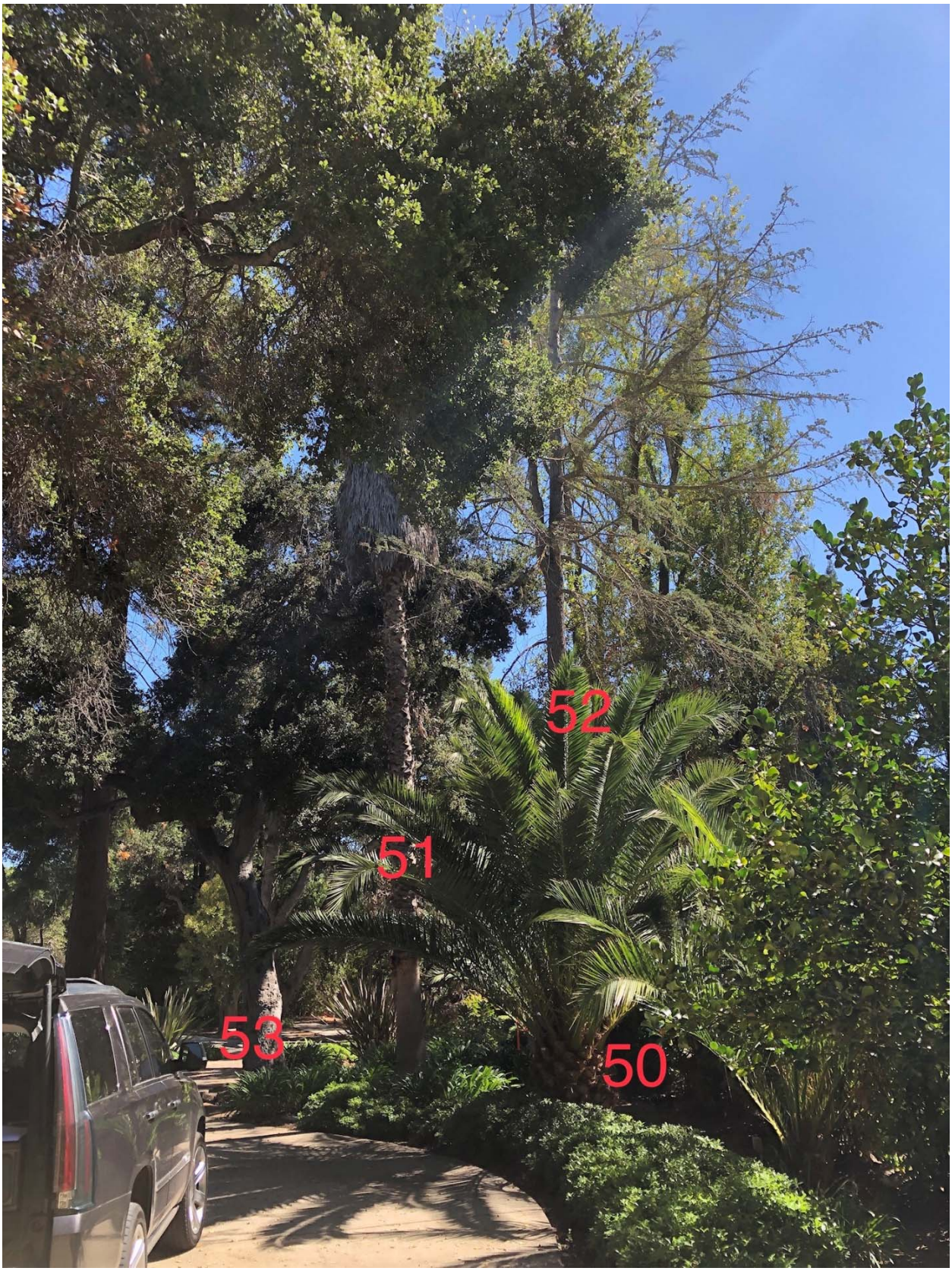
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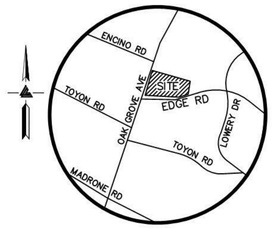

VICINITY MAP
NO SCALE

NOTES

ALL DISTANCES AND DIMENSIONS ARE IN FEET AND DECIMALS OF A FOOT.

UNDERGROUND UTILITY LOCATION IS BASED ON SURFACE EVIDENCE.

BUILDING FOOTPRINTS ARE SHOWN TO FINISHED MATERIAL (STUCCO/SIDING) AT GROUND LEVEL.

FINISH FLOOR ELEVATIONS ARE TAKEN AT DOOR THRESHOLD (EXTERIOR)

LEGEND AND NOTES

BOUNDARY LINE	
EASEMENT LINE	
ETC	ELECTRICAL/TELEPHONE/ CABLE TV OVERHEAD LINE
x	FENCE LINE
	FLOW LINE
SS	SANITARY SEWER LINE
A/C	AIR CONDITIONER
FF	FINISH FLOOR
FL	FLOW LINE
INV	INVERT
JMAP	JAPANESE MAPLE
M–	MULTIPLE TRUNKS
RP	ROOF PEAK
TOS	TOP OF SLAB
VCP	VITRIFIED CLAY PIPE

AD	AREA DRAIN
EM	ELECTRICAL METER
	FIRE HYDRANT
GM	GAS METER
	GUY ANCHOR
	JOINT POLE
	PILLAR
SSCO	SANITARY SEWER CLEAN–OUT
SSMH	SANITARY SEWER MANHOLE
	SIGN
WM	WATER METER
WV	WATER VALVE
	BENCHMARK

XXX.XX	SPOTGRADE
	ASPHALT
	CONCRETE
	GRAVEL
	LAWN
	WATER
DRIPLINE	TREE: TYPE AND SIZE AS NOTED

SITE BENCHMARK

SURVEY CONTROL POINT
MAG AND SHINER SET IN ASPHALT
ELEVATION = 100.00' (ASSUMED)

EASEMENT NOTE

A CURRENT TITLE REPORT FOR THE SUBJECT PROPERTY HAS NOT BEEN EXAMINED BY LEA & BRAZE ENGINEERING, INC. EASEMENTS OF RECORD MAY EXIST THAT ARE NOT SHOWN ON THIS MAP.
EASEMENTS SHOWN ARE PER (47 MAPS 49).

FEMA NOTE

PROPERTY COMPLETELY OUT OF SPECIAL FLOOD HAZARD AREA (SFHA) PER CURRENT FLOOD INSURANCE RATE MAP

SCALE: 1" = 16'

LICENSED LAND SURVEYOR
GREGORY F. BRAZE
No. 7623
STATE OF CALIFORNIA

LEA & BRAZE ENGINEERING, INC.
CIVIL ENGINEERS • LAND SURVEYORS
BAY AREA REGION
2495 INDUSTRIAL PKWY WEST
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(F) (510) 887-3019
SACRAMENTO REGION
3017 DOUGLAS BLVD, # 300
ROSEVILLE, CA 95661
(P) (916)966-1338
(F) (916)797-7363
WWW.LEABRAZE.COM

1 EDGE ROAD
ATHERTON, CALIFORNIA

SAN MATEO COUNTY

APN: 061–252–010

TOPOGRAPHIC SURVEY

EXHIBIT 04

	REVISIONS	BY
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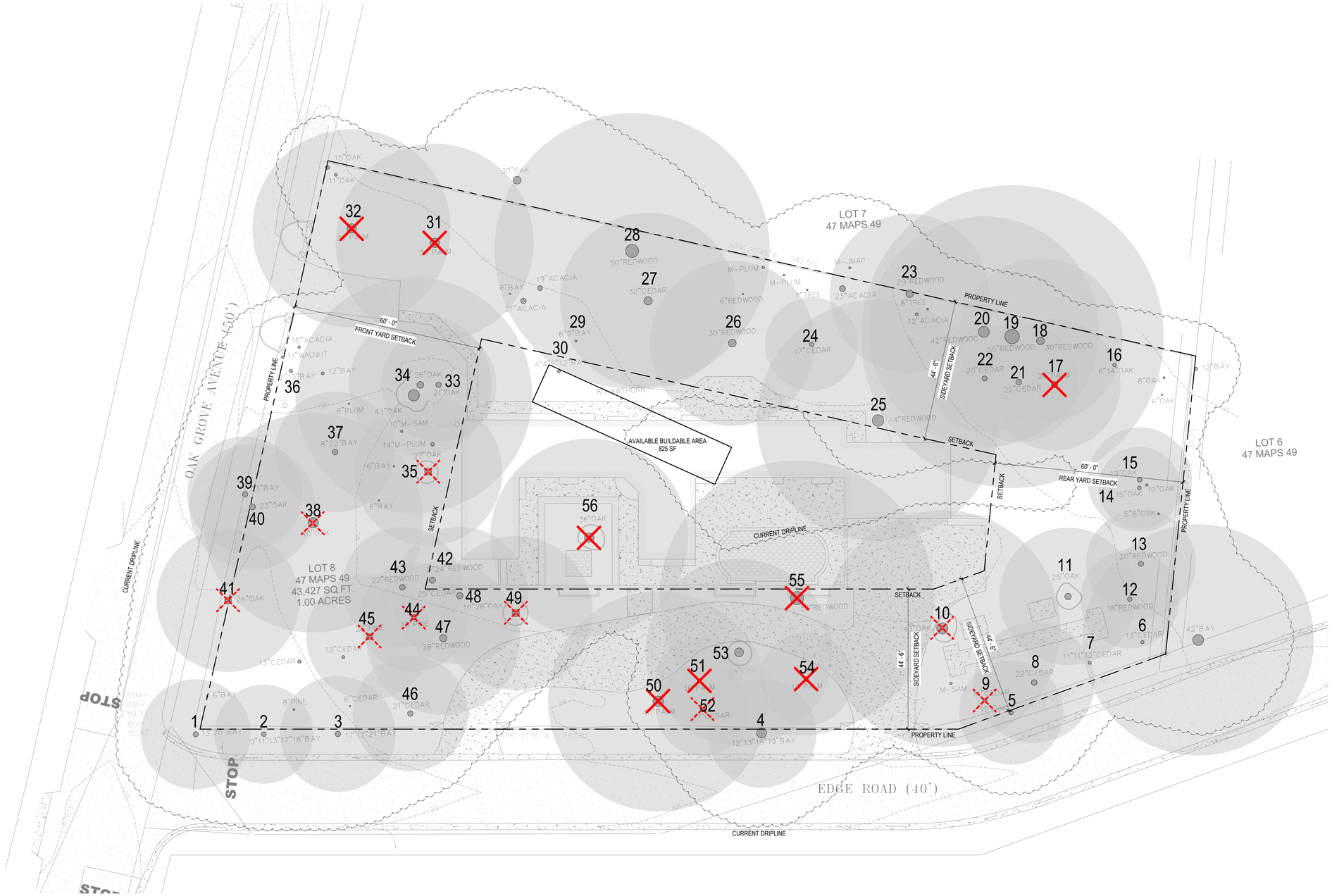
JOB NO:	2190670
DATE:	6–26–19
SCALE:	1" = 16'
FIELD BY:	DR
DRAWN BY:	JN
SHEET NO:	SU1

01 OF 01 SHEETS



LEGEND

- PROPOSED HERITAGE TREE FOR REMOVAL, SEE ARBORIST REPORT
- DISEASED TREE FOR REMOVAL, SEE ARBORIST REPORT

1 SITE PLAN - 10x TPZ
SCALE: 1/16" = 1'-0"

EHRLICH YANAI RHEE CHANEY
ARCHITECTS
10865 Washington Blvd
Culver City CA 90232
eyrc.com
310 838 9700
310 838 9737

LOT SIZE: 43,427 SF (1 ACRE), PER SITE SURVEY
MAX ALLOWABLE FLOOR AREA: 7,804 SF
FRONT SETBACK: 60'-0"
SIDE SETBACK:44'-6"
REAR SETBACK: 60'-0"

ISSUE DATES

NO.	DATE	REVISION
	09/26/2019	PLANNING COMMISSION SUBMITTAL - TREE REMOVAL
	11/01/2019	ENVIRONMENTAL REVIEW
	04/10/2020	PLANNING COMMISSION SUBMITTAL - TREE REMOVAL REV 1

EDGE ROAD
1 Edge Road
Atherton, CA 94027

SITE PLAN - 10X TPZ
EXHIBIT 05

JOB NUMBER: 686
DATE: 04/10/2020

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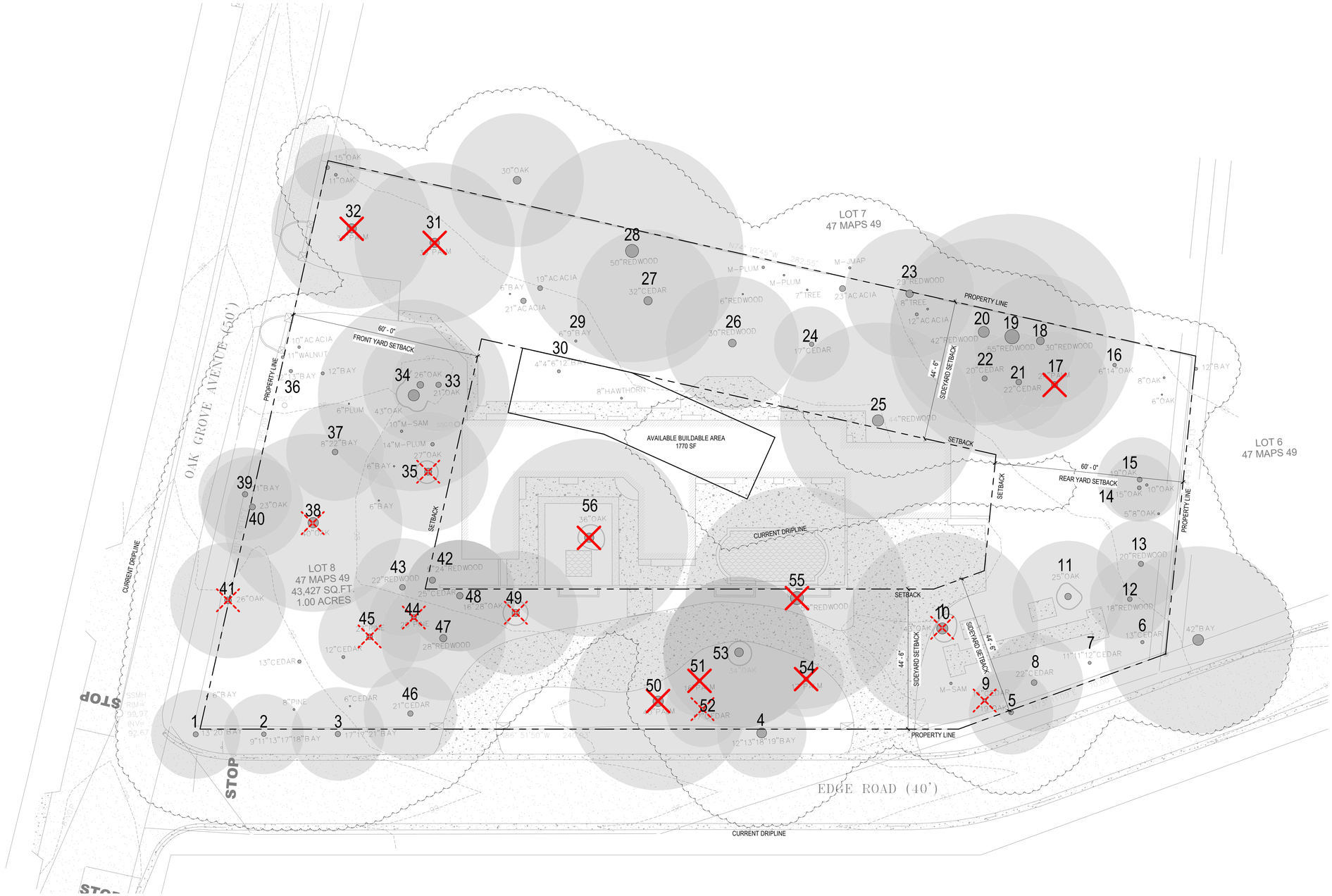

LEGEND

PROPOSED HERITAGE TREE FOR REMOVAL, SEE ARBORIST REPORT

DISEASED TREE FOR REMOVAL, SEE ARBORIST REPORT

1 SITE PLAN - 8x TPZ
SCALE: 1/16" = 1'-0"

EHRLICH YANAI RHEE CHANEY
ARCHITECTS
10865 Washington Blvd
Culver City CA 90232
eyrc.com
O 310 838 9700
F 310 838 9737

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	09/26/2019	PLANNING COMMISSION SUBMITTAL - TREE REMOVAL
	11/01/2019	ENVIRONMENTAL REVIEW
	04/10/2020	PLANNING COMMISSION SUBMITTAL - TREE REMOVAL REV 1

EDGE ROAD
1 Edge Road
Atherton, CA 94027

SITE PLAN - 8x TPZ
EXHIBIT 05

JOB NUMBER: 686
DATE: 04/10/2020

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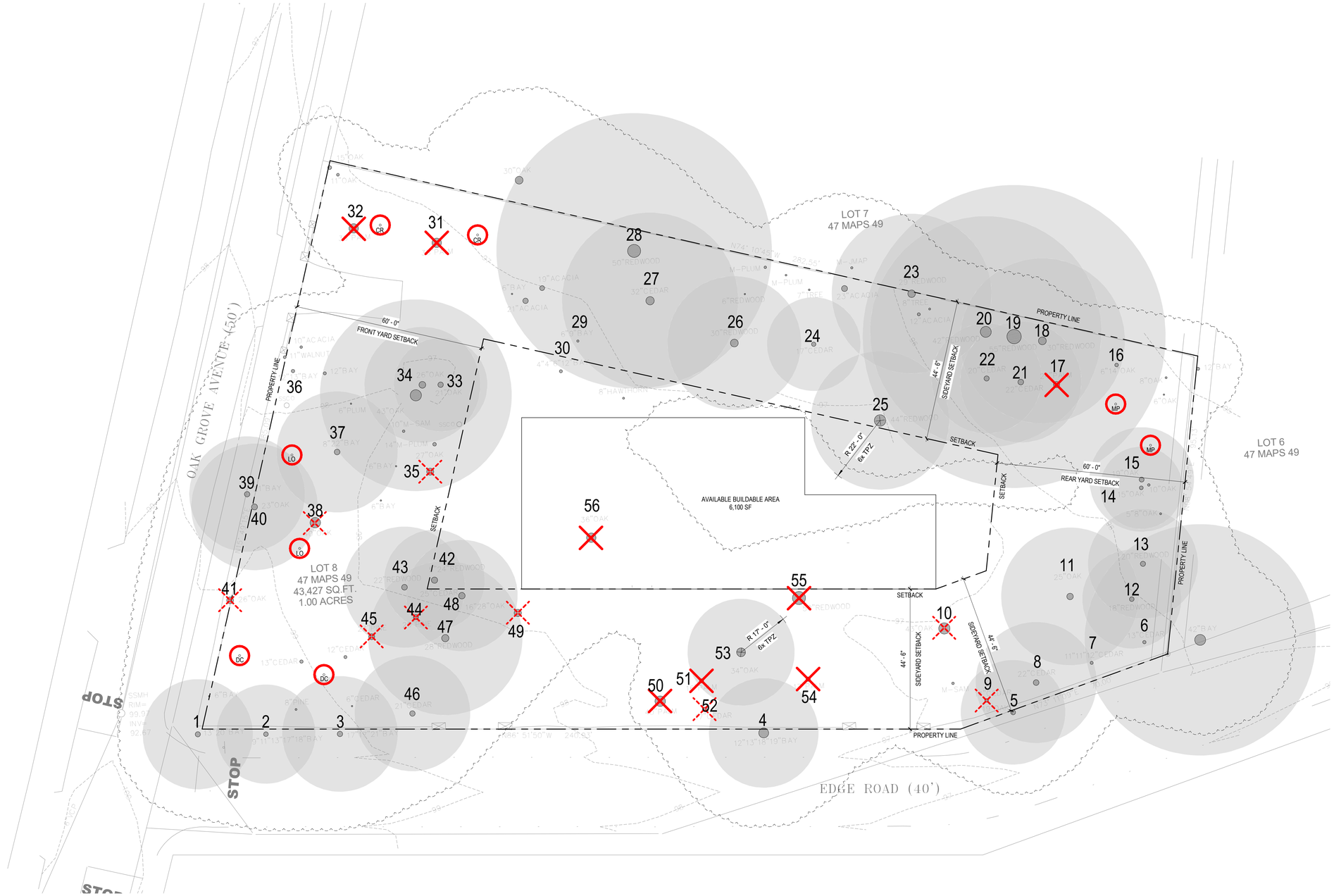

TREES				
TAG	COMMON NAME	QTY.	TYPE	SIZE
LO	COAST LIVE OAK	2	TREE	36" BOX
CR	COAST REDWOOD	2	TREE	36" BOX
MP	MONTERY PINE	2	TREE	36" BOX
DC	DEODAR CEDAR	2	TREE	36" BOX

LEGEND

- PROPOSED HERITAGE TREE FOR REMOVAL, SEE ARBORIST REPORT
- DISEASED TREE FOR REMOVAL, SEE ARBORIST REPORT
- POTENTIAL LOCATION FOR REPLACEMENT TREE, EXACT LOCATION, SPECIES, AND COUNT TO BE CONFIRMED

1 SITE PLAN - 10x TPZ POTENTIAL DEVELOPMENT
SCALE: 1/16" = 1'-0"

EHRLICH YANAI RHEE CHANEY
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10865 Washington Blvd
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eyrc.com
310 838 9700
310 838 9737

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MAX ALLOWABLE FLOOR AREA: 7,804 SF
FRONT SETBACK: 60'-0"
SIDE SETBACK:44'-6"
REAR SETBACK: 60'-0"

ISSUE DATES

NO.	DATE	REVISION
	11/01/2019	ENVIRONMENTAL REVIEW
	04/10/2020	PLANNING COMMISSION SUBMITTAL - TREE REMOVAL REV 1

EDGE ROAD
1 Edge Road
Atherton, CA 94027

POTENTIAL SITE PLAN AND REPLANTING
EXHIBIT 06

JOB NUMBER: 686
DATE: 04/10/2020

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urban tree manager, and the commercial arborist as the key person needed to implement the tree preservation plan.

In Central Park, the partnership between the urban tree manager and the commercial arborist who is sensitive to landscape and park use as well as to trees is recognizable and a vital part of the restoration process.

Central Park Horticulturist
Department of Parks and Recreation
City of New York
830 Fifth Ave.
New York City, NY 10021

EXHIBIT 07

SUMMER BRANCH DROP[1]

by Richard W. Harris

Abstract. *Apparently sound limbs occasionally break out of mature trees during calm summer weather. Species of at least 19 genera are susceptible. This is particularly puzzling since normally limbs would be lighter in weight during times of high transpiration. High xylem pressure and/or weakening of the cell wall bonding in the xylem accompanied by increased limb weight may be responsible.*

Seemingly healthy limbs up to a meter in diameter occasionally break out of mature trees during or following hot calm summer afternoons (Australia, South Africa, and the United States) (Harris 1972) or during calm weather following a heavy summer rain which terminates a period of increasing soil dryness (England) (Rushforth 1979). In California this type of limb failure occurs on both native and planted trees as well as in irrigated and unirrigated landscapes. People have been seriously injured and property damaged by falling branches. The failure of the top forty feet of a mature *Eucalyptus globus* in Los Angeles in 1977 seriously crippled a child and resulted in a recent out-of-court settlement of $1,625,000.

Trees Affected

Limb failure has been reported on species of 19 genera, Table 1. Kellogg (1882) first reported the phenomenon on *Quercus lobata* in the coastal mountain ranges of central California. Young and vigorous maturing trees of susceptible species seem to be less prone to branch failure while overmature and senescent trees may shed branches repeatedly (Rushforth 1979).

[1]Presented at the 58th Annual Conference of the International Society of Arboriculture in Louisville, Kentucky, on August 10.

Most commonly, breakage occurs 1 to 4 m from the branch attachment on long limbs that extend to or beyond the tree canopy. Sometimes a branch may fail at its attachment. Less frequently, the main leader or the entire top may fail. No outward appearance has been associated with impending branch failure; the wood at many breaks appears sound while some or much of the wood at other breaks may be brash (breaks are short and at right angles to the axis of the branch) or decayed. Brash or decayed wood may predispose branches to the possibility of failure, but does not account for failure occurring under the conditions that it does.

This phenomenon was thought to be confined to times of high temperature in arid regions, such as Australia, South Africa, and southwestern United States, because, until this year, no one could be found who was familiar with this problem in the midwestern or eastern United States. However, summer branch drop has been reported in England (Rushforth 1979) and is serious enough for the Royal Botanic Garden at Kew to post a large sign at each entrance warning visitors that "The older trees; particularly beech and elm, are liable to shed large branches without warning." In arranging for this presentation, Cal Bundy recalled branches dropping out of two American elms in Peoria, Illinois in 1959 or 60. At the 1982 American Society of Consulting Arborists meeting, a reported tree failure of red oak in New York could have been related to summer branch drop.

Possible Explanations

Limb failure on hot afternoons is an anomaly since tree trunks normally shrink in the afternoons (Kozlowski and Winget 1964). I have observed limbs rise as well as shrink indicating that transpiration has exceeded water uptake and that limbs are lighter in the afternoon. This is further borne out since most of the breaks are relatively dry; this would be due to moisture tension in the xylem drawing water into the wood on each side of the break.

Just the opposite is often the case. After a break, water has been observed "flowing" from both sides of a fracture. Many report that the limb "exploded" and dropped quickly with no warning. Kellogg (1882) stated "Often late in the season when the hot sun broils and steams the sap, as it were, internally, an ax struck into it (mature *Quercus lobata*) hisses like a legion of little safety valves; and sometimes, most unaccountably, it is said to burst with a loud explosion, and strong limbs that had hitherto withstood centuries of storms, in the calm airs of late summer and early autumn crash unexpectedly down, the fracture disclosing not the least cause of weakness." These observations indicated the xylem to be under pressure, at least in these instances.

Two possibilities could account for this pressure: 1) Wetwood bacteria have created gas pressures up to 60 psi (4.2 kg/cm^2) in elm trunks (Carter 1969). Such infections are common in several species subject to limb breakage. 2) Under calm conditions, transpiration may be greatly reduced due to high humidity within tree

Table 1. Trees reported to be susceptible to summer branch drop.

Species most often reported in Britain (Rushforth 1979).
Quercus spp.
Populus spp.
Salix spp.
Ulmus procera
Castanea sativa
Fagus sylvatica
Fraxinus excelsior
Aesculus hippocastanum
Genera most often reported in California
Eucalyptus
Quercus
Ulmus
Pinus
Cedrus
Fraxinus
Platanus
Species also reported in California.
Ailanthus altissima
Erythrina caffra
Ficus microcarpa
Olea europaea
Grevillea robusta
Sequoiadendron giganteum
Sophora japonica

canopies. Root pressure could then increase the moisture content of branches, thereby increasing their weight and internal sap pressure.

Another theory tied to calm weather would be due to reduced transpiration (high humidity in tree canopy), the reduced flow of water in the xylem would allow the branch temperature to increase and in turn could increase the production of ethylene and other substances. These could begin to weaken the cell wall cementation, an accelerated development of brashness, if you will. This increased weakening coupled with the increased weight of a limb due to increasing leaf surface and fruit and reduced transpiration could result in branch failure.

If wood actually weakens under hot, calm, conditions, the process must be reversible or new wood must form rapidly enough to strengthen branches in order for them to withstand the increased weight of rain on the foliage and the strain of wind storms that may follow.

Suggested precautions

1. Warn people of potential hazard or rope off areas near hazardous trees as done at Kew. This would be most important from late spring to early fall.
2. In areas to be frequented by people, do not plant species known to be susceptible to this problem.
3. On mature trees, shorten and lighten long horizontal branches and open up the tree so humidity is less likely to build up.
4. Keep trees vigorous and healthy; however, this may be self defeating since potentially susceptible branches would become longer and heavier, but hopefully stronger.
5. Inspect susceptible trees for externally visible defects, removing low-vigor limbs that have decay or cavities. An entire tree should be removed if decayed and of low vigor.

Request for Information

Please send information concerning any suspected cases of summer branch drop, giving: species, approximate DBH, approximate diameter of limb or trunk at break, the time and date, location of tree, maximum temperatures for the day of the accident and the five preceding days, wind conditions at time of break, estimate of damage caused, and other information that may be pertinent. Send to the author at the address below.

Literature Cited

1. Carter, J.C. 1969. The wetwood disease of elm. Illinois Natural History Survey Circ. 50.
2. Harris, R.W. 1972. *High-temperature limb breakage.* Proc. Int'l Shade Tree Conf. 48:133-34.
3. Kellogg, A. 1882. Forest trees in California. Sacramento, Calif.: State Printing Office.
4. Kozlowski, T.T. and C.H. Winget. 1964. *Dinurnal and seasonal variation in radii of tree stems.* Ecology 45:149-55.
5. Rushforth, K.D. 1979. Summer branch drop. Arboriculture Res. Note (British Dept. of the Environment), 12:1-2.

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EXHIBIT 08

Arboriculture Research Note

[redacted]

Issued by the D O E Arboricultural Advisory & Information Service

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SUMMER BRANCH DROP, by K D Rushforth, amended by D Patch, Arboriculture Advisory and Information Officer

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Abstract

Summer branch shedding by apparently healthy mature trees has not been investigated and definitive information is not available. This note outlines some theories about `Summer branch drop'.

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1. Occasionally, apparently healthy and stable trees shed large limbs during the summer for no obvious reason. This phenomenon, known as 'Summer branch drop', appears to be associated with certain weather patterns but the inter-relationship of factors is not fully understood.

2. 'Summer branch drop' has been reported occurring on oak (*Quercus* spp), Sweet chestnut (*Castanea sativa*), beech (*Fagus sylvatica*), ash (*Fraxinus excelsior*), poplar (*Populus* spp), willow (*Salix* spp) and Horse chestnut (*Aesculus hippocastanum*). Until recently 'Summer branch drop' was frequently reported on English elm (*Ulmus procera*), reflecting a locally large elm population relative to other common hardwoods. Records for this phenomenon in other trees are extremely rare. Young and vigorous maturing trees of susceptible species appear less prone to 'Summer branch drop' while over-mature and senescent specimens may shed branches repeatedly.

3. Branches that drop are frequently long and drawn out, at least 10 cm (4") in diameter, and they usually extend to or beyond the edge of the crown of the tree. Frequently, but not invariably, the break occurs some distance from a fork. The wood at the point of fracture may appear sound but for part of the branch diameter the break is often short, that is at right angles to the axis of the branch cutting across the wood fibres. A short fracture is often associated with decay but where the wood appears sound an internal defect or earlier weakening, not visible on the exterior of the tree, may exist.

4. Many explanations for 'Summer branch drop' have been formulated but conclusive evidence is lacking. Furthermore, as reports are often based on casual observations their subjectivity must be borne in mind.

5. 'Summer branch drop' may be the result of an internal weakening of the branch and stress factor triggering the break. The initial weakening may result from winter storm damage or snow accumulation producing internal cracks and stresses.

6. As 'Summer branch drop' is believed to be associated with calm weather conditions following a heavy rain shower which terminates a period of increasing soil dryness, the trigger may be water stress; this is known to cause cracks in conifer stems and may be responsible for producing an analogous condition in broadleaved trees. During the early Summer the weight of fresh foliage and new shoots, combined with the weight of developing fruits, may be increased so much by surface water following a rain shower that a turning moment develops resulting in branch fracture. Alternatively, incipient decay may also reduce the strength of the wood and could account for the short fracture sometimes recorded.

Conclusion

7. The phenomenon of ‘Summer branch drop’ is potentially damaging to people and property. Until detailed recommendations are possible, tree owners are advised to maintain vigilance by routinely inspecting their trees and making thorough examinations of externally visible defects, especially those illustrated in "*The Recognition of Hazardous Trees*"* and those listed in *Arboricultural Leaflet No. l - External Signs of Decay in Trees**. Defects should be noted and steps taken to remedy them at the earliest opportunity.

* Out of print.

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SUPPORT CAL-IPC
EXHIBIT 09

Phoenix canariensis

Common names: Canary Island date palm

Photo courtesy Joseph DiTomaso

Phoenix canariensis (Canary Island date palm) is a tree that has escaped cultivation in southern California to invade stream corridors as well as orchards and, occasionally, landscaped areas. As the name implies, Canary Island date palm is native to the Canary Islands off the coast of Africa. Growing to 25 m tall, Canary Island date palms tend to grow in clusters that form a dense canopy that excludes light from reaching beneath them, leading to a loss of native plants.

Cal-IPC Rating: Limited

Cal-IPC Assessment

Plant Assessment Form - Information gathered by Cal-IPC on the impacts, rate of spread, and distribution of invasive plants in California. Does not include management information.

Weed RIC Management Notes

Management Notes - Information on management techniques and effectiveness from the University of California Cooperative Extension's Weed Research & Information Center.

Cal-IPC Newsletter Articles

- Taking to the air to locate, prioritize and treat effectively. Burger, Jutta C.. *Vol 21, Issue 2*
- Wildland weed news. Cal-IPC. *Vol 20, Issue 4*
- Which weeds dominate southern California urban riparian systems?. Burkhart, Brad; Kelly, Mike. *Vol 13, Issue 1*

Cal-IPC Symposium Presentations

Presentations are linked where available. Where a presentation is not available, find more information by reading the abstract in the Cal-IPC Symposia Archive.

- How to develop user-friendly riparian corridor invasive exotic species/habitat restoration master plans: Experiences on the San Diego and Otay Rivers. Burkhart, Brad; Kelly, Mike (*2007*)

Other *Phoenix canariensis* Information

CalPhotos - Images of plants taken mostly in California.

Calflora - See the distribution of this species on Calflora's map of California.

CalWeedMapper - Distribution information with ability to determine regional priorities.

Jepson Online Interchange for California Flora - Information on taxonomy, biology, and distribution from UC Berkeley's Jepson Herbarium.

USDA PLANTS Database - Federal database with information on identification and distribution, and links to websites in individual states.

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Connect with us

Washingtonia robusta

Photos: USDA and Mike Kelly

Synonyms: W. filamentosa (often mistaken for native W. filifera)

Common names: Mexican fan palm; Washington palm; skyduster; thread palm

Washingtonia robusta (Mexican fan palm) is a single-trunked palm tree (family Arecaceae) found in the San Francisco Bay area, southern Sacramento Valley and on California's south coast. Mexican fan palm is a common landscape ornamental that has become invasive in riparian areas, orchards and landscaped areas. This palm is known to create monospecific stands in riparian areas, and dead fronds of the tree can create a fire hazard. The species can be controlled with relative ease by removing the seedlings.

Cal-IPC Rating: Moderate — Alert

Cal-IPC Assessment

Plant Assessment Form - Information gathered by Cal-IPC on the impacts, rate of spread, and distribution of invasive plants in California. Does not include management information.

Weed RIC Management Notes

Management Notes - Information on management techniques and effectiveness from the University of California Cooperative Extension's Weed Research & Information Center.

Cal-IPC Newsletter Articles

- Lessons learned from a 12-year eradication program targeting 34 species. Knapp, John. *Vol 27, Issue 1*
- Which weeds dominate southern California urban riparian systems?. Burkhart, Brad; Kelly, Mike. *Vol 13, Issue 1*
- Education: Wildland weed tours and talks. Kelly, Mike. *Vol 08, Issue 1*
- Roundup of Arundo projects reveals commitment, strategic weakness. Kelly, Mike. *Vol 07, Issue 2*

Cal-IPC Symposium Presentations

Presentations are linked where available. Where a presentation is not available, find more information by reading the abstract in the Cal-IPC Symposia Archive.

- 2003 Cal-IPC red alert! New invasions, recent expansions, and a few others to be on the look-out For…. Tu, Mandy; Randall, John M. (*2003*)

- 2002 Red alert! New introductions and recent expansions in California. Tu, Mandy; Randall, John M. (*2002*)

Other *Washingtonia robusta* Information

CalPhotos - Images of plants taken mostly in California.

Calflora - See the distribution of this species on Calflora's map of California.

CalWeedMapper - Distribution information with ability to determine regional priorities.

Jepson Online Interchange for California Flora - Information on taxonomy, biology, and distribution from UC Berkeley's Jepson Herbarium.

USDA PLANTS Database - Federal database with information on identification and distribution, and links to websites in individual states.

Sign up to receive information about Cal-IPC's upcoming events and project updates.

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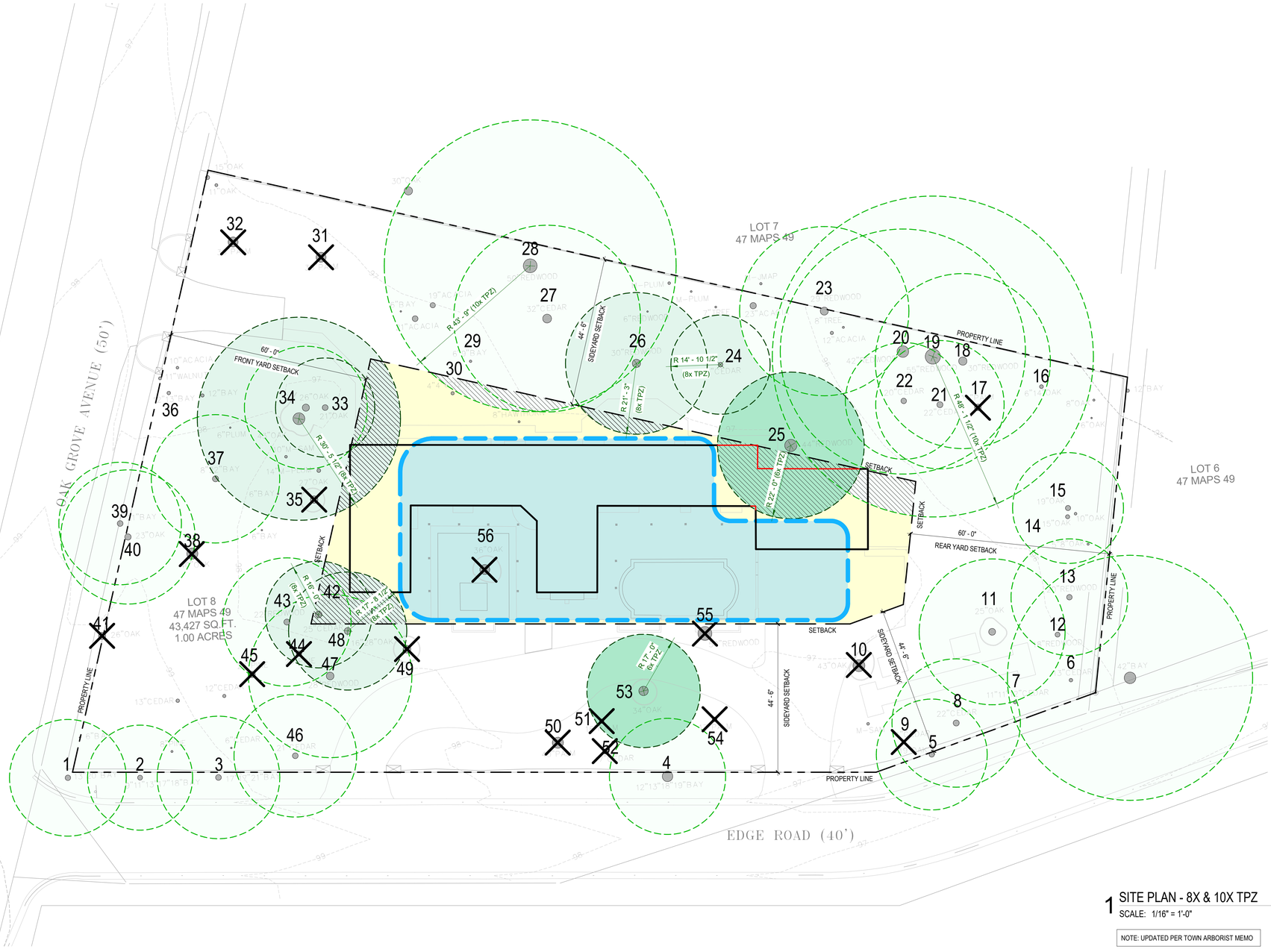

1 SITE PLAN - 8X & 10X TPZ
SCALE: 1/16" = 1'-0"

NOTE: UPDATED PER TOWN ARBORIST MEMO

BUILDING AREA CALCULATIONS

TOTAL MAX. ALLOWABLE FLOOR AREA CALC:
(LOT SIZE) x 0.163 + 726
(43,427 SF) x 0.163 + 726 = **7,804 SF**
MAX. ALLOWABLE 2ND FLOOR AREA CALC:
(LOT SIZE) X 0.075
(43,427 SF) x 0.075 = **3,257 SF**

R1-A Allowable Floor Area	SF
Total Max. Floor Area	7,804
Max. 2nd Floor Area	3,257

Building Footprint	SF	% of Max. Allowable Floor Area
With 6x TPZ at Tree 25 & 53	7,100	91%

TREE ENCROACHMENT CALCULATIONS

*ALLOWABLE BUILDING AREA = 10,558 SF

Tree	TPZ Encroachment Into Buildable Area SF	%
30 + Additional trees to remain	1,366	12.94%
Tree 25	657	6.22%
Tree 53	0	0.00%
Total encroachment	2,023	19.16%

LEGEND

- DISEASED OR TOWN ARBORIST APPROVED TREE FOR REMOVAL, SEE ARBORIST REPORT
- ALLOWABLE BUILDABLE AREA 10,558 SF
- 6x TPZ AS RECOMMENDED BY TOWN ARBORIST
- 8x TPZ AS RECOMMENDED BY TOWN ARBORIST
- 10x TPZ
- AREA OF TPZ ENCROACHMENT ONTO BUILDABLE AREA

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LOT SIZE: 43,427 SF (1 ACRE), PER SITE SURVEY
MAX ALLOWABLE FLOOR AREA: 7,804 SF
FRONT SETBACK: 60'-0"
SIDE SETBACK:44'-6"
REAR SETBACK: 60'-0"

ISSUE DATES

NO.	DATE	REVISION
	04/10/2020	PLANNING COMMISSION SUBMITTAL - TREE REMOVAL REV 1

EDGE ROAD
1 Edge Road
Atherton, CA 94027

SITE PLAN - UPDATED

JOB NUMBER: 686
DATE: 04/10/2020

A1.04

4/10/2020 12:31:58 PM C:\Users\jmoon\Documents\686_Edge Road_CENTRAL_2020_jmoon.rvt