Appendix B – Arborist Report and Tree Protection Plan

Arborist Report & Tree Protection Plan

December 2020



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Summary

On November 17, 2020 an International Society of Arboriculture (ISA) Certified Arborist (#NE-7311AU) completed an assessment and inventory of the trees at 3300 El Camino Real, in Palo Alto CA, in preparation for an upcoming construction project. The arborist performed a visual assessment of each tree, including current condition, health, and size. The results were used to determine the critical root zone (CRZ) and structural root zone (SRZ) of the trees , as well as recommended tree protection zone (TPZ) and additional tree protection measures required during construction in order to limit impacts on these trees. In the City of Palo Alto a protected tree is any coast live oak or valley oak with a diameter of 11.5 inches or greater as well as any coast redwood with a diameter of 18 inches or greater. All street trees regardless of size are regulated and to be protected during construction unless otherwise permitted for removal. All trees four inches in diameter or greater on a commercial or multi-family residential site are to be protected during construction. The City of Palo Alto utilizes a tree protection zone of 10 times the diameter of any protected or regulated tree. This tree inventory forms part of a tree protection plan which may be submitted for approval to the City prior to any new construction at the site.

Tree information is summarized as follows:

- A total of seventy (70) trees were inventoried,
- The inventory encompasses the trees that are most likely to be impacted by planned construction
- Thirty three (33) trees were in good condition, thirty (30) trees were fair, five (5) trees were poor, one (1) was critical, and one (1) tree was dead.
- Tree heights ranged from 15 to 70 feet tall, averaging 36 feet.
- Tree Diameters at Breast Height (DBH) ranged from 3 to 37.5 inches for single stem trees, and multi stem trees had cumulative diameters of 15 to 56 inches.
- Due to the proposed construction, twenty-two (22) trees are proposed for removal (including protected tree #25) and five (5) trees are recommended for removal due tree condition.

This report focuses on tree protection recommendations for tree preservation and removal, and provides the TPZ/CRZ's and SRZ's of these trees for planning purposes. DRG has provided general site preservation and/or removal recommendations based on the provided construction plans. Due to the significant number of adjacent property trees that may be impacted, and the close proximity of proposed construction, Arborist monitoring of construction is required whenever work is within the critical root zones. All excavation and demolition within the CRZ (which may extend beyond the city standard TPZ) of a protected tree should be completed by hand or with pneumatic air spade excavation tools. The trees identified for preservation should be monitored by a Certified Arborist at the end of construction, six months after completion, and ongoing as needed.

Introduction

Background

The property at 3300 El Camino Real is being developed, and 70 trees were evaluated in the limits of disturbance (LOD). Form4 contracted Davey Resource Group, Inc. (DRG) to provide an arborist evaluation and report. This report details the health, size, and location of the trees and discusses tree protection and retention measures prior to the approval of construction plans, to meet the client's tree preservation and removal needs to suit the new design. These plans can be provided for submittal and approval by the City of Palo Alto prior to any grading or excavation, and for any required permitting.

Using an iPad, the arborist visually assessed each tree on the site, and the required tree data were collected within a GIS database. Following data collection, specific tree preservation plan elements were calculated that identified each tree's critical and structural root zones (CRZ and SRZ) and tree protection zones (TPZ) in order to better ensure survivability during the planned development.

Limits of the Assignment

Many factors can limit specific and accurate data when performing evaluations of trees, their conditions, and values. The determinations and recommendations presented here are based on current data and conditions that existed at the time of the evaluation and cannot be a predictor of the ultimate outcomes for the trees. A visual inspection was used to develop the findings, conclusions, and recommendations found in this report. Values were assigned to grade the attributes of the trees, including structure and canopy health, and to obtain an overall condition rating. No physical inspection of the upper canopy, sounding, root crown excavation, and resistograph or other technologies were used in the evaluation of the trees.

Methods

Data was collected on November 17, 2020 by an ISA Certified Arborist (Daniel Jackman #NE-7311AU). A visual inspection was used to develop the findings, conclusions, and recommendations found in this report. Trunk location and dripline of all trees four inches or greater in diameter at breast height (4.5 ft. above grade) were inventoried.

The following attributes were collected for each site:

Tree ID Number: A tree ID number was assigned, or recorded, if the tree was previously tagged.

Location and Unique ID: An X and Y coordinate was generated for each tree site.

Species: Trees were identified by genus, species and common name.

Diameter at Breast Height (DBH): Trunk diameter was recorded to the nearest half-inch at 4.5 feet (breast height) above grade except where noted. When limbs or deformities occurred at breast height, measurement was taken below 4.5 ft. For multi-stemmed trees, the Diameter was determined by measuring all the trunks and providing the sum per industry standards.

Height: Tree height was estimated using a Merrit hypsometer.

Avg. Crown Radius: Average crown radius was paced off in the cardinal directions and averaged.

Condition: The arborist assigned a numerical value between 0 and 100% to the health structure and form of each tree. The lowest rated value was then assigned as the overall tree condition.

Observations: Used as the primary justification for condition assignment which may include items from the following list: Cavity Decay, Improperly Installed, Improperly Mulched, Mechanical Damage, Nutrient Deficiency, Pest Problem, Poor Location, Poor Root System, Poor Structure, Deadwood, Remove Hardware, Serious Decline, and Signs of Stress.

Notes: Additional observations, comments, or other points of consideration.

Root Zone Calculations

The trunk diameters (DBH) of the assessed trees were used to determine the Critical Root Zone (CRZ). The CRZ is considered the ideal preservation area of a tree. It is equal to 1 foot of radius for every inch of trunk diameter measured at 4.5 feet from grade. For example; a tree with a DBH of 10 inches has a calculated CRZ radius of 10 feet from the trunk center (diameter of 30 feet). The CRZ represents the typical rooting area required for tree health and survival. As this project is taking place in the City of Palo Alto, CRZ was substituted for the city standard of 10 times DBH to determine the tree protection zone (TPZ) as seen in Table 1. Some impact (25% or less) within this zone is typically acceptable for average to good condition trees with basic mitigation/stress reduction measures, though city code calls for no intrusion into the TPZ when possible. Construction activities should be limited near or in the TPZ of any tree to be retained. This includes but is not limited to the storage of materials, parking of vehicles, contaminating soil by washing out equipment, (concrete, paint, etc.), or changing soil grade.

Like the CRZ & TPZ, the Structural Root Zone (SRZ) was also calculated using a commonly accepted method established by Dr. Kim Coder in Conserving trees during site development: A training manual.[1] In this method, the root plate size (i.e. pedestal roots, zone of rapid taper area, and roots under compression) and limit of disruption based upon tree DBH is considered as a minimum distance that any disruption should occur during construction. Significant risk of catastrophic tree failure exists if structural roots within the SRZ are cut, destroyed or severely damaged. The SRZ is the area where no disturbance should occur.

[1] Dr. Kim D. Coder. University of Georgia. 2018.

Observations

Site Observations

The project site is located at 3300 El Camino Real. Due to the hardscape and site traffic, many trees had compacted soils. The area is mostly flat, including naturalized and maintained landscaped areas. The majority of trees on site exist in narrow planter strips, or small raised planters in the parking lot. Irrigation was variable throughout the site.

Tree Observations

A total of seventy (70) sites were inventoried. The most common species included green ash (Fraxinus pennsylvanica, 32 trees), Deodar cedar (Cedrus deodara, 13 trees), and London plane (*Platanus hybrida*, 10 trees), along with 6 other species. The condition assessment identified thirty three (33) trees in good condition, thirty (30) trees in fair condition, five (5) trees in poor condition, one (1) critical, and one (1) dead tree. Tree Diameters at Breast Height (DBH) ranged from 3 to 37.5 inches for single stem trees, and multi stem trees had cumulative diameters of 15 to 56 inches. Tree heights ranged from 15 to 70 feet tall, averaging 36 feet. Common defects included surface and girdling roots, included bark, weak unions, the presence of pests, as well as trunk and basal decay.



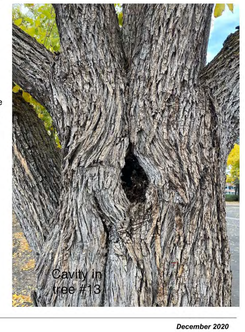


Table 1. Tree Data and Root Zones

Tree #	DBH	Common Name	Botanical Name	Condition Rating	Approx. Canopy Radius (FT)	Approx. Tree Height (FT)	Priority (1-4)	# of Stems	Tree Protection Zone (radius) in Feet	Structural Critical Root Zone (radius) in Feet
1	25	Green ash	*Fraxinus pennsylvanica*	Fair	20	40	2	1	21	11
2	16	Green ash	*Fraxinus pennsylvanica*	Fair	18	35	2	1	13	7
3	22	Green ash	*Fraxinus pennsylvanica*	Fair	15	35	3	1	18	10
4	23	Green ash	*Fraxinus pennsylvanica*	Poor	13	32	3	1	19	10
5	19.5	Green ash	*Fraxinus pennsylvanica*	Poor	15	32	3	1	16	9
6	23.5	Green ash	*Fraxinus pennsylvanica*	Fair	17	35	2	1	20	11
7	23	Green ash	*Fraxinus pennsylvanica*	Fair	17	35	2	1	19	10
8	26.5	Green ash	*Fraxinus pennsylvanica*	Poor	18	38	3	1	22	12
9	24.5	Green ash	*Fraxinus pennsylvanica*	Fair	15	32	2	1	20	11
10	24.5	Green ash	*Fraxinus pennsylvanica*	Fair	20	38	2	1	20	11
11	30	Green ash	*Fraxinus pennsylvanica*	Fair	22	42	2	1	25	14
12	21	Green ash	*Fraxinus pennsylvanica*	Fair	15	26	2	1	18	9
13	27	Green ash	*Fraxinus pennsylvanica*	Fair	16	32	2	1	23	12
14	21.5	Green ash	*Fraxinus pennsylvanica*	Fair	16	30	2	1	18	10
15	19.5	Green ash	*Fraxinus pennsylvanica*	Poor	15	28	3	1	16	9
16	23	Green ash	*Fraxinus pennsylvanica*	Fair	18	30	2	1	19	10
17	23	Green ash	*Fraxinus pennsylvanica*	Fair	16	30	2	1	19	10

Tree #	DBH	Common Name	Botanical Name	Condition Rating	Approx. Canopy Radius (FT)	Approx. Tree Height (FT)	Priority (1-4)	# of Stems	Tree Protection Zone (radius) in Feet	Structural Critical Root Zone (radius) in Feet
18	21	Green ash	*Fraxinus pennsylvanica*	Fair	12	28	2	1	18	9
19	24	Green ash	*Fraxinus pennsylvanica*	Good	18	30	2	1	20	11
20	20.5	Green ash	*Fraxinus pennsylvanica*	Fair	15	25	2	1	17	9
21	11	Coast live oak	*Quercus agrifolia*	Good	10	15	2	1	10	5
22*	8,8	Coast live oak	*Quercus agrifolia*	Fair	12	16	2	2	10	5
23*	16	Coast live oak	*Quercus agrifolia*	Good	15	28	2	1	13	7
24	16,11, 10,10, 9	Silver wattle	*Acacia dealbata*	Critical	22	36	4	5	21	12
25*	10,10	Coast live oak	*Quercus agrifolia*	Fair	10	28	3	2	12	6
26	21	Mexican fan palm	*Washingtonia filifera*	Good	5	28	2	1	18	9
27	5.5	Silver wattle	*Acacia dealbata*	Fair	5	30	3	1	10	2
28	7.5,7.5	American elm	*Ulmus americana*	Dead	10	25	4	2	10	5
29	2,2,2,2 ,2,2,2, 2,2,2,2 ,2,2,2	Plum	*Prunus spp.*	Fair	10	16	3	13	10	4
30*	17	Valley oak	*Quercus lobata*	Good	18	40	2	1	14	8
31	10	Coast live oak	*Quercus agrifolia*	Good	12	28	2	1	10	5
32*	14	Coast live oak	*Quercus agrifolia*	Good	12	38	2	1	12	6
33*	15.5	Coast live oak	*Quercus agrifolia*	Good	16	26	2	1	13	7
34*	13,12, 12,9	Coast live oak	*Quercus agrifolia*	Fair	18	26	2	4	19	10

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DAVEY Resource Group

12/14/2020	INITIAL SUBMISSION
DATE	COMMENT

INTERNATIONAL SOCIETY OF ARBORICULTURE — CARY HULSE — ISA No PD-1080A — CERTIFIED ARBORIST

3300 EL CAMINO REAL

PALO ALTO, CALIFORNIA

WSSI PROJECT # DRGNCAL140

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T-5

All other tree-related reports shall be added to the space provided on this sheet (adding as needed)
Include this sheet(s) on Project Sheet Index or Legend Page.
A copy of T-1 can be downloaded at www.cityofpaloalto.org/arb/forms

Special Tree Protection Instruction Sheet

City of Palo Alto

T-5

Tree #	DBH	Common Name	Botanical Name	Condition Rating	Approx. Canopy Radius (FT)	Approx. Tree Height (FT)	Priority (1-4)	# of Stems	Tree Protection Zone (radius) in Feet	Structural Critical Root Zone (radius) in Feet
35*	15	Coast live oak	*Quercus agrifolia*	Fair	15	26	2	1	13	7
36*	4.5	London planetree	*Platanus hybrida*	Good	9	20	2	1	10	2
37*	6.5	London planetree	*Platanus hybrida*	Good	12	24	2	1	10	3
38	37.5	Deodar cedar	*Cedrus deodara*	Good	24	52	2	1	31	17
39	31	Deodar cedar	*Cedrus deodara*	Good	24	64	2	1	26	14
40*	12	London planetree	*Platanus hybrida*	Good	15	40	2	1	10	5
41*	10.5	London planetree	*Platanus hybrida*	Good	15	38	2	1	10	5
42	26.5	Deodar cedar	*Cedrus deodara*	Good	24	64	2	1	22	12
43	22	Deodar cedar	*Cedrus deodara*	Good	20	60	2	1	18	10
44	29.5	Deodar cedar	*Cedrus deodara*	Good	24	64	2	1	25	13
45*	8	London planetree	*Platanus hybrida*	Good	14	36	2	1	10	4
46	31.5	Deodar cedar	*Cedrus deodara*	Good	27	65	2	1	26	14
47	32	Deodar cedar	*Cedrus deodara*	Good	25	70	2	1	27	14
48*	3	London planetree	*Platanus hybrida*	Good	5	18	2	1	10	1
49*	8	London planetree	*Platanus hybrida*	Good	12	42	2	1	10	4
50*	9.5	London planetree	*Platanus hybrida*	Good	14	40	2	1	10	4
51	28.5	Deodar cedar	*Cedrus deodara*	Good	22	56	2	1	24	13
52	18.5	Deodar cedar	*Cedrus deodara*	Good	20	54	2	1	15	8

Analysis & Recommendations

Tree condition is important to evaluate prior to construction because healthy trees can better withstand construction impacts and partial root loss. In addition, it may not be of value to try to preserve trees in poor condition through construction when removal is a better option for the aesthetic value and health of the tree population as a whole.

There are two considerations when evaluating tree root disturbance during construction; the removal of absorption roots and anchoring roots. Removal (or compaction in the area) of the feeder roots can cause immediate water stress and a significant decline in tree health. The ability of a tree to survive root loss is dependent on its tolerance of drought, tree health, and the ability to form new roots quickly. Removal of the larger anchoring roots can lead to structural instability or failure.

1. The following trees are identified for removal due to site uses, or should be considered for removal due to poor condition.

Table 2. Recommendations

Tree #	DBH	Botanical Name	Condition Rating	Tree Protection Zone (radius) in Feet	Structural Critical Root Zone (radius) in Feet	Recommendation
4	23	Fraxinus pennsylvanica	Poor	19	10	Consider removal due to condition
5	19.5	Fraxinus pennsylvanica	Poor	16	9	Consider removal due to condition
11	30	Fraxinus pennsylvanica	Fair	25	14	Remove for site uses
15	19.5	Fraxinus pennsylvanica	Poor	16	9	Consider removal due to condition
24	16,11,10,10,9	Acacia dealbata	Critical	21	12	Consider removal due to condition
25	10,10	Quercus agrifolia	Fair	12	6	Remove for site uses, protected, permit required
26	21	Washingtonia filifera	Good	18	9	Remove for site uses
28	7.5,7.5	Ulmus americana	Dead	10	5	Consider removal due to condition
38	37.5	Cedrus deodara	Good	31	17	Remove for site uses
39	31	Cedrus deodara	Good	26	14	Remove for site uses
42	26.5	Cedrus deodara	Good	22	12	Remove for site uses
43	22	Cedrus deodara	Good	18	10	Remove for site uses
44	29.5	Cedrus deodara	Good	25	13	Remove for site uses

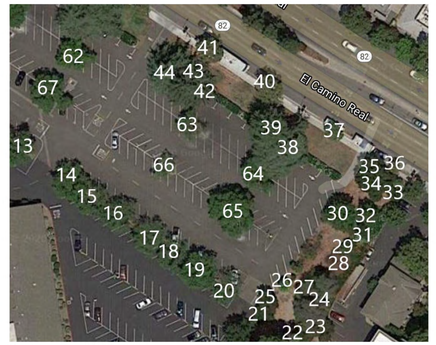
8. Due to the sensitive nature of working within the CRZ of trees to be retained, any demolition, excavation or grading within the CRZ of a protected or regulated tree must be performed with hand tools and supervised by a Certified Arborist to monitor and document any tree impacts. Any significant roots (roots 2 inches in diameter or larger) encountered should be cut cleanly and photo documented under the supervision of the project arborist. If severed roots increase failure risk beyond the property owner's tolerance, the Arborist may recommend tree removal.
9. The City of Palo Alto typically will not allow any new utilities or curb cuts to be installed within 10' of an existing tree. If any utilities are to be installed within the TPZ of an existing street tree it must be done utilizing hand tools, an air-excavation device or directional boring per table 2-1 of the City of Palo Alto Tree Technical Manual.
10. Applying a 4 inch layer of mulch to the CRZ of trees in the work area, particularly if the entire CRZ cannot be fenced due to construction is a best practice that should be considered.
11. No material shall be stored, nor concrete basins washed, or any chemical materials or paint stored within the CRZ of trees, and no construction chemicals or paint should be released into landscaped areas, as these can be toxic to trees and contaminate soil.
12. If any irrigation system is damaged by the excavation, it should be inspected and repaired by a qualified irrigation technician.
13. Mycorrhizal treatment can increase nutrient accessibility and compensate for root loss and is a good practice the property owner may consider if significant roots are encountered and must be cut.
14. After construction is complete, the property owner(s) should monitor the retained trees for one year and contact a Certified Arborist to inspect if any changes in tree health, condition or structural stability develop.

Conclusion

This report, along with the tree inventory, is the first step in preserving the health, function, and value of the trees on the site during and after development. Trees and green spaces provide benefits and add value to residential properties. Tree preservation starts with a basic understanding of the health and structure of the trees on the site. With proper care and protection, these trees can continue to thrive. Tree protection guidelines and strategies should be shared with contractors and employers prior to any disturbance at the site.

Evaluating the suitability of a tree for preservation is a qualitative process based on the interaction of many factors. A tree inventory and arborist report provides a snapshot in time of each individual tree assessed across many of the most important observable factors relative to preservation. Healthy, vigorous trees better tolerate impacts from construction and more readily adapt to the new site conditions that exist after completion of development. Additionally, tolerance to impact from construction activities varies across species and sites. The percentage impact to the critical root zone also greatly influences the suitability of a particular tree for preservation.

Successful tree preservation requires a team effort to find the right balance and select the appropriate trees. Using the findings of this report as a guiding foundation, planners are equipped to design, prepare, and implement a tree preservation plan tailored to achieving the optimal outcome.



Map 2. Southeast section of site

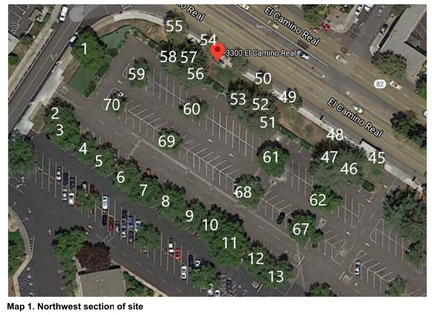
Tree #	DBH	Common Name	Botanical Name	Condition Rating	Approx. Canopy Radius (FT)	Approx. Tree Height (FT)	Priority (1-4)	# of Stems	Tree Protection Zone (radius) in Feet	Structural Critical Root Zone (radius) in Feet
53	34	Deodar cedar	*Cedrus deodara*	Good	22	58	2	1	28	15
54*	9	London planetree	*Platanus hybrida*	Good	15	38	2	1	10	4
55*	13.5	London planetree	*Platanus hybrida*	Good	15	44	2	1	11	6
56	24.5	Deodar cedar	*Cedrus deodara*	Good	21	48	2	1	20	11
57	17.5	Deodar cedar	*Cedrus deodara*	Good	18	48	2	1	15	8
58	26.5	Deodar cedar	*Cedrus deodara*	Good	21	56	2	1	22	12
59	15	Green ash	*Fraxinus pennsylvanica*	Fair	14	25	2	1	13	7
60	18	Green ash	*Fraxinus pennsylvanica*	Fair	12	22	2	1	15	8
61	18.5	Green ash	*Fraxinus pennsylvanica*	Good	20	30	2	1	15	8
62	21	Green ash	*Fraxinus pennsylvanica*	Good	15	28	2	1	18	9
63	17	Green ash	*Fraxinus pennsylvanica*	Fair	15	30	2	1	14	8
64	17.5	Green ash	*Fraxinus pennsylvanica*	Fair	18	28	2	1	15	8
65	23.5	Green ash	*Fraxinus pennsylvanica*	Fair	21	34	2	1	20	11
66	14.5	Green ash	*Fraxinus pennsylvanica*	Fair	12	20	2	1	12	7
67	22	Green ash	*Fraxinus pennsylvanica*	Fair	18	28	2	1	18	10
68	18.5	Green ash	*Fraxinus pennsylvanica*	Fair	18	26	2	1	15	8
69	17.5	Green ash	*Fraxinus pennsylvanica*	Fair	16	22	2	1	15	8
70	14	Green ash	*Fraxinus pennsylvanica*	Poor	12	22	3	1	12	6

*** Denotes a protected or regulated tree per City of Palo Alto Municipal Code**

Tree #	DBH	Botanical Name	Condition Rating	Tree Protection Zone (radius) in Feet	Structural Critical Root Zone (radius) in Feet	Recommendation
46	31.5	Cedrus deodara	Good	26	14	Remove for site uses
47	32	Cedrus deodara	Good	27	14	Remove for site uses
59	15	Fraxinus pennsylvanica	Fair	13	7	Remove for site uses
60	18	Fraxinus pennsylvanica	Fair	15	8	Remove for site uses
61	18.5	Fraxinus pennsylvanica	Good	15	8	Remove for site uses
62	21	Fraxinus pennsylvanica	Good	18	9	Remove for site uses
63	17	Fraxinus pennsylvanica	Fair	14	8	Remove for site uses
64	17.5	Fraxinus pennsylvanica	Fair	15	8	Remove for site uses
65	23.5	Fraxinus pennsylvanica	Fair	20	11	Remove for site uses
66	14.5	Fraxinus pennsylvanica	Fair	12	7	Remove for site uses
67	22	Fraxinus pennsylvanica	Fair	18	10	Remove for site uses
68	18.5	Fraxinus pennsylvanica	Fair	15	8	Remove for site uses
69	17.5	Fraxinus pennsylvanica	Fair	15	8	Remove for site uses
70	14	Fraxinus pennsylvanica	Poor	12	6	Remove for site uses

2. The remaining trees are in fair to good health, and with careful planning, consideration to the CRZs, and monitoring during construction, will experience minimal to no impacts.
3. No intrusion whatsoever may occur to the SRZ of any tree to be retained.
4. Table 1 provides the CRZ and SRZ of the trees onsite and on the neighboring sites that may be impacted by the planned construction.
5. All trees to be retained should be protected with fencing consisting of 6 foot tall chain link fencing mounted on 2 inch steel poles driven 2 feet into the ground spaced no more than 10 feet apart. The City's standard tree protection zone signs must be affixed to the fencing every 30 feet. The ideal location for the fence is outside or along the CRZ listed in Table 2. At a minimum, tree protection fencing can alternatively be placed at the furthest extent of the tree dripline. If no other alternative exists, fencing should be placed at the furthest extent of construction and moved outward as construction is completed. See the attached tree protection map for more details.
6. The removal or tree #25 will require a no-cost tree removal permit to be filed and approved prior to the issuance of building permits, as it is a protected tree in the City of Palo Alto.
7. Due to the proposed removals on site, new trees will need to be planted, per table 3-1 in the City of Palo Alto Tree Technical Manual, in order to satisfy the City's goal of no-net canopy loss. Any tree that is not planted typically can have an in-lieu fee paid to the City's Urban Forestry Fund. Currently 101 24" box trees will need to be planted (or paid in-lieu) in order to compensate for the removal of trees #11, #25-26, #38-39, #42-44, #46-47, #59-70. Utilizing larger planting stock such as 36" or 48" box trees will reduce the quantity of trees required to be planted per table 3-1 in the Tree Technical Manual. Tree replacement values are based upon canopy diameter (2 times the canopy radius stated in the condition table).

Appendix A: Site Maps



Map 1. Northwest section of site

Appendix B. Photos

Additional photos available upon request.

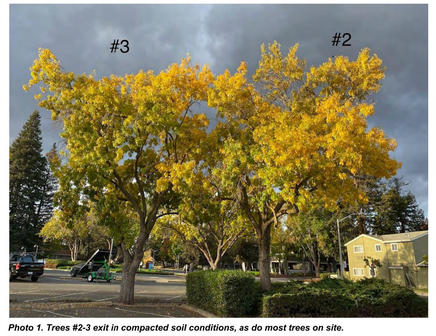


Photo 1. Trees #2-3 exit in compacted soil conditions, as do most trees on site.

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DAVEY Resource Group

12/14/2020	INITIAL SUBMISSION
DATE	COMMENT

INTERNATIONAL SOCIETY OF ARBORICULTURE — CARY HULSE — ISA No PD-1080A — CERTIFIED ARBORIST

3300 EL CAMINO REAL

PALO ALTO, CALIFORNIA

WSSI PROJECT # DRGNCAL1140

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T-6

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City of Palo Alto

T-6



Photo 2. Tree #2 has a weak union due to included bark and cavity.

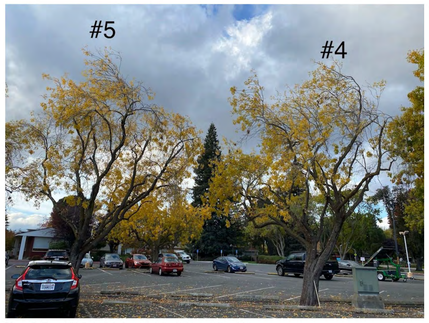


Photo 3. Trees #4-5 contain insect entry holes, and cavities.

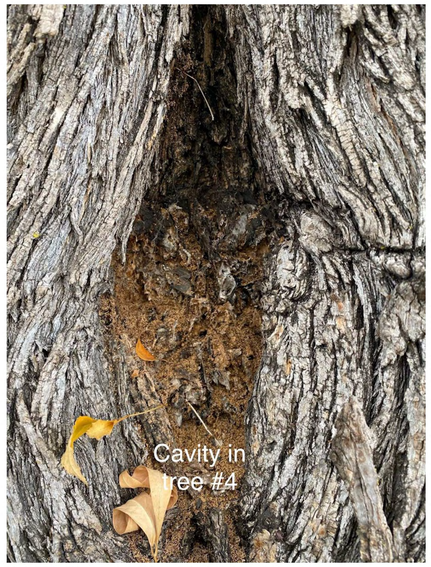


Photo 4. Tree #4 has a cavity with frass, indicating insect activity.

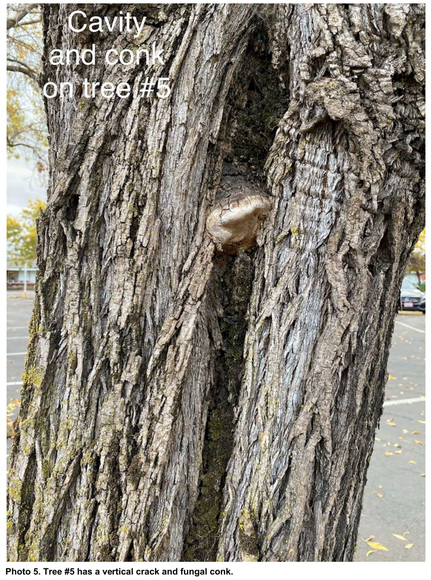


Photo 5. Tree #5 has a vertical crack and fungal conk.



Photo 6. Tree #6 has early leaf drop which can indicate stress.



Photo 7. Bird nest in Tree #7 should be checked for activity prior to recommended maintenance.



Photo 8. Trees #8-9, which exist in a narrow planter strip that will be expanded during construction per the project plans.



Photo 9. Large surface root of tree #11.

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T-7

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T-7

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Photo 10. Trees #12-13 exist in a narrow planter strip that will be expanded during construction per the project plans.



Photo 11. Cavity in tree #13.



Photo 12. Trees #16-17 two green ash trees located in a narrow planter strip in the parking lot.

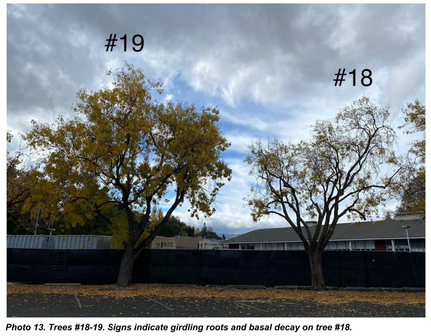


Photo 13. Trees #18-19. Signs indicate girdling roots and basal decay on tree #18.

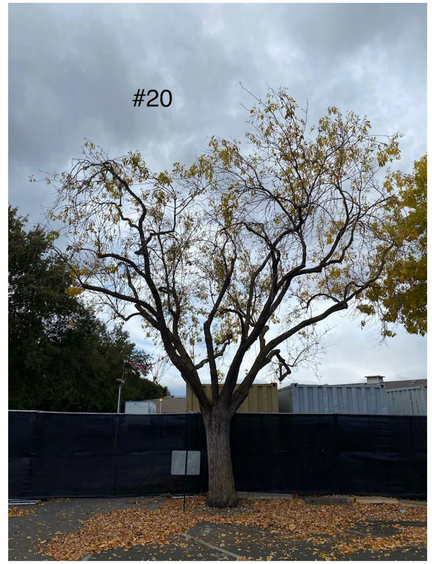


Photo 14. Tree #20 has trunk decay and girdling roots.

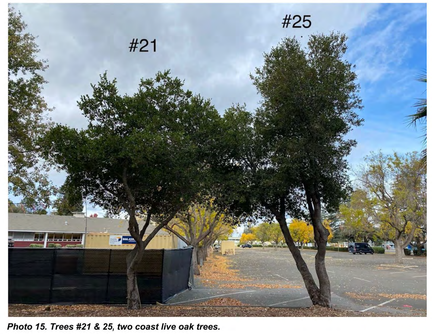


Photo 15. Trees #21 & 25, two coast live oak trees.



Photo 16. Tree #26, a California fan palm.



Photo 17. Trees #33-35, three protected coast live oak trees.

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T-8

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T-8

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Photo 18. Tree #33 has moth cocoons on its trunk and scaffold branches.

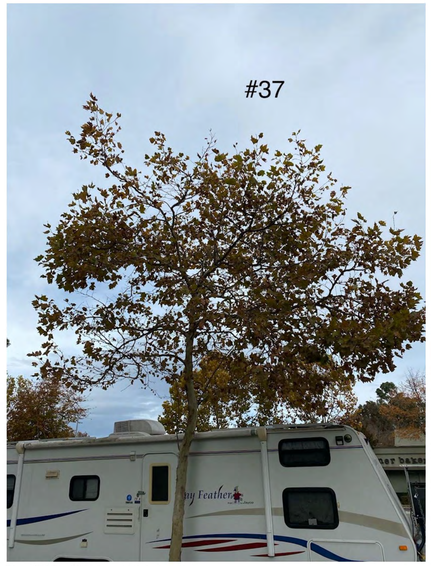


Photo #20 Tree #37 is a regulated street tree.

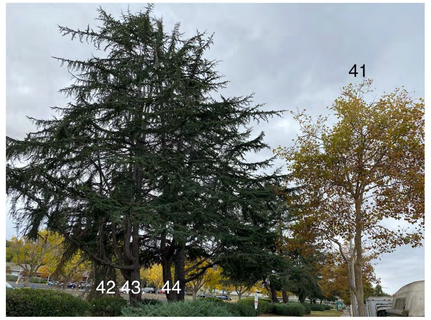


Photo 22. Trees #42- 44 as well as tree #41, a regulated street tree



Photo 25. Tree #60, which exists in a small planter in the parking lot.



Photo #19. Tree #36 is a regulated street tree.



Photo 21. Trees #38-39.



Photo 24. Trees #49-50, two regulated street trees.



Photo 26. Tree #66, which exists in a small planter in the parking lot.

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T-9

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T-9

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Photo 27. Tree #70, which exists in a small planter in the parking lot.

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