

1750 Cordilleras Rd

Redwood City, CA 94062

Arborist Report 2024



Prepared For:
Ernst Development

Site: 1750 Cordilleras Rd
Redwood City, CA 94062



Submitted by:
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Date: Jan 16, 2025

Ernst Development
 Attn: Evan Edwards

Site: 1750 Cordilleras Rd, Redwood City, CA 94062

Dear Ernst Development

INTRODUCTION AND OVERVIEW

Kiely Arborists Services LLC visited the property at 1750 Cordilleras Rd, Redwood City, CA 94062 on 12/11/2024 to evaluate the trees present with respect to the proposed construction project. The report below contains an analysis of the site visit. Ernst Development is planning to build a new structure adjacent to the existing property. The site consisted of a residential home, a driveway, a large bridge over a creek, landscaping, and native oak woodlands surrounding a creek. The findings and recommendations presented in this report are based on the construction plans titled "Cordilleras-Schematic" by ZIMMERMAN + MILLER + MONTANARI. These plans were electronically provided to us via email and are dated Aug 5th, 2024. By thoroughly analyzing these plans in conjunction with our field observations, we have developed an accurate and reliable assessment of the tree conditions and how best to mitigate potential impacts.

Data Summary:

Total Trees	Total Street Trees	Neighboring Trees	Protected Trees		Non-Protected Trees		Overall Condition Rating		
			Total	Proposed for Removal	Total	Proposed for Removal	<50%	50%-69%	70-100%
65	3	1	63	12	2	0	23	41	1

There are 65 trees on the property. One of them is a neighboring tree, #62*. 63 trees are protected and only the two stumps were tagged as not protected. Protected trees #20, 21, 21b, 21c, 22, 23, 24, 25, 27, 28, 33, and 34 are proposed for removal, as they are in decline or conflict with proposed project features. Trees #13, 16, 38, 39, 41, 47, 53, 54, 55, 56, 57, 58, 59, and 63 are recommended but not proposed to be removed. Protected trees in poor overall condition (#4, 7, 8, 12, 15, 19, 37, and 45) should be retained and protected as detailed in the recommendations below. Protected trees #13, 16, 20, 38, 39, 41, 47, and 53 are completely dead or nearly dead and recommended for removal. With proper protection and cultural practices, all retained trees are expected to survive and thrive during and after construction.

The subject property is located within the RH/DR (Residential Hillside/Design Review) zoning district of San Mateo County, which is governed by specific regulations aimed at preserving the natural environment and maintaining the character of hillside communities. In accordance with San Mateo County Ordinance Section 12,012.1, any tree with a circumference of 19 inches or more (6" in diameter), measured at 4.5 feet above the ground, is classified as a significant tree within this district. This includes both indigenous species, such as Coast Live Oak (*Quercus agrifolia*) and Valley Oak (*Quercus lobata*), and exotic species, such as Olive (*Olea europaea*).

The ordinance emphasizes the protection of significant trees due to their role in maintaining ecological balance, preventing erosion, mitigating flood risks, and enhancing property values. However, when removal is unavoidable due to their location within the footprint of proposed development, the ordinance mandates a robust replacement plan to ensure the preservation of the natural aesthetic and environmental functions of the area.

For the trees identified for removal on this property, replacement will occur at a ratio of three (3) new trees for every one tree removed, as stipulated in Section 12,024. Replacement trees will be selected to match the species of the removed tree (for indigenous trees) or from the approved list maintained by the Community Development Director (for exotic trees). All replacement trees will be a minimum of five-gallon size stock and installed following the required performance and maintenance standards, ensuring their long-term viability.

This approach aligns with the county's commitment to balancing development with environmental stewardship, upholding the goals of the Significant Tree Ordinance to protect and restore the natural beauty and ecological stability of the RH/DR District.

ASSIGNMENT

At the request of Ernst Development, Kielty Arborists Services LLC conducted a site visit on 12/11/2024 to prepare a comprehensive Tree Inventory Report/Tree Protection Plan for the proposed construction project. This report is a requirement when submitting plans to the County of San Mateo.

The primary focus of this report is as follows:

- Identification and assessment of trees on the construction site that may be affected by the proposed development.
- Determination of potential impacts on tree health and stability, considering factors such as root damage and crown damage.
- Provision of recommendations for tree protection and preservation measures during the construction process to mitigate potential impacts.
- Ensuring compliance with local regulations pertaining to tree preservation, protection, and removal within the construction plans.

Please note that the report will provide specific details regarding tree assessments, impacts, and preservation measures.

The County of San Mateo requires the following tree reporting elements for development projects:

1. Map of tree locations.
2. Tree protection or removal recommendations for all trees over 4 inches in diameter.
3. Tree Protection Plan for all protected trees.

According to our past communications with county staff, the County of San Mateo requires the following tree reporting elements for development projects:

1. Inventory of all trees measuring 4" in diameter or larger.
2. Map of tree locations.
3. Tree protection, removal, or replacement recommendations for all trees eight inches in diameter or greater than 54 inches above the ground; or certain native species that are four inches in diameter or greater. Appraised values for each tree are also to be provided.

LIMITS OF THE ASSIGNMENT

As part of this assessment, it is important to note that Kielty Arborists Services LLC did not conduct an aerial inspection of the upper crown, a detailed root crown inspection, or a plant tissue analysis on the subject trees. Therefore, the information presented in this report does not include data obtained from these specific methods.

Furthermore, it is essential to clarify that no tree risk assessments were completed as part of this report unless stated otherwise. The focus of this assessment primarily centers on tree identification, general health evaluation, and the potential impacts of the proposed construction.

While the absence of these specific assessments limits the scope of the analysis, the findings and recommendations provided within this report are based on available information and observations made during the site visit. This report is considered preliminary; once final construction details are available including final grading & drainage, landscaping and utilities, we can provide an Arborist Report.

METHOD OF INSPECTION

The inspections were conducted from the ground without climbing the trees. No tissue samples or root crown inspections were performed. The trees under consideration were identified based on the provided site plan. To assess the trees, their diameter at 54 inches above ground level (DBH or diameter at breast height) was measured using a D-Tape. For the surveying of multi-trunk trees, our methodology aligns with county ordinances. In cases where the county does not offer specific guidelines for measuring multi-trunk trees, we adhere to the standards outlined in the "Guide for Plant Appraisal, 10th Edition, Second Printing" by the Council of Tree and Landscape Appraisers. Additionally, the protected trees were evaluated for their health, structure, form, and suitability for preservation with the following explanation of the ratings:

EVALUATION FIELDS

Tree Tag #:	Protected Tree:
Identification number for individual trees.	Specifies whether the tree is protected by the city or county ordinance.
Height (ft.) / Canopy Spread (ft.):	Trunk (in.):
Measures both the height of the tree and the spread of its canopy.	Measures the primary trunk's diameter at the required height.
Comments:	Tree Picture:
Any additional notes or observations about the tree.	A photograph of the tree for visual assessment and record-keeping.
Preserve or Remove:	Common Name / Scientific Name:
Indicates the recommended action based on the tree's condition.	Specifies the name of the tree, both in common terms and scientific nomenclature.
If more than 1 Trunks, Total Diameter:	6 ,8, 10 Times the Diameter (ft.):
If the tree has multiple trunks, this field indicates the combined diameter of all trunks.	Provides calculations based on the diameter to assist in various tree protection requirements.
Appraised Value:	
An unbiased estimate of the tree's worth is performed in accordance with the current edition of the Guide for Plant Appraisal by the Council of Tree and Landscape Appraisers.	

*Note that not all fields may be provided for every tree. Some might be left blank due to various reasons, such as lack of accessibility to the tree, incomplete data, or the parameter not being applicable for a particular tree.

Tree Structure Ratings:	Tree Health Ratings:
Poor: Major uncorrectable structural flaws present; significant dead wood, decay, or multiple trunks; potentially hazardous lean.	Poor: Minimal new growth; significant dieback and pest infestation; expected not to reach natural lifespan.
Fair: Structural flaws exist but less severe; issues like slight lean and crowding on trunk; some uncorrectable issues through pruning.	Fair: Moderate new growth; canopy density 60-90%; potential external threats; not in decline but vulnerable.
Good: Minor flaws; mainly upright trunk, well-spaced branches; flaws correctable through pruning; symmetrical or mostly symmetrical canopy.	Good: Vigorous growth; healthy foliage; 90-100% canopy density; expected natural lifespan.
Suitability for Preservation:	Tree Form Ratings:
Poor: Adds little to landscape; poor health and potential hazards; unlikely to survive construction impacts.	Poor: Highly asymmetric or abnormal form; visually unappealing; little landscape function.
Fair: Contributes to landscape; survival possible with protection during minor construction impacts.	Fair: Significant asymmetries; deviation from species norm; compromised function or aesthetics.
Good: Valuable landscape asset; likely survival during minor to moderate construction impacts with protection.	Good: Near ideal form; minor deviations; consistent aesthetics and function in landscape.

*Suitability for Preservation: This rating is based solely on the tree itself, irrespective of potential construction impacts.

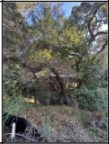
Overall Condition Ratings:	
Very Poor	1-29
Poor	30-49
Fair	50-69
Good	70-89
Excellent	90-100

The trees were assigned a condition rating based on a combination of existing tree health, tree structure, and tree form using the following scale.

TREE INVENTORY SURVEY

Tree Tag #	Protected Tree	Preserve or Remove	Common Name/ Scientific Name	Trunk (in.)	Height (ft.) / Canopy Spread (ft.)	Health Rating	Structural Rating	Form Rating	Suitability for Preservation	Overall Condition (0-100%)	Summary	Tree Picture #1
1	Yes	(P)	Valley oak <i>Quercus lobata</i>	33.9	55/60	Fair	Fair	Poor	Fair	60%	Heavy to the west, on creek edge, large pruning cuts made in past, one-sided, buried root crown, dead wood, history of limb loss.	
2	Yes	(P)	Bay Laurel <i>Umbellularia californica</i>	36	55/60	Fair	Fair	Fair	Fair	50%	On creek bank, vine in canopy, decay observed along limbs, vector of sudden oak death.	
3	Yes	(P)	Deodar cedar <i>Cedrus deodara</i>	22.2	60/40	Fair	Fair	Fair	Fair	55%	Above creek, lower dead wood.	
4	Yes	(P)	Valley oak <i>Quercus lobata</i>	28.3	35/45	Poor	Poor	Fair	Poor	30%	History of limb loss, decay on trunk.	
5	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	25.2	40/45	Good	Fair	Fair	Good	60%	Codominant at 12 feet, on creek bank edge.	
6	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	28	40/45	Fair	Poor	Fair	Fair	50%	Codominant at 4 feet with poor union attachment, on creek bank.	
7	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	14.9	35/40	Fair	Poor	Poor	Poor	45%	Leans west at 45 degrees, deadwood.	

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8	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	11.6	20/25	Fair	Poor	Poor	Poor	40%	Deadwood grows horizontally toward the street.	
9	Yes	(P)	Valley oak <i>Quercus lobata</i>	19.3	45/40	Fair	Fair	Poor	Fair	50%	Resting on #8, suppressed.	
10	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	18.5	40/40	Poor	Fair	Fair	Fair	50%	Deadwood, decay at base, thin canopy.	
11	Yes	(P)	Bay Laurel <i>Umbellularia californica</i>	23	45/50	Fair	Fair	Fair	Fair	55%	On creek bank, codominant at grade, vector of sudden oak death.	
12	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	50	40/55	Fair	Poor	Fair	Fair	45%	On the creek bank, supported by steel prop, decay on limbs.	
13	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	20	30/35	Poor	Poor	Poor	Poor	10%	Nearly dead.	
14	No	(P)	UNIDENTIFIED STUMP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

TREE INVENTORY SURVEY

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15	Yes	(P)	Bay Laurel <i>Umbellularia californica</i>	12.2	45/30	Fair	Poor	Poor	Poor	40%	Trunk bends, vector of sudden oak death	
16	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	10	30/35	Poor	Poor	Poor	Poor	0%	DEAD	
17	No	(P)	UNIDENTIFIED STUMP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
18	Yes	(P)	Bay Laurel <i>Umbellularia californica</i>	50	60/50	Fair	Fair	Fair	Fair	50%	Codominant at grade, deadwood, on creek bank.	
19	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	33.1	45/40	Poor	Poor	Poor	Poor	40%	large cavity on trunk, heavy into site, dead wood, one sided.	
20	Yes	(R)	Coast live oak <i>Quercus agrifolia</i>	23.6	40/50	Poor	Poor	Poor	Poor	0%	DEAD, codominant at 5'.	
21	Yes	(R)	Valley oak <i>Quercus lobata</i>	19	50/60	Fair	Poor	Poor	Fair	50%	Ivy on trunk, history of limb loss, decay at root crown.	

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21b	Yes	(R)	Valley oak <i>Quercus lobata</i>	20	50/60	Fair	Poor	Poor	Fair	50%	Ivy on trunk, history of limb loss, decay at root crown.	
21c	Yes	(R)	Valley oak <i>Quercus lobata</i>	24	50/60	Fair	Poor	Poor	Fair	50%	Ivy on trunk, history of limb loss, decay at root crown.	
22	Yes	(R)	Coast live oak <i>Quercus agrifolia</i>	24.2	45/45	Fair	Fair	Fair	Fair	50%	Heavy to the southwest, dead limb at 6', ivy on tree, buried root crown.	
23	Yes	(R)	Coast live oak <i>Quercus agrifolia</i>	15.5	35/40	Poor	Poor	Poor	Poor	30%	leans west, ivy in tree, one sided, history of limb loss	
24	Yes	(R)	Coast live oak <i>Quercus agrifolia</i>	26	40/35	Fair	Poor	Fair	Fair	50%	Decay along limbs, close to driveway.	
25	Yes	(R)	Coast live oak <i>Quercus agrifolia</i>	20.1	30/30	Poor	Poor	Poor	Poor	40%	decay in trunk, heartwood decay	
26	Yes	(P)	Blue oak <i>Quercus douglasii</i>	36	40/45	Good	Fair	Fair	Fair	50%	Codominant at grade, 3' from driveway, history of limb loss, aesthetically pleasing.	

TREE INVENTORY SURVEY

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27	Yes	(R)	Coast live oak <i>Quercus agrifolia</i>	30	30/40	Fair	Poor	Poor	Poor	45%	Codominant at grade, suppressed, one-sided, cavity on trunk.	
28	Yes	(R)	Coast live oak <i>Quercus agrifolia</i>	32	35/45	Fair	Fair	Fair	Fair	50%	Codominant at 2', aesthetically pleasing.	
29	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	15	35/30	Good	Fair	Good	Good	65%	Codominant at 15'.	
30	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	20.1	40/35	Good	Poor	Good	Good	65%	Codominant at grade.	
31	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	13.6	35/35	Fair	Fair	Fair	Fair	50%	Poor location, against retaining wall.	
32	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	14.2	30/30	Fair-poor	Fair	Poor	Fair	50%	Trunk bends north, thin canopy, cankers on trunk.	
33	Yes	(R)	Coast live oak <i>Quercus agrifolia</i>	26	35/30	Good	Poor	Fair	Fair	50%	Decay in trunk, codominant at grade.	

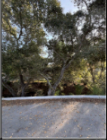
TREE INVENTORY SURVEY
KIELTY
 ARBORISTS SERVICES LLC

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34	Yes	(R)	Blue oak <i>Quercus douglasii</i>	21.4	40/40	Fair	Fair	Fair	Fair	60%	Center of lot,	
35	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	20	45/40	Fair-poor	Fair	Fair	Fair	50%	Leans south, at retaining wall, deadwood.	
36	Yes	(P)	Blue oak <i>Quercus douglasii</i>	23.9	40/45	Fair-poor	Fair	Fair	Fair	50%	Heavy to north.	
37	Yes	(P)	Blue oak <i>Quercus douglasii</i>	26.8	40/40	Poor	Poor	Poor	Poor	45%	Codominant at 1' with included bark.	
38	Yes	(P)	Blue oak <i>Quercus douglasii</i>	28.2	40/60	Poor	Poor	Poor	Poor	0%	DEAD.	
39	Yes	(P)	Blue oak <i>Quercus douglasii</i>	28.4	35/45	Poor	Poor	Poor	Poor	0%	DEAD.	
40	Yes	(P)	Blue oak <i>Quercus douglasii</i>	21.3	35/40	Fair	Fair	Fair	Fair	65%	Heavy to northwest, close to home, codominant at 8'.	

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41	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	17.9	30/35	Poor	Poor	Poor	Poor	0%	Failed tree.	
42	Yes	(P)	Blue oak <i>Quercus douglasii</i>	23.3	40/40	Fair-poor	Fair	Fair	Fair	50%	Codominant at 2 feet.	
43	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	13.2	30/30	Fair	Fair	Fair	Fair	55%	Leans southwest, codominant at 12'	
44	Yes	(P)	Blue oak <i>Quercus douglasii</i>	26.5	40/50	Fair	Fair	Fair	Fair	65%	On the southwest property line, there is a scar at the root crown.	
45	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	15.9	35/30	Fair-poor	Poor	Fair	poor	45%	Bleeding canker on trunk, codominant at 12' with decay.	
46	Yes	(P)	Blue oak <i>Quercus douglasii</i>	28.9	40/65	Fair	Fair	Fair	Fair	65%	Poor location, close to existing house. touching roof.	
47	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	13.8	30/20	Poor	Poor	Poor	Poor	0%	DEAD.	

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48	Yes	(P)	Blue oak <i>Quercus douglasii</i>	26.2	35/35	Fair-poor	Poor	Fair	Fair	50%	Codominant at 2' dead wood, thin canopy.	
49	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	10.3	30/35	Fair	Poor	Fair	Fair	50%	At road edge, codominant.	
50	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	26.5	35/35	Fair	Fair	Fair	Fair	55%	On creek bank, codominant.	
51	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	11.8	35/35	Fair	Fair	Poor	Fair	50%	On bank near existing driveway, suppressed.	
52	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	14	40/40	Fair	Poor	Fair	Fair	50%	History of limb loss, decay on trunk and limbs.	
53	Yes	(P)	Blue oak <i>Quercus douglasii</i>	20	15/15	Poor	Poor	Poor	Poor	0%	DEAD.	
54	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	16	20/25	Fair	Fair	Fair	Fair	55%	Codominant at grade.	

TREE INVENTORY SURVEY

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55	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	13.1	20/20	Fair	Fair	Poor	Fair	50%	Suppressed by 54.	
56	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	14.3	25/18	Fair	Poor	Fair	Fair	55%	Codominant at 3'.	
57	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	13.5	25/20	Fair	Fair	Fair	Fair	60%	Thin canopy.	
58	Yes	(P)	Green ash <i>Fraxinus uhedi</i>	26	40/20	Poor	Poor	Poor	Poor	45%	Codominant at grade.	
59	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	10.8	20/15	Fair	Fair	Poor	Fair	60%	One-sided. suppressed.	
60	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	11.9	20/20	Good	Good	Good	Good	70%	Stand-alone tree in good condition.	
61	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	9.3	18/18	Fair	Fair	Fair	Fair	60%	Suppressed by 60, codominant at 4'.	

TREE INVENTORY SURVEY

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62*	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	28	35/40	Fair	Poor	Fair	Fair	50%	Cabled in the past, codominant at grade, loose bark, neighboring tree.	
63	Yes	(P)	Olive <i>Olea europaea</i>	9.1	25/20	Fair-poor	Poor	Fair	Poor	40%	Decay on trunk.	

* - Indicates a neighboring tree

TREE MAP



OBSERVATIONS

Species List:

"Bay Laurel, *Umbellularia californica*"

"Blue oak, *Quercus douglasii*"

"Coast live oak, *Quercus agrifolia*"

"Deodar cedar, *Cedrus deodara*"

"Green ash, *Fraxinus uhedi*"

"Olive, *Olea europaea*"

"Valley oak, *Quercus lobata*"

2 UNIDENTIFIED STUMPS

Protected Trees in Overall Poor Condition:

Overall Condition Rating		
Poor Condition	Fair Condition	Good Condition
23	41	1

Note: The 2 UNIDENTIFIED STUMPS were given a Poor Condition Rating.

Several protected trees slated for retention within the project site require mitigation efforts as outlined in the tree protection plan. These trees, although preserved, exhibit poor overall health and structural integrity, necessitating proactive measures to minimize risks and enhance their survivability. Below is an overview of the trees requiring mitigation:

Valley Oak (*Quercus lobata*), Tag #4: With a history of limb loss and trunk decay, this tree has an overall condition rating of 30%. Structural pruning, decay monitoring, and weight reduction on remaining limbs are recommended to mitigate risks. Annual health assessments are recommended.

Coast Live Oak (*Quercus agrifolia*), Tag #7: Leaning significantly westward with substantial deadwood, this tree has a condition rating of 45%. Recommendations include structural pruning, stabilization, and annual health assessments.

Coast Live Oak (*Quercus agrifolia*), Tag #8: Leaning significantly towards the street with substantial deadwood, this tree has a condition rating of 40%. Recommendations include structural pruning, stabilization, and annual health assessments.

Bay Laurel (*Umbellularia californica*), Tag #15: Exhibiting a bent trunk and serving as a vector for sudden oak death, this tree has an overall condition of 40%. Sanitation pruning, pathogen monitoring, and soil health improvement are critical mitigation strategies. Annual health assessments are recommended.

Coast Live Oak (*Quercus agrifolia*), Tag #19: This tree has a significant trunk cavity, heavy lean, and deadwood, with an overall condition rating of 40%. Mitigation includes cavity inspection, structural reinforcement, and deadwood removal to reduce hazards. Annual health inspections are recommended.

Coast Live Oak (*Quercus agrifolia*), Tag #12: Supported by a steel prop due to its location on a creek bank, this tree has limb decay and an overall condition rating of 45%. Continued structural support, pruning, and annual inspections are necessary for its retention.

Blue Oak (*Quercus douglasii*), Tag #37: This codominant tree has included bark and a condition rating of 45%. Mitigation should focus on reducing stress at the codominant union through targeted pruning and possible cabling. Annual inspections are recommended.

Coast Live Oak (*Quercus agrifolia*), Tag #45: Showing signs of bleeding canker and decay in its codominant structure, this tree has a condition rating of 45%. Treatment for the canker, decay monitoring, and weight distribution pruning are recommended to preserve its stability. Annual inspections are recommended.

Mitigation for these trees will require the oversight of a qualified project arborist to ensure all activities within their root zones adhere to the tree protection plan. Supervised hand excavation, proper pruning techniques, and ongoing monitoring will be essential to support their preservation while minimizing construction impacts.

Showing Protected Trees in Poor Condition

TREE INVENTORY SURVEY

Tree Tag #	Protected Tree	Preserve or Remove	Common Name/ Scientific Name	Trunk (in.)	Height (ft.) / Canopy Spread (ft.)	Health Rating	Structural Rating	Form Rating	Suitability for Preservation	Overall Condition (0-100%)	Summary	Tree Picture #1
4	Yes	(P)	Valley oak <i>Quercus lobata</i>	28.3	35/45	Poor	Poor	Fair	Poor	30%	History of limb loss, decay on trunk.	
7	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	14.9	35/40	Fair	Poor	Poor	Poor	45%	Leans west at 45 degrees, deadwood.	
8	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	11.6	20/25	Fair	Poor	Poor	Poor	40%	Deadwood grows horizontally toward the street.	
12	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	50	40/55	Fair	Poor	Fair	Fair	45%	On the creek bank, supported by steel prop, decay on limbs.	
15	Yes	(P)	Bay Laurel <i>Umbellularia californica</i>	12.2	45/30	Fair	Poor	Poor	Poor	40%	Trunk bends, vector of sudden oak death	
19	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	33.1	45/40	Poor	Poor	Poor	Poor	40%	large cavity on trunk, heavy into site, dead wood, one sided.	
37	Yes	(P)	Blue oak <i>Quercus douglasii</i>	26.8	40/40	Poor	Poor	Poor	Poor	45%	Codominant at 1' with included bark.	
45	Yes	(P)	Coast live oak <i>Quercus agrifolia</i>	15.9	35/30	Fair-poor	Poor	Fair	poor	45%	Bleeding canker on trunk, codominant at 12' with decay.	

Overall Condition Ratings:	
Very Poor	1-29
Poor	30-49
Fair	50-69
Good	70-89
Excellent	90-100

The trees were assigned a condition rating based on a combination of existing tree health, tree structure, and tree form using the following scale.

Trees Proposed For Removal:

Trees #20, 21, 21b, 21c, 22, 23, 24, 25, 27, 28, 33, and 34 are proposed for removal.

Trees #13, 16, 38, 39, 41, 47, 53, 54, 55, 56, 57, 58, 59, and 63 are recommended but not proposed to be removed.

Total Removed Trees	Significant / Protected Trees	Non-Protected Trees
12	12	0

The following section outlines the protected trees recommended for removal to facilitate the proposed construction at 1750 Cordilleras Rd. It is important to note that some trees (#13, 16, 38, 39, 41, 47, 53, 54, 55, 56, 57, 58, 59, and 63) are recommended for removal based on their condition, location, or potential conflicts with the construction plan, are not currently proposed for removal on the submitted plan set. These trees may ultimately require removal during the construction process, but this determination will depend on decisions made by the contractor and architect as the project progresses.

For trees that fall into this category, removal has been recommended based on professional arboricultural evaluation, but these recommendations are contingent on the final construction needs and plan adjustments. Including this flexibility in the report allows the project team to address tree conflicts efficiently as site conditions evolve, minimizing the need for additional permit modifications post-approval. This approach ensures that all potential tree impacts are documented and mitigation measures are in place should removal become necessary.

Adjustments to this report can be made to align with the finalized plans and construction requirements, ensuring compliance with county regulations and facilitating a seamless approval process. Any trees removed, including those not currently proposed, will adhere to the appropriate replacement ratios stipulated in the county's conditions of approval.

Protected trees to be removed:

The proposed project necessitates the removal of several protected trees due to their location within the footprint of the planned structure, as well as the health and safety concerns they pose. In accordance with San Mateo County Code Section 12,023, these removals are justified based on findings related to their health, proximity to structures, and the necessity of the project for reasonable use of the property. Below is a detailed analysis of each tree's condition and justification for removal.



Tree Tag #13, a Coast Live Oak (*Quercus agrifolia*), is nearly dead, exhibiting severe decline with a health rating of only 10%. The tree's poor condition poses a significant risk of failure, potentially endangering construction workers and nearby structures. Removal is warranted under Section 12,023(a)(1) and (a)(2) due to its health and safety implications.

Showing Tree #13



Tree Tag #16, a Coast Live Oak (*Quercus agrifolia*), is entirely dead, with a condition rating of 0%. The tree poses a significant safety risk due to its potential for failure, especially as its structural integrity has been entirely compromised. Dead trees provide no ecological or structural benefits and represent a direct hazard to the construction zone. Its removal is justified under Section 12,023(a)(1), (a)(2), and (a)(5), as retaining a dead tree in close proximity to the construction area could jeopardize safety and impede project progress.

Showing Tree #16

Tree Tag #20, another Coast Live Oak, is completely dead with a 0% overall condition rating. This tree has no chance of recovery and its codominant structure at five feet further exacerbates the risk of collapse. Dead trees such as this are inherently hazardous and removal is essential under Section 12,023(a)(1), (a)(2), and (a)(5), as it could otherwise pose a threat to people and property.

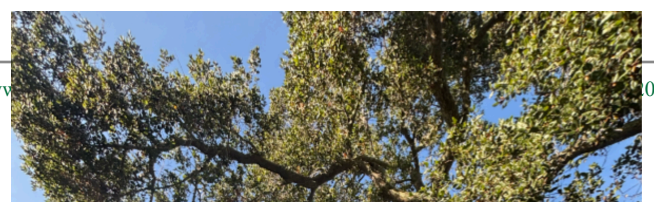


Showing Tree #20



Tree Tags #21, #21b, and #21c are Valley Oaks (*Quercus lobata*) that exhibit significant structural weaknesses, including decay at the root crown, a history of limb loss, and ivy growth enveloping their trunks. These trees have a fair health rating but poor structural integrity, making them unsuitable for long-term preservation. Their proximity to the proposed structure renders their removal necessary under Section 12,023(a)(6), as their retention would impede safe construction and reasonable use of the property.

Showing Tree Tags #21, #21b, and #21c



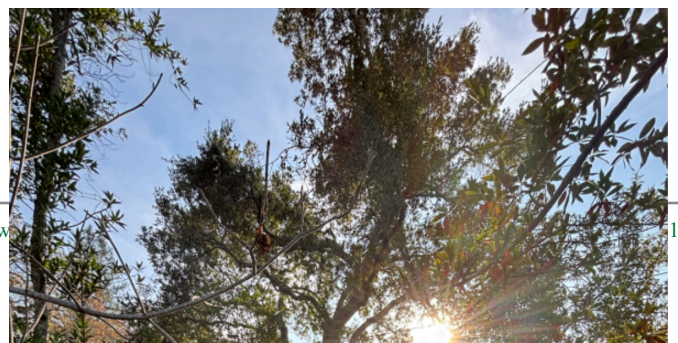
Tree Tags #22 through #25 are Coast Live Oaks with a range of structural and health issues, including trunk decay, dead limbs, and unbalanced canopies. These trees have overall condition ratings ranging from 30% to 50%. Their compromised structural stability, combined with their location within the proposed building footprint, poses a risk of failure and justifies removal under Section 12,023(a)(3) and (a)(6). For example, Tree Tag #23 leans heavily to the west with a history of limb loss and a one-sided canopy, creating a potential hazard to the site.

Showing Tree #24



Tree Tag #27, a Coast Live Oak, and Tree Tag #28, a larger specimen, both exhibit codominant trunks with cavities and structural deficiencies. Although Tree Tag #28 is noted for its aesthetic value, its fair condition rating does not outweigh the risks associated with its location directly within the construction zone. The removal of these trees is necessary to ensure the safety and feasibility of the project under Section 12,023(a)(6).

Showing Tree #28



Several Blue Oaks (*Quercus douglasii*), including Tree Tags #38, #39, and #53, are completely dead with a 0% condition rating. Dead trees not only present an immediate safety hazard but also serve no ecological or aesthetic purpose. These trees must be removed under Section 12,023(a)(1) and (a)(5) to eliminate risks of collapse and ensure the safety of the construction zone.

Showing Tree #53



Coast Live Oak Tree Tags #41 and #47 also require removal as they are either failed or completely dead. Tree Tag #41 has already failed, and Tree Tag #47 is dead, making them unviable for retention. Both trees pose imminent safety risks to the site and fall within the criteria for removal under Section 12,023(a)(1), (a)(2), and (a)(5).

Showing Tree #47



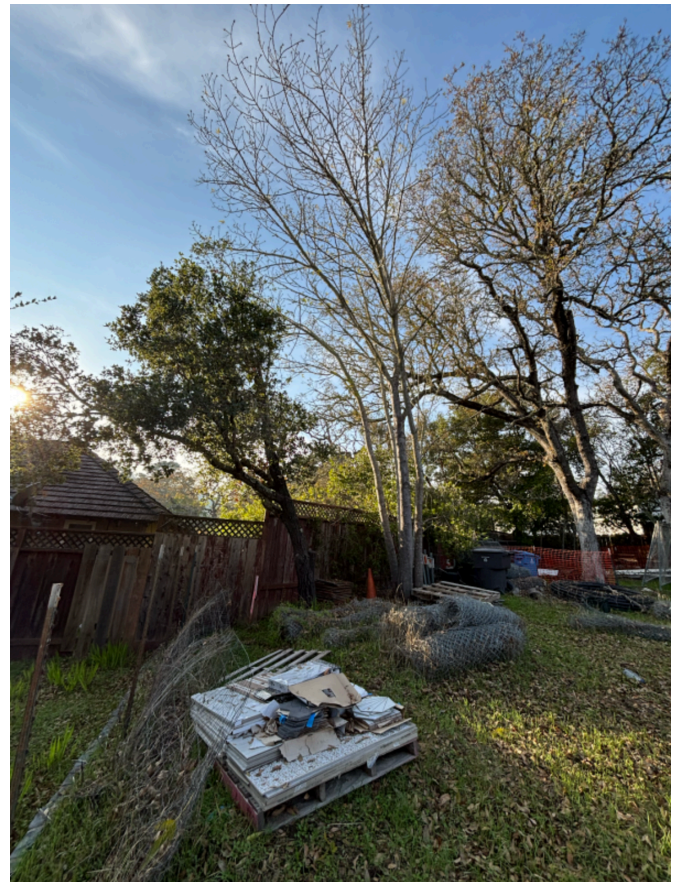
Tree Tags #54, #55, #56, and #57, while not dead, have fair health ratings combined with structural challenges such as codominant trunks and thin canopies. Their placement within the construction footprint makes their removal necessary to allow reasonable use of the property under Section 12,023(a)(6) and

(b)(2). The presence of these trees within the construction zone creates an unavoidable conflict with the project's objectives, and their retention is not feasible without compromising the structural integrity of the planned building.

Showing Tree #56

Tree Tag #59, another Coast Live Oak, has an overall condition rating of 60%. Although its health and structural ratings are fair, its form rating is poor due to its one-sided growth and suppression. The asymmetry and compromised form make it unsuitable for retention, especially given its location within the construction footprint. Retaining this tree would conflict with the objectives of the project and increase the likelihood of structural issues or failure in the future. Its removal is necessary under Section 12,023(a)(6) to ensure the safe and efficient use of the property.

Showing Tree #59



Tree Tag #63, an Olive (*Olea europaea*), exhibits trunk decay and has a fair-poor health rating with a condition rating of 40%. The decay compromises the tree's structural stability, increasing the risk of failure.

Additionally, its poor suitability for preservation and location within the proposed construction zone make retention impractical. Removal is warranted under Section 12,023(a)(3), (a)(6), and (b)(2) to eliminate potential hazards and allow reasonable economic and functional use of the site.

Showing Tree #63

In conclusion, the removal of these protected trees is supported by the provisions of San Mateo County Code Section 12,023. Each tree's poor health, structural instability, or location within the footprint of the proposed structure underscores the necessity of their removal to ensure the safety, viability, and progress of the project. Appropriate mitigation measures, including replanting as approved by the Community Development Director, will be implemented to compensate for their loss and uphold the environmental goals of the county.

Replacement Tree Plan:

Tree Replacement Plan for Proposed Tree Removals

The removal of protected trees at 1750 Cordilleras Rd is necessary to accommodate the proposed construction. This plan outlines the replacement requirements for the 12 trees proposed for removal, specifically Trees #20, 21, 21b, 21c, 22, 23, 24, 25, 27, 28, 33, and 34. Due to the current number of trees on-site, a 1:1 replacement ratio is recommended for all removed trees. This adjustment reflects the existing density of the tree population while ensuring compliance with San Mateo County Ordinance Section 12,024.

Replacement Requirements and Specifications

Indigenous Trees

Most of the trees proposed for removal are significant indigenous species, such as Coast Live Oak (*Quercus agrifolia*) and Valley Oak (*Quercus lobata*). For each indigenous tree removed, one replacement tree will be planted. This results in a total of 11 replacement trees to be installed on-site.

Exotic Trees

Tree #33, a Blue Oak (*Quercus douglasii*), will also be replaced at a 1:1 ratio, contributing one additional replacement tree to the total.

Installation and Maintenance

All replacement trees will be installed according to the following guidelines:

- **Size and Stock:** Replacement trees will be a minimum of five-gallon stock, sourced from a reputable nursery to ensure health and viability.

- Planting Location: Replacement trees will be planted in suitable locations approved by the Community Development Director to maximize long-term success and ecological benefits.
- Irrigation: Trees will be provided with adequate irrigation, either through an automatic system or alternative methods such as water delivery tanks, especially in areas without existing irrigation systems.
- Performance and Maintenance Surety: A surety deposit will be provided to guarantee proper installation and maintenance of replacement trees. Maintenance will include regular inspections, irrigation, and pruning over a period of two to five years, as required by the county.

Mitigation of Environmental Impact

The recommended 1:1 replacement ratio is intended to balance the need for tree preservation with the practicality of managing the site's existing tree density. Replacement species will be selected to provide comparable ecological and aesthetic benefits, such as shade, wildlife habitat, and erosion control.

Compliance and Documentation

The project arborist will submit a planting and maintenance plan to the county for approval prior to tree replacement. Post-planting, regular inspections will ensure the health and success of the replacement trees, and a final verification letter will be provided to confirm compliance with the tree protection and replacement plan.

This replacement plan ensures a sustainable and balanced approach to tree management, addressing the impact of removals while maintaining the natural integrity of the site.

PROJECT PLAN REVIEW

The following report's recommendations are contingent upon the contractor adhering to the stated responsibilities. It is the contractor's responsibility to contact the project arborist to schedule all required inspections promptly. Failure to schedule these inspections as needed may result in fines or stop work orders from the county.

Plan Review for Ernst Development

This plan review assesses the impacts of proposed demolition and construction activities on the significant trees identified on the site and provides specific mitigation measures to minimize tree damage and preserve the health and structural integrity of the trees. All recommendations align with San Mateo County Ordinance Code Section 12,020.5, which governs tree protection for significant trees.

Tree #15: Bay Laurel (*Umbellularia californica*)

This tree has a trunk diameter of 12.2 inches and a fair health rating with poor structural integrity. The trunk bends, and the tree is a potential vector for sudden oak death. The proposed foundation falls within the 10x diameter tree protection zone (10.2 feet). Excavation within this zone will be conducted by hand using tools such as an air knife, rotary hammer with a clay spade attachment, or shovels under the supervision of the Project Arborist. Roots 1.5 inches in diameter or larger will be retained for arborist inspection and cleanly cut as necessary. The cut root ends will be painted with pruning sealer, wrapped in three layers of wetted burlap, and watered daily while exposed. Impacts are classified as moderate due to the proximity to the foundation and the tree's structural vulnerabilities. Regular irrigation and monitoring during construction are recommended.

Tree #19: Coast Live Oak (*Quercus agrifolia*)

This tree, with a trunk diameter of 33.1 inches, is rated in poor condition due to a large trunk cavity, heavy lean, and deadwood. The tree is heavily impacted by the proposed foundation within its 10x diameter zone (27.6 feet). Excavation in this area will follow the same protocols outlined above, with strict arborist oversight to prevent unnecessary damage to

roots. The tree protection zone will be irrigated every two weeks during the dry season to mitigate construction stress. Due to the tree's poor health, the impact is moderate, and post-construction monitoring will be essential to assess recovery.

Tree #26: Blue Oak (*Quercus douglasii*)

This aesthetically pleasing tree, located 3 feet from the driveway, has a trunk diameter of 36 inches and a fair overall condition rating. Excavation for the driveway replacement will occur within the 10x diameter zone (30 feet). The existing driveway will remain in place until the landscaping phase to minimize disturbance. Demolition will be done by hand, and roots encountered will be treated and protected as previously described. The impacts are moderate, and the tree's codominant structure will require regular assessment to ensure stability.

Tree #29: Coast Live Oak (*Quercus agrifolia*)

With a trunk diameter of 15 inches, this tree is in good health and located 12.5 feet from the proposed foundation. Hand excavation within the tree protection zone will minimize root loss. Roots over 1.5 inches in diameter will be inspected and treated per arborist guidelines. The tree is codominant at 15 feet, which increases its vulnerability. Impacts are moderate, and ongoing monitoring during and after construction is recommended.

Tree #31: Coast Live Oak (*Quercus agrifolia*)

This tree has a trunk diameter of 13.6 inches and a fair overall condition rating. It is located against a retaining wall, which increases structural risk. The wall and driveway construction within the 10x diameter zone (11.3 feet) will require hand removal of materials and root protection. This tree is particularly sensitive due to its location, and impacts are classified as high. Regular irrigation, combined with arborist supervision during all construction activities, will mitigate stress.

Tree #62: Coast Live Oak (*Quercus agrifolia*)

This neighboring tree, with a trunk diameter of 28 inches, has a fair overall condition but shows evidence of past cabling, codominance, and loose bark. Construction near this tree involves its 10x diameter protection zone, necessitating hand excavation and careful root treatment. Impacts are moderate due to its pre-existing structural vulnerabilities, and continued monitoring will be required.

Special considerations must be taken into account for demolition, grading, excavation, and construction occurring within tree protection zones of all trees on site. Impacts to retained trees are expected to be minor to non-existent. To ensure the health and resilience of trees impacted by construction activities, a meticulously planned approach is essential. This comprehensive strategy is designed to mitigate stress, promote root and shoot growth, and ensure long-term tree vitality.

Concerns regarding soil grading near protected trees:

Grading often involves the use of heavy machinery and equipment, which can result in soil compaction. Compacted soil restricts the movement of air, water, and nutrients within the soil, making it difficult for tree roots to access essential resources. Compacted soil can also inhibit root growth and development, leading to poor tree health and vitality. For these reasons, it is recommended that grading take place outside the dripline of the retained trees.

Root damage: During grading activities, tree roots may be inadvertently severed, injured, or exposed. Tree roots are critical for anchoring the tree and absorbing water and nutrients from the soil. Damage to the root system can disrupt the tree's ability to take up essential resources, weakening its overall health and stability.

Soil Erosion: Grading can disrupt the natural drainage patterns of the land, leading to increased soil erosion. When soil erodes, it can expose tree roots, destabilize the tree's base, and affect the tree's ability to acquire nutrients. Excessive soil erosion can also result in the loss of topsoil, which is rich in organic matter and essential for healthy tree growth.

Changes in Water Availability: Altering the topography through grading can impact water availability and drainage around trees. If grading changes the natural flow of water, it can cause water logging or excessive water runoff, both of which can have detrimental effects on tree health. Insufficient water availability can lead to drought stress, while excessive water accumulation can lead to root suffocation and fungal diseases.

Structural damage: Grading activities near trees can cause physical damage to the tree's trunk, branches, or canopy. Machinery, equipment, or debris may inadvertently come into contact with the tree, leading to wounds or injuries. Structural damage weakens the tree's integrity and can create entry points for pests, diseases, or decay.

General Recommendations for All Trees

Tree Protection Fencing

Type 1 fencing (5-foot-tall orange plastic fencing supported by poles) will be installed at the dripline of all protected trees to clearly isolate and maintain the tree protection zones. These zones will remain free of equipment, materials, and other construction-related activities for the duration of the project.

Arborist Supervision

The Project Arborist will oversee all activities within the tree protection zones, including excavation, demolition, and root treatment, to ensure compliance with approved tree protection measures. Excavation within these zones will be conducted exclusively by hand or with hand tools such as air knives, rotary hammers equipped with clay spade attachments, and shovels. Roots larger than 1.5 inches in diameter will be retained for inspection by the Project Arborist before being cleanly cut with hand saws or loppers. Once cut, root ends will be treated with a tree pruning sealer or grafting compound and wrapped in three layers of wetted burlap to prevent desiccation. Contractors will wet the burlap daily while roots are exposed. The Project Arborist will conduct monthly monitoring inspections, providing recommendations and submitting reports to the City Arborist to document compliance.

Irrigation and Soil Management

The tree protection zones will be irrigated every two weeks during the dry season, ensuring that the top foot of soil remains adequately saturated to mitigate the impacts of construction. For retained trees affected by excavation, soil aeration techniques and additional mulching may be employed to improve root zone conditions.

Post-Construction Maintenance

After construction, all protected trees will be thoroughly inspected for structural integrity and health. Necessary maintenance, such as pruning, cabling, and soil conditioning, will be implemented to address any residual impacts from construction. Ongoing irrigation and mulching will be recommended as needed. The Project Arborist will prepare a follow-up verification letter to confirm that all post-construction mitigation measures have been completed in compliance with the tree protection plan.

These measures aim to protect and preserve the site's significant trees, ensuring their long-term health while accommodating the proposed development.

Pre And Post-Construction Care:

If the project is approved, a comprehensive soil test is recommended to assess and address any nutrient deficiencies for tree#1. Construction is taking place near this tree and thus requires oversight. The soil test shall take place before the start of construction.

Pre-Construction Care:

In the pre-construction phase, it is critical to prepare the trees for the upcoming stress and disturbances. Implementing a deep watering schedule is foundational, ensuring trees receive adequate moisture deep within their root zones. Depending on the recommended soil test analysis, fertilizing may be needed. Within the tree protection zones, it is recommended that an inline drip emitter system be installed in a grid-like manner to provide deep irrigation during the dry season. The irrigation system should be placed on top of the existing grade and require no excavation. The irrigation system shall be turned on by the project arborist as seen fit during the required monthly inspections. Regardless of the soil test results, the use of NutriRoot is still strongly advisable for trees that will be impacted by construction activities. The stresses caused by construction, such as root disturbance, soil compaction, and changes in water availability, can severely affect a tree's health. NutriRoot provides essential nutrients, promotes root growth, and enhances water management, helping trees withstand and recover from these stresses. Importantly, NutriRoot is low in macronutrients, which means it should not cause issues associated with over-fertilization, such as nutrient runoff or root burn. This makes it a safe and effective option for supporting the resilience and vitality of trees during and after construction, ensuring their long-term health and stability.

Post-Construction Care:

Following the completion of construction activities, it's vital to continue supporting the trees' recovery and growth. Annual inspections by a Certified Arborist are recommended to ensure the tree remains in good health. Maintaining the deep watering schedule will ensure that trees remain adequately hydrated. After the first year, the tree should be deep-watered during the months of May and September to combat drought stresses. A post-construction application of NutriRoot is advised to sustain soil moisture control and support ongoing root health. It is also pertinent to reintroduce microbial inoculants to restore beneficial microbial communities that may have been disrupted during construction. Additional applications of soil amendments like Biochar and HydraHume will continue to enhance soil structure, fertility, and water-holding capacity, supporting the trees' long-term health and resilience. Employing air spading techniques can also be advantageous to aerate the soil and gently introduce these amendments without causing root damage.

By adopting this dual-phase approach, (pre- and post-construction) leveraging a combination of deep watering, nutritional support, and soil health enhancement, the strategy aims to not only protect the trees during construction but also promote their recovery and thriving in the post-construction landscape. This holistic care plan underscores a commitment to sustainable tree management, ensuring that the trees remain a valuable and vibrant part of the ecosystem for years to come.

TREE PROTECTION PLAN**Detailed Tree Protection Plan**

For the aforementioned tree protection plan, this detailed guide has been designed by Kielty Arborists Services LLC. The following section offers an in-depth perspective on the recommended tree preservation guidelines. The aim is to ensure the conservation, vitality, and beauty of trees during construction and developmental endeavors, mitigating any potential detrimental effects. Adherence to these guidelines is essential to uphold both the ecological significance and visual allure of trees within the designated project vicinity. Effective tree protection during construction or development projects requires the use of fencing to demarcate and protect sensitive areas around trees. Should you have any questions or require further clarification, please contact Kielty Arborists Services directly.

Fencing Specifications:

The tree protection fencing should be established and maintained throughout the entire length of the project. It's essential that no equipment, materials, or debris are stored or cleaned inside these protection zones. The zones should remain free from human activity unless explicitly authorized. The choice of fencing type depends on the tree's location and the nature of the surrounding environment.

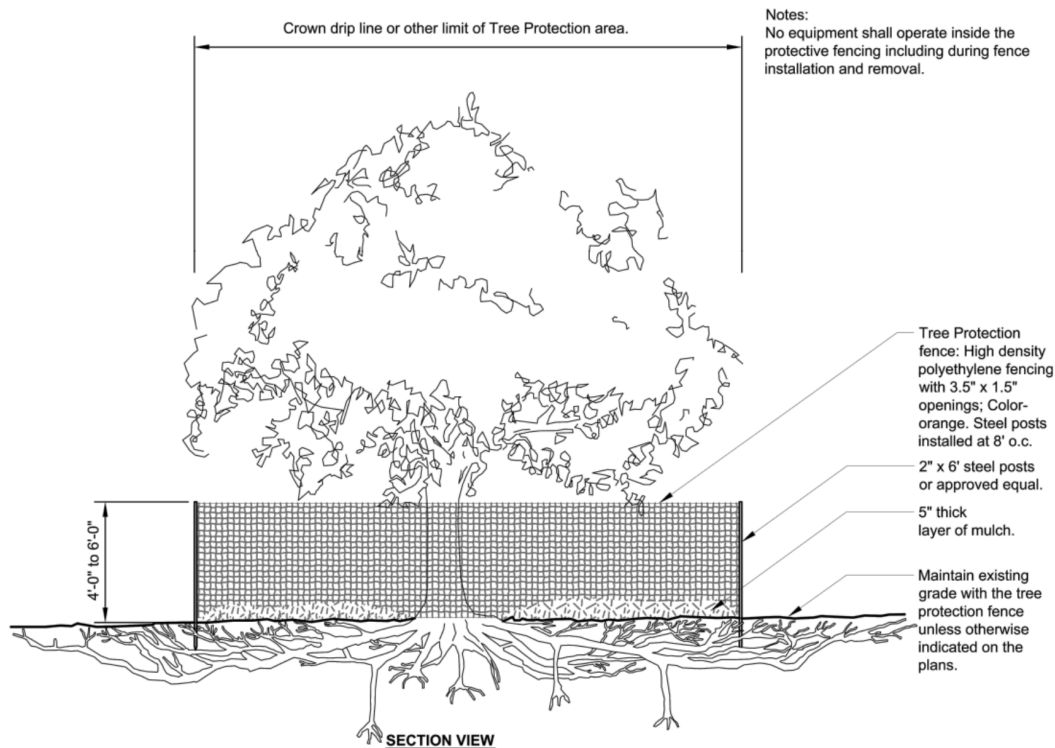
Type I Tree Protection:

Description: This is the most comprehensive form of tree protection fencing. It encompasses the full canopy dripline or Tree Protection Zone (TPZ) of trees designated for preservation.

Application: Typically used in areas where trees are a significant distance away from construction activity or when trees have a large canopy spread.

Specifications:

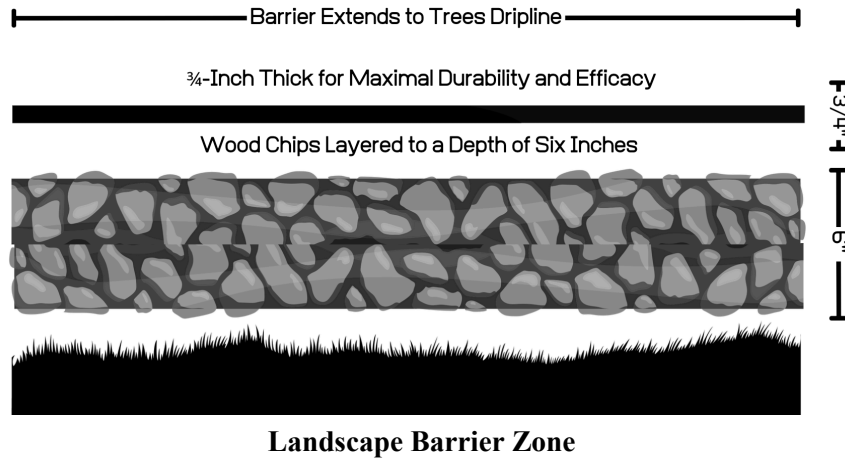
The fencing shall remain intact throughout the project or until activities within the TPZ are finalized. Tree protection fencing should be high-density polyethylene fencing with 3.5" x 1.5" openings. The color of the fencing shall be orange. Steel posts shall be used to support the fence. The steel post shall be installed 8' on center. 2"x6' steel post or approved equal shall be used. The placement for the tree protection fencing shall be placed at the dripline of the trees where possible. For trees near existing hardscapes or structures, or where approved work is located, tree protection fencing shall be placed as close as possible while still allowing access. Sensitive areas may require a landscape barrier if fencing needs to be reduced for access reasons. No equipment or materials should be stored or cleaned inside protection zones. Apply mulch to the tree protection zones at a depth of 5 inches. Spread the mulch evenly throughout the designated area, ensuring it extends to, but does not touch, the tree trunk. Keep the mulch at least 3 to 4 inches away from the base of the trunk to prevent moisture buildup and potential rot. This will provide the necessary benefits of mulching, such as moisture retention and temperature regulation, while helping to maintain tree health. Signs should be placed on fencing signifying "Tree Protection Zone - Keep Out". If fencing needs to be reduced for access or any other reasons, the non-protected areas must be protected by a landscape buffer. All tree protection and inspection schedule measures, design recommendations, watering, and construction schedules shall be implemented in full by the owner and contractor. All tree are required to be protected by Type I Tree Protection Fencing.

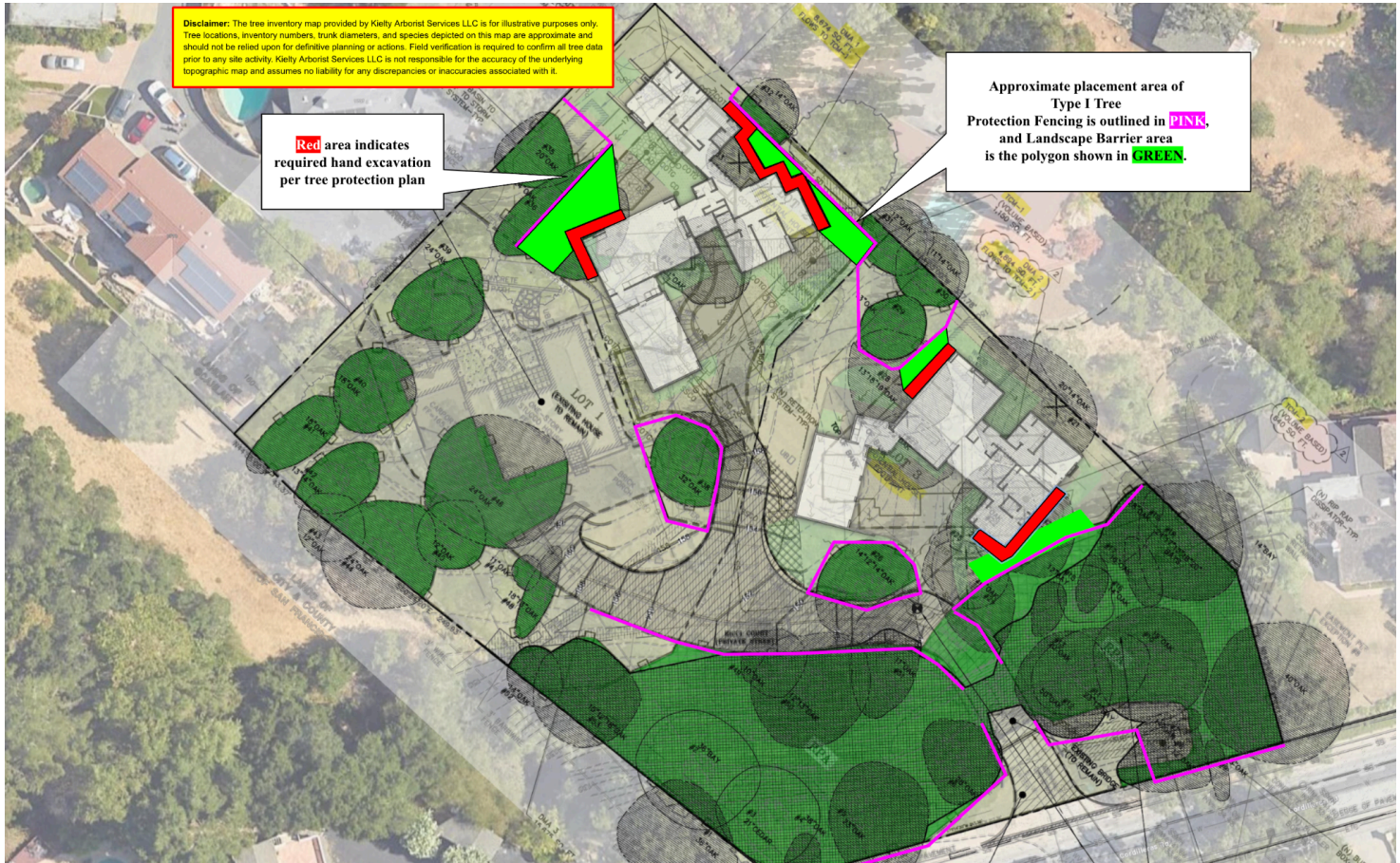


Showing Type I Fencing

Landscape Barrier Zone

If for any reason a smaller tree protection zone is needed for access, a landscape buffer should be used, composed of wood chips layered to a depth of six inches, complemented by plywood atop the wood chips where tree protection fencing would typically be situated. The plywood should be $\frac{3}{4}$ -inch thick for maximal durability and efficacy. This landscape buffer plays a crucial role in mitigating soil compaction within the tree's vulnerable root zone. For optimum stability, it is advisable to securely join the plywood boards, thus preventing any unwanted shifts in the plywood or underlying wood chips.





TREE PROTECTION MAP

Staging

All tree protection measures must be in place before the start of construction. An inspection prior to the start of construction is often required by the town. All vehicles must remain on paved surfaces if possible. Existing pavement should remain and should be used for staging. If vehicles are to stray from paved surfaces, 6 inches of chips shall be spread, and plywood laid over the mulch layer. This type of landscape buffer will help reduce the compaction of desired trees. Parking will not be allowed off the paved surfaces

Root Cutting

If for any reason roots are to be cut, the work shall be monitored and documented. Large roots (over 2 inches in diameter) or large masses of roots to be cut must be inspected by the site arborist. The site arborist, at this time, may recommend irrigation or fertilization of the root zone. All roots needing to be cut should be cut clean with a saw or lopper. Roots to be left exposed for a period of time should be covered with layers of burlap and kept moist.

Trenching/excavation

Trenching or excavation for irrigation, drainage, electrical, foundation, or any other reason shall be done by hand when inside the dripline of a protected tree. Hand digging and the careful placement of pipes below or besides protected roots will significantly reduce root loss, thus reducing trauma to the tree. All trenches shall be backfilled with native materials and compacted to near their original level, as soon as possible. Trenches to be left open for a period of time (24 hours), will require the covering of all exposed roots with burlap and be kept moist. The trenches will also need to be covered with plywood to help protect the exposed roots.

Grading

All existing grades underneath the dripline of a protected tree shall remain as is where possible. Grading within the dripline of a protected tree is required to be done under the supervision of the project arborist.

Irrigation

Non native trees- Irrigating the retained mature trees in the landscape is important to ensure their health and vitality. Proper watering can help the trees continue to thrive. Deep irrigation is recommended to take place every other week during the dry season. During the dry season, trees typically need deep, infrequent watering. Watering every 2 weeks is sufficient for the retained trees on this site. Applying water slowly and consistently until it penetrates at least 12-18 inches into the soil is recommended. Avoid spraying water directly on the trunks, as this can lead to disease and decay. Mulch is recommended to be maintained with mulch added overtime as needed. Mulch helps retain soil moisture, regulates temperature, and prevents weeds, which can compete with the tree for water. The use of soaker hoses or an inline drip emitter system set up in a grid like manner to provide deep irrigation during the dry season is recommended. The irrigation system should be placed on top of grade and require no excavation. This will help to keep the trees healthy.

Native oak trees- Native oak trees are recommended to only be irrigated during the months of May and September or if their root zones are traumatized. Frequent irrigation during dry summer months can significantly raise the risk of oak trees developing oak root fungus disease and is the leading cause of oak tree death and failure in the urban landscape.

Tree Pruning

Tree pruning during construction is not just about aesthetics and safety; it's also about adhering to best practices and standards set by professional bodies like the International Society of Arboriculture (ISA) and the American National Standards Institute (ANSI A300 Pruning Standards). The ISA sets rigorous standards to ensure trees are cared for sustainably and scientifically. Under these guidelines, and for the well-being of trees during construction, it's imperative to have an expert arborist oversee any pruning. Their knowledge guarantees that only the necessary branches are removed, ensuring both safety and tree health. The guideline to prune no more than 25% of the tree's total foliage is grounded in sound arboricultural practices. This safeguards the tree's photosynthetic capability, reduces undue stress, and preserves the balance between its roots and canopy. Homeowners should be aware of these standards and ensure they are being met, trusting in the expertise of their arborist and keeping open communication about their tree care decisions. This approach not only ensures the tree's compatibility with new construction aesthetics but also its long-term health and vitality.

Roots and Foundations

Recognize that tree roots typically do not grow under existing houses or buildings due to compacted soil and limited moisture availability during foundation installation. Ensure that foundations are correctly installed to minimize the risk of tree root intrusion. Avoid situations where trees are planted too close to existing or planned structures, as this can result in potential conflicts between roots and foundations. If tree roots are in direct contact with a foundation, consult with a certified arborist to assess the situation and recommend appropriate measures to protect both the tree and the structure.

Traffic Within TPZs

Strictly prohibit driving vehicles or heavy foot traffic on bare soil within the TPZs of protected trees. Such activities can crush roots directly and compact the soil, impeding oxygen and water infiltration. In areas without existing pavement, use temporary anti-compaction materials, such as wood chips covered with plywood, to prevent damage to tree roots (landscape barrier). Temporary pathways or boardwalks can be constructed to facilitate access while minimizing soil compaction within the TPZ.

Chemical and Material Handling

Store chemicals and construction materials away from TPZs to prevent accidental spills or exposure that may harm tree health. Follow proper handling and disposal procedures for chemicals to ensure compliance with environmental regulations. Minimize the use of toxic materials near trees and opt for environmentally friendly alternatives whenever possible.

Monitoring and Inspection

Regularly monitor and inspect the tree protection measures throughout the construction process to ensure their effectiveness and compliance with the Tree Preservation Plan. Assign a qualified individual, such as a project arborist or certified arborist, to conduct periodic inspections and provide recommendations for any necessary adjustments or improvements. Maintain detailed records of inspections, including dates, findings, and any actions taken.

Post-Construction Maintenance

After construction is completed, continue monitoring the health and condition of preserved trees to address any potential issues promptly. Implement post-construction maintenance practices such as watering, mulching, pruning, and fertilization as needed to support the recovery and long-term health of the trees. Regularly assess the trees for signs of stress, disease, or structural instability and take appropriate measures, including consulting with a certified arborist if necessary.

Compliance with Environmental Laws

Ensure full compliance with all applicable local, state, and federal environmental laws, regulations, and permit requirements pertaining to tree protection during construction. Familiarize yourself with specific regulations regarding tree preservation in your jurisdiction and consult with local authorities or arborists for guidance if needed.

Responsibility

Designate a responsible person or team within the project organization to oversee the implementation and enforcement of the Tree Preservation Plan. Clearly communicate the roles and responsibilities of all parties involved in the construction project regarding tree protection.

Emergency Procedures

Develop clear procedures to follow in the event of emergencies that may impact tree preservation, such as severe storms, accidents, or unexpected tree health issues. Ensure that emergency response plans address prompt actions to mitigate potential risks to trees and contact qualified professionals, such as arborists or tree care companies when needed.

Communication and Training

Facilitate effective communication among all project stakeholders, including contractors, subcontractors, architects, engineers, and landscape professionals, regarding the importance of tree preservation and the specific guidelines to follow. Conduct training sessions or workshops to educate personnel.

PURPOSE & USE OF THE REPORT

This report informs tree management decisions for the construction project and provides recommendations to maximize tree survival. It serves as a valuable resource for stakeholders, facilitating informed discussions and sustainable tree management practices.

TESTING & ANALYSIS

In order to assess the trees, a thorough examination was conducted using a variety of methods. For trees with accessible trunks, precise measurements of the Diameter at Breast Height (DBH) were taken using a specialized diameter tape

measure. In cases where the trunks were not readily accessible, visual estimations were employed to determine the DBH. As part of the inventory process, all trees exceeding a specific DBH threshold stated in County code were included.

To evaluate the health of the trees, multiple factors were considered, including their overall appearance and our team's extensive experiential knowledge of each species. This holistic approach ensured a comprehensive understanding of the tree's well-being.

To accurately document the location of each tree, a GPS smartphone application was utilized during the data collection process. This enabled us to create detailed maps that are included in this report. However, it is important to note that despite our efforts to minimize errors, inherent limitations of GPS data collection, coupled with slight discrepancies between GPS data and CAD drawings, may result in approximate tree locations depicted on the map.

TREE WORK STANDARDS AND QUALIFICATIONS

To ensure high-quality tree work, including removal, pruning, and planting, the following standards and qualifications will be adhered to:

- **Industry Standards:** All tree work will be performed in accordance with industry standards established by the International Society of Arboriculture (ISA). These standards encompass best practices and guidelines for tree care and maintenance.
- **Contractor Licensing and Insurance:** The contractor undertaking the tree work must possess a valid State of California Contractors License for Tree Service (C61-D49) or Landscaping (C-27). Additionally, they must have comprehensive general liability, worker's compensation, and commercial auto/equipment insurance coverage.
- **Workmanship Standards:** Contractors must adhere to the current Best Management Practices of the International Society of Arboriculture (ISA) and the American National Standards Institute (ANSI). These standards, including ANSI A300 and Z133.1, outline guidelines for tree pruning, fertilization, and safety. Compliance with these standards ensures the use of proper techniques and practices throughout the tree work process.

By adhering to these established standards and qualifications, we can ensure the provision of professional and safe tree services that meet the industry's best practices and promote the health and longevity of the trees.

SCHEDULE OF INSPECTIONS

Kielty Arborists Services LLC:

We will conduct the following inspections as needed for the project:

- **Pre-Equipment Mobilization, Delivery of Materials, Tree Removal, and Site Work:** Our project arborist will meet with the general contractor and owners to review tree protection measures. We will identify and mark tree-protection zone fencing, specify equipment access routes and storage areas, and assess the existing conditions of trees to determine any additional necessary protection measures.
- **Inspection after Installation of Tree-Protection Fencing:** Upon completion of tree-protection fencing installation, our project arborist will inspect the site to ensure that all protection measures are correctly implemented. We will also review any contractor requests for access within the tree protection zones and assess any changes in tree health since the previous inspection.
- **Inspection during Soil Excavation or Work Potentially Affecting Protected Trees:** During any work within non-intrusion zones of protected trees, our project arborist will inspect the site and document the implemented recommendations. We will assess any changes in tree health since the previous inspection to monitor the well-being of the trees.

- **Final Site Inspection:** Prior to project completion, our project arborist will conduct a final site inspection to evaluate tree health and provide necessary recommendations to promote their longevity. A comprehensive letter report summarizing our findings and conclusions will be provided to the County of San Mateo.

Our inspections aim to ensure proper tree protection, health, and adherence to project requirements.

ASSUMPTIONS AND LIMITING CONDITIONS

- **Legal Descriptions and Titles:** The consultant/arborist assumes the accuracy of any legal description and titles provided. No responsibility is assumed for any legal due diligence. The consultant/arborist shall not be held liable for any discrepancies or issues arising from incorrect legal descriptions or faulty titles.
- **Compliance with Laws and Regulations:** The property is assumed to be in compliance with all applicable codes, ordinances, statutes, or other government regulations. The consultant/arborist is not responsible for identifying or rectifying any non-compliance.
- **Reliability of Information:** Though diligent efforts have been made to obtain and verify information, the consultant/arborist is not responsible for inaccuracies or incomplete data provided by external sources. The client accepts full responsibility for any decisions or actions taken based on this data.
- **Testimony or Court Attendance:** The consultant/arborist has no obligation to provide testimony or attend court regarding this report unless mutually agreed upon through separate written agreements, which may incur additional fees.
- **Report Integrity:** Unauthorized alteration, loss, or reproduction of this report renders it invalid. The consultant/arborist shall not be liable for any interpretations or conclusions made from altered reports.
- **Restricted Publication and Use:** This report is exclusively for the use of the original client. Any other use or dissemination, without prior written consent from the consultant/arborist, is strictly prohibited.
- **Non-disclosure to Public Media:** The client is prohibited from using any content of this report, including the consultant/arborist's identity, in any public communication without prior written consent.
- **Opinion-based Report:** The report represents the independent, professional judgment of the consultant/arborist. The fee is not contingent upon any predetermined outcomes, values, or events.
- **Visual Aids Limitation:** Visual aids are for illustrative purposes and should not be considered precise representations. They are not substitutes for formal engineering, architectural, or survey reports.
- **Inspection Limitations:** The consultant/arborist's inspection is limited to visible and accessible components. Non-invasive methods are used. There is no warranty or guarantee that problems will not develop in the future.

ARBORIST DISCLOSURE STATEMENT

Arborists specialize in the assessment and care of trees using their education, knowledge, training, and experience.

- **Limitations of Tree Assessment:** Arborists cannot guarantee the detection of all conditions that could compromise a tree's structure or health. The consultant/arborist makes no warranties regarding the future condition of trees and shall not be liable for any incidents or damages resulting from tree failures.
- **Remedial Treatments Uncertainty:** Remedial treatments for trees have variable outcomes and cannot be guaranteed.
- **Considerations Beyond Scope:** The consultant/arborist's services are confined to tree assessment and care. The client assumes responsibility for matters involving property boundaries, ownership, disputes, and other non-arboricultural considerations.

- **Inherent Risks:** Living near trees inherently involves risks. The consultant/arborist is not responsible for any incidents or damages arising from such risks.
- **Client's Responsibility:** The client is responsible for considering the information and recommendations provided by the consultant/arborist and for any decisions made or actions taken.

The client acknowledges and accepts these Assumptions and Limiting Conditions and Arborist Disclosure Statement, recognizing that reliance upon this report is at their own risk. The consultant/arborist disclaims all warranties, express or implied.

CERTIFICATION

I hereby certify that all the statements of fact in this report are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

David Beckham

Signature of Consultant

David Beckham

Certified Arborist

WE#10724A TRAQ Qualified

Jan 16, 2025

