Tree Inventory, Assessment, and Protection Report

400 Surmont Drive
Los Gatos, CA 95032

Prepared for:

Town of Los Gatos

September 27, 2019
Revised February 11, 2022

Prepared By:

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Summary

The inventory contains 39 trees comprised of 6 different species. Two coast live oaks (*Quercus agrifolia*) are considered Large Protected, and sixteen fruit trees are Exempt. Eighteen trees are in good condition, eleven fair, nine in poor shape and one is dead. Eighteen trees are poorly suited for retention which are primarily fruit trees. Ten trees have fair suitability for preservation and the remaining eleven have good suitability. Sixteen trees will be highly impacted and are expected to be removed, four moderately affected and nineteen are not near the improvements. Seven of the sixteen trees expected to be highly impacted are Protected (#111, #127, #128, #129, #130, #700, and #896) while the remaining are Exempt fruit trees. Trees #131, #332, #133 and #894 are all located close to proposed construction and will require tree protection fence around them to help prevent damage. A total of 39 trees were appraised for a rounded depreciated value of $64,260.00 using the Trunk Formula Method.

Introduction

Background

The Town of Los Gatos asked me to assess the site, trees, and proposed footprint plan, and to provide a report with my findings and recommendations to help satisfy planning requirements.

Assignment

- Provide an arborist's report including an assessment of the trees within the project area and on the adjacent sites. The assessment is to include the species, size (trunk diameter), condition (health and structure), and suitability for preservation ratings. Affix aluminum number tags on the trees for reference on site and on plans.
- Provide tree protection specifications, guidelines, and impact ratings for trees that may be affected by the project.
- Provide appraised values.

Limits of the assignment

- The information in this report is limited to the condition of the trees during my inspection on May 20, 2019 and February 8, 2022. No tree risk assessments were performed.
- Tree heights and canopy diameters are estimates.
- The most recent *Guide to Plant Appraisal, Tenth Edition* was published in late 2018 by the ISA. The Guide is not functional at this time due to significant errors in the original printed version and gaps in information regarding regional species characteristics and nursery stock wholesale costs. Therefore the ninth edition and its supplemental publications was used for this assignment with the exception of the "condition ratings" assessment.

- The plans reviewed for this assignment were as follows (Table 1).

Table 1: Plans Reviewed Checklist

Plan	Date	Sheet	Reviewed	Source
Existing Site Topographic Map or A.L.T.A with tree locations				
Proposed Site Plan	Nov. 2021	A1.3 Parcel 1 and 2 and C2 Layout	Yes	Studio 3 Design TS Engineering
Demolition Plan				
Construction Staging				
Grading and Drainage		C3	Yes	TS Engineering
Utility Plan and Hook-up locations				
Exterior Elevations				
Landscape Plan				
Irrigation Plan				
T-1 Tree Protection Plan				

Purpose and use of the report

The report is intended to identify all the trees within the plan area that could be affected by a project. The report is to be used by the Town of Los Gatos and the property owners as a reference for existing tree conditions to help satisfy planning requirements.

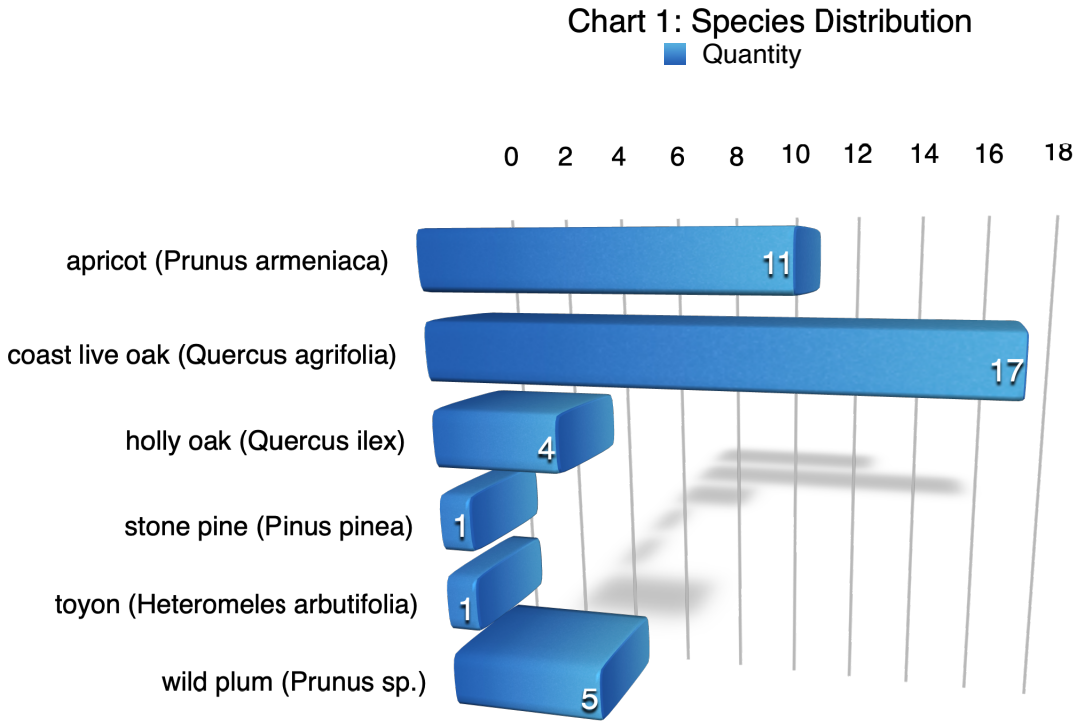
Observations

The plans provided indicated the proposed location of the driveway to the two lots and the house footprints. The topographic survey provided is not completely accurate and some features are gone and others exist on site not on the survey.

Tree Inventory

The inventory consists of trees protected by the Town of Los Gatos located on site and those in close proximity on neighboring properties. Sec. 29.10.0960. - Scope of protected trees. All trees which have a four-inch or greater diameter (twelve and one half-inch circumference) of any trunk, when removal relates to any review for which zoning approval or subdivision approval is required. (Appendix A and B). Los Gatos Town Ordinance 29.10.0970 Exceptions (1) states the following: “A fruit or nut tree that is less than eighteen (18) inches in diameter (fifty-seven-inch circumference).

The inventory contains 39 trees comprised of 6 different species. Two coast live oaks are considered Large Protected[1], and sixteen fruit trees are Exempt[2]. The chart below list the species and their relative quantities (Chart 1).



[1] Large protected tree means any oak (*Quercus spp.*), California buckeye (*Aesculus californica*), or Pacific madrone (*Arbutus menziesii*) which has a 24-inch or greater diameter (75-inch circumference); or any other species of tree with a 48-inch or greater diameter (150-inch circumference).

[2] A fruit or nut tree that is less than eighteen (18) inches in diameter (fifty-seven-inch circumference).

Analysis

Tree appraisal was performed according to the Council of Tree & Landscape Appraisers *Guide for Plant Appraisal 9th Edition, 2000* (CLTA) along with Western Chapter International Society of Arboriculture *Species Classification and Group Assignment, 2004*. The trees were appraised using the "Cost Approach" and more specifically the "Trunk Formula Method" (Appendix B).

"Trunk Formula Method" is calculated as follows: Basic Tree Cost = (Appraised tree trunk increase X Unit tree cost + Installed tree cost) Appraised Value = (Basic tree cost X Species % X Condition % X Location %).

The trunk formula valuations are based on four tree factors; species, size (trunk cross sectional area), condition, and location. There are two steps to determine the overall value. The first step is to determine the "Basic Tree Cost" based on size and species rating which is determined by the *Species Classification and Group Assignment, 2004 Western Chapter Regional Supplement*.

The second part is to depreciate the value according to the location and condition of the trees.

The condition assessment and percentages are defined in the "Condition Rating" section of this report. The condition ratings deviate from the Guide's condition assessment numerical rating system. The reason for this deviation is the Guide's assessment criteria fails to account for significant health or structural issues creating high percentages for tree with either significant structural defects or health problems that could ultimately lead to failure or irreversible decline.

Location rating is an average of three factors; site, contribution, and placement. Site is determined by the relative property value where the trees are planted. The residential site would be classified as "very high" value with a 90 percent rating compared to similar sites in the area (ISA, 2000).

Contribution and placement is determined by the function and aesthetics the trees provide for the site and their location on the property. The percent of contribution and placement can range from 10 to 100 percent depending on the trees influence to the value of the property. These percentages ranged from 0 to 90 percent in my assessment.

A total of 39 trees were appraised for a rounded depreciated value of $64,260.00 using the Trunk Formula Method (Appendix B).

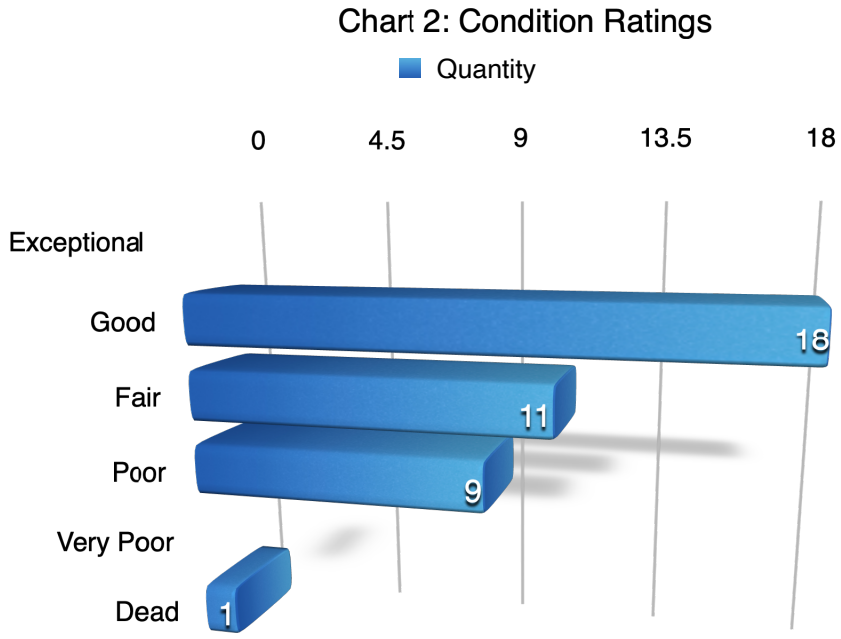
Discussion

Condition Rating

A tree's condition is a determination of its overall health, structure, and form. The assessment considered both the health and structure for a combined condition rating.

- 100% - Exceptional = Good health and structure with significant size, location or quality.
- 61-80% - Good = Normal vigor, well-developed structure, function and aesthetics not compromised with good longevity for the site.
- 41-60 % - Fair = Reduced vigor, damage, dieback, or pest problems, at least one significant structural problem or multiple moderate defects requiring treatment. Major asymmetry or deviation from the species normal habit, function and aesthetics compromised.
- 21-40% - Poor = Unhealthy and declining appearance with poor vigor, abnormal foliar color, size or density with potential irreversible decline. One serious structural defect or multiple significant defects that cannot be corrected and failure may occur at any time. Significant asymmetry and compromised aesthetics and intended use.
- 6-20% - Very Poor = Poor vigor and dying with little foliage in irreversible decline. Severe defects with the likelihood of failure being probable or imminent. Aesthetically poor with little or no function in the landscape.
- 0-5% - Dead/Unstable = Dead or imminently ready to fail.

Eighteen trees are in good condition, eleven fair, nine in poor shape and one is dead (Chart 2). Most of the trees in poor condition are remnant orchard trees. The best specimen in the building area is coast live oak #133.

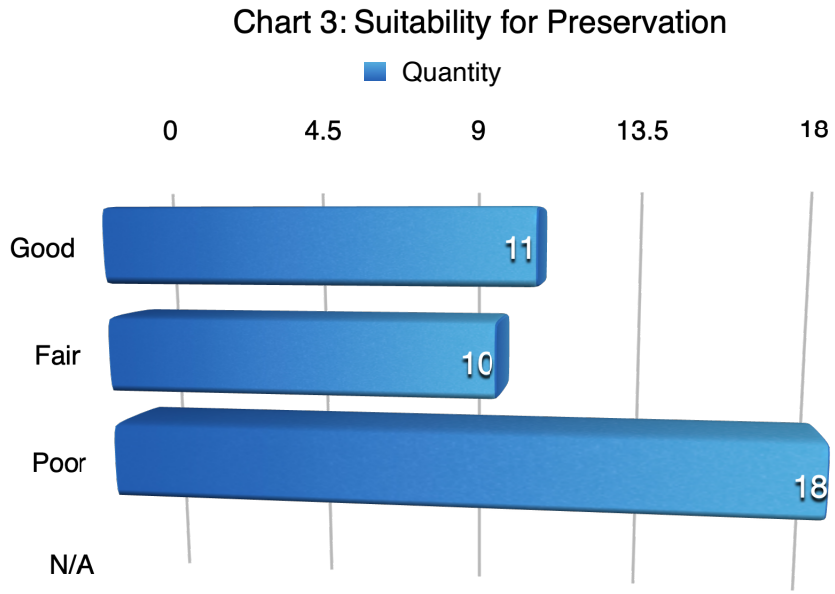


Suitability for Preservation

A tree's suitability for conservation is determined based on its health, structure, age, species and disturbance tolerances, proximity to cutting and filling, proximity to construction or demolition, and potential longevity using a scale of good, fair, or poor (Fite, K, and Smiley, E. T., 2016). Trees with good suitability have good vigor, structural stability, and potential longevity after construction.

- Good = Trees with good health, structural stability and longevity.
- Fair = Trees with fair health and/or structural defects that may be mitigated through treatment. These trees require more intense management and monitoring, and may have shorter life spans than those in the good category.
- Poor = Trees in poor health with significant structural defects that cannot be mitigated and will continue to decline regardless of treatment. The species or individual may possess characteristics that are incompatible or undesirable in landscape settings or unsuited for the intended use of the site.

Eighteen trees are poorly suited for retention which are primarily fruit trees (Chart 3). Ten trees have fair suitability for preservation. The remaining eleven have good suitability and primarily consist of naturally occurring coast live oaks or holly oaks.

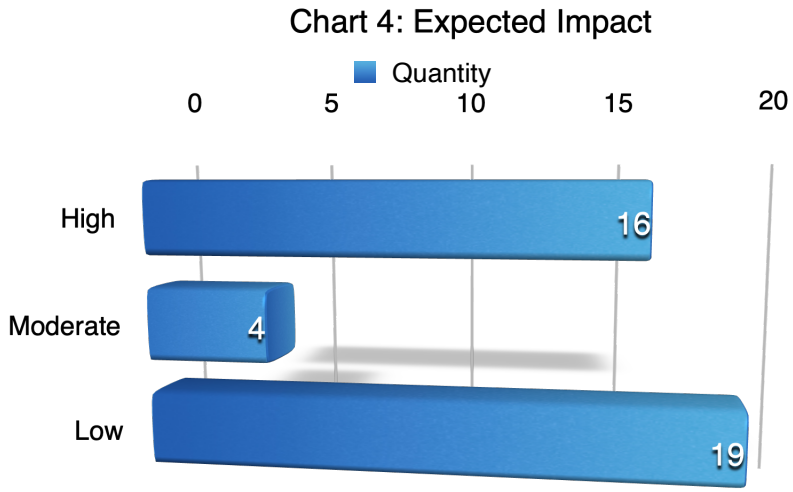


Expected Impact Level

Impact level defines how a tree may be affected by construction activity and proximity to the tree, and is described as low, moderate, or high. The following scale defines the impact rating:

- Low = The construction activity will have little influence on the tree.
- Moderate = The construction may cause future health or structural problems, and steps must be taken to protect the tree to reduce future problems.
- High = Tree structure and health will be compromised and removal is recommended, or other actions must be taken for the tree to remain. The tree is located in the building envelope.

Sixteen trees will be highly impacted and are expected to be removed, four moderately affected, and nineteen are not near the improvements (Appendix A and B). Seven of the sixteen trees expected to be highly impacted are Protected (#111, #127, #128, #129, #130, #700, and #896) while the remaining are Exempt fruit trees.



Mitigation for Removals

The table below indicates the recommended replacement values (Table 3). Seven trees will require replacements (#111, #127, #128, #129, #130, #700, and #896) resulting is twenty-one (21) 24 inch box specimens. Alternatively it may be possible to create an approved landscape plan or provide an in-lieu payment.

Table 3: Town of Los Gatos Tree Canopy - Replacement Standard

Canopy Size of Removed Tree (1)	Replacement Requirement (2)(4)	Single Family Residential Replacement
10 feet or less	Two 24 inch box	Two 15 gallon
More than 10 feet to 25	Three 24 inch box	Three 15 gallon
More than 25 feet to 40 feet	Four 24 inch box trees or two 36 inch	Four 15 gallon trees
More than 40 feet to 55 feet	Six 24 inch box trees; or three 36	Not available
Greater than 55 feet	Ten 24 inch box trees; or five 36 inch	Not available

[1]To measure an asymmetrical canopy of a tree, the widest measurement shall be used to determine canopy size.

[2]Often, it is not possible to replace a single large, older tree with an equivalent tree(s). In this case, the tree may be replaced with a combination of both the Tree Canopy Replacement Standard and in-lieu payment in an amount set forth by Town Council resolution paid to the Town Tree Replacement Fund.

[3]Single Family Residential Replacement Option is available for developed single family residential lots under 10,000 square feet that are not subject to the Town's Hillside Development Standards and Guidelines. All 15-gallon trees must be planted on-site. Any in-lieu fees for single family residential shall be based on 24" box tree rates as adopted by Town Council.

[4]Replacement Trees shall be approved by the Town Arborist and shall be of a species suited to the available planting location, proximity to structures, overhead clearances, soil type, compatibility with surrounding canopy and other relevant factors. Replacement with native species shall be strongly encouraged. Replacement requirements in the Hillsides shall comply with the Hillside Development Standards and Guidelines Appendix A and Section 29.10.0987 Special Provisions—Hillsides.

Tree Protection

Tree protection focuses on avoiding damage to the roots, trunk, or scaffold branches (Appendix D). The most current accepted method for determining the TPZ is to use a formula based on species tolerance, tree age/vigor, and trunk diameter (Matheny, N. and Clark, J. 1998) (Fite, K, and Smiley, E. T., 2016). Preventing mechanical damage to the trunk from equipment or hand tools can be accomplished by wrapping the main stem with straw wattle or using vertical timbers.

Trees #131, #332, #133 and #894 are all located close to proposed construction and will require tree protection fence around them to help prevent damage. There are four trees in close proximity to these including #134, #135, #892 and #893 which will be enclosed as a group with #131 and #132. Tree #133 will need a minimum of eighteen feet of protection radii to help ensure its survival. The remaining three trees are small and ten feet of protection radii would be ideal.

Conclusion

The inventory contains 39 trees comprised of 6 different species. Two coast live oaks are considered Large Protected, and sixteen fruit trees are Exempt. Eighteen trees are in good condition, eleven fair, nine in poor shape and one is dead. Most of the trees in poor condition are remnant orchard trees. The best specimen in the building area is coast live oak #133. Eighteen trees are poorly suited for retention which are primarily fruit trees. Ten trees have fair suitability for preservation and the remaining eleven have good suitability. Sixteen trees will be highly impacted and are expected to be removed, four moderately affected and nineteen are not near the improvements. Seven trees will require replacements (#111, #127, #128, #129, #130, #700, and #896) resulting is twenty-one (21) 24 inch box specimens.. Seven of the sixteen trees expected to be highly impacted are Protected (#111, #127, #128, #129, #130, #700, and #896) while the remaining are Exempt fruit trees. Trees #131, #332, #133 and #894 are all located close to proposed construction and will require tree protection fence around them to help prevent damage. There are four trees in close proximity to #131 and #132 including #134, #135, #892 and #893 which will be enclosed as a group. Tree #133 will need a minimum of eighteen feet of protection radii to help ensure its survival. The remaining three trees are small and ten feet of protection radii would be ideal. A total of 39 trees were appraised for a rounded depreciated value of $64,260.00 using the Trunk Formula Method.

Recommendations

1. Update the site plans and survey to show the current existing conditions and corrected locations (Appendix A) of the trees and their trunks, including those along the drainage and their associated numbers.

2. Place tree numbers and tree protection fence locations and guidelines on the plans including the grading, drainage, and utility plans. Create a separate plan sheet that includes all protection measures labeled “T-1 Tree Protection Plan.”

3. Place tree protection fence along the service road near the drainage outside the tree dip lines (#113, #114, #115, and #116), around #133 at eighteen feet (18’), and around #332, #133 (#134 and #135) and #894 (#892 and #893) at a radius of ten feet (10’).

4. Provide a landscape plan that accounts for the loss in tree canopy to include in tabular form the required replacements in accordance with the Town’s Tree Canopy Replacement Standard. Seven trees will require replacements (#111, #127, #128, #129, #130, #700, and #896) resulting is twenty-one (21) 24 inch box specimens..

5. All tree maintenance and care shall be performed by a qualified arborist with a C-61/D-49 California Contractors License. Tree maintenance and care shall be specified in writing according to American National Standard for Tree Care Operations: *Tree, Shrub and Other Woody Plant Management: Standard Practices* parts 1 through 10 and adhere to ANSI Z133.1 safety standards and local regulations. All maintenance is to be performed according to ISA Best Management Practices.

6. Refer to Appendix D for general tree protection guidelines including recommendations for arborist assistance while working under trees, trenching, or excavation within a trees drip line or designated TPZ/CRZ.

7. Provide a copy of this report to all contractors and project managers, including the architect, civil engineer, and landscape designer or architect. It is the responsibility of the owner to ensure all parties are familiar with this document.

8. Arrange a pre-construction meeting with the project arborist or landscape architect to verify tree protection is in place, with the correct materials, and at the proper distances.

Bibliography

American National Standard for Tree Care Operations: Tree, Shrub and Other Woody Plant Management : Standard Practices (Management of Trees and Shrubs During Site Planning, Site Development, and Construction)(Part 5). Londonderry, NH: Secretariat, Tree Care Industry Association, 2012. Print.

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Matheny, Nelda P., Clark, James R. Trees and development: A technical guide to preservation of trees during land development. Bedminster, PA: International Society of Arboriculture1998.

Smiley, E, Matheny, N, Lilly, S, ISA. *Best Management Practices: Tree Risk Assessment:* International Society of Arboriculture, 2017. Print

Glossary of Terms

Basic Tree Cost: The cost of replacement for a perfect specimen of a particular species and cross sectional area prior to location and condition depreciation.

Cost Approach: An indication of value by adding the land value to the depreciated value of improvements.

Defect: An imperfection, weakness, or lack of something necessary. In trees defects are injuries, growth patterns, decay, or other conditions that reduce the tree's structural strength.

Diameter at breast height (DBH): Measures at 1.4 meters (4.5 feet) above ground in the United States, Australia (arboriculture), New Zealand, and when using the Guide for Plant Appraisal, 9th edition; at 1.3 meters (4.3 feet) above ground in Australia (forestry), Canada, the European Union, and in UK forestry; and at 1.5 meters (5 feet) above ground in UK arboriculture.

Drip Line: Imaginary line defined by the branch spread or a single plant or group of plants. The outer extent of the tree crown.

Form: describes a plant's habit, shape or silhouette defined by its genetics, environment, or management.

Health: Assessment is based on the overall appearance of the tree, its leaf and twig growth, and the presence and severity of insects or disease.

Mechanical damage: Physical damage caused by outside forces such as cutting, chopping or any mechanized device that may strike the tree trunk, roots or branches.

Scaffold branches: Permanent or structural branches that for the scaffold architecture or structure of a tree.

Straw wattle: also known as straw worms, bio-logs, straw noodles, or straw tubes are man made cylinders of compressed, weed free straw (wheat or rice), 8 to 12 inches in diameter and 20 to 25 feet long. They are encased in jute, nylon, or other photo degradable materials,
and have an average weight of 35 pounds.

Structural evaluation: focused on the crown, trunk, trunk flare, above ground roots and the site conditions contributing to conditions and/or defects that may contribute to failure.

Tree Protection Zone (TPZ): Defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to designated trees, especially during construction or development.

Tree Risk Assessment: Process of evaluating what unexpected things could happen, how likely it is, and what the likely outcomes are. In tree management, the systematic process to determine the level of risk posed by a tree, tree part, or group of trees.

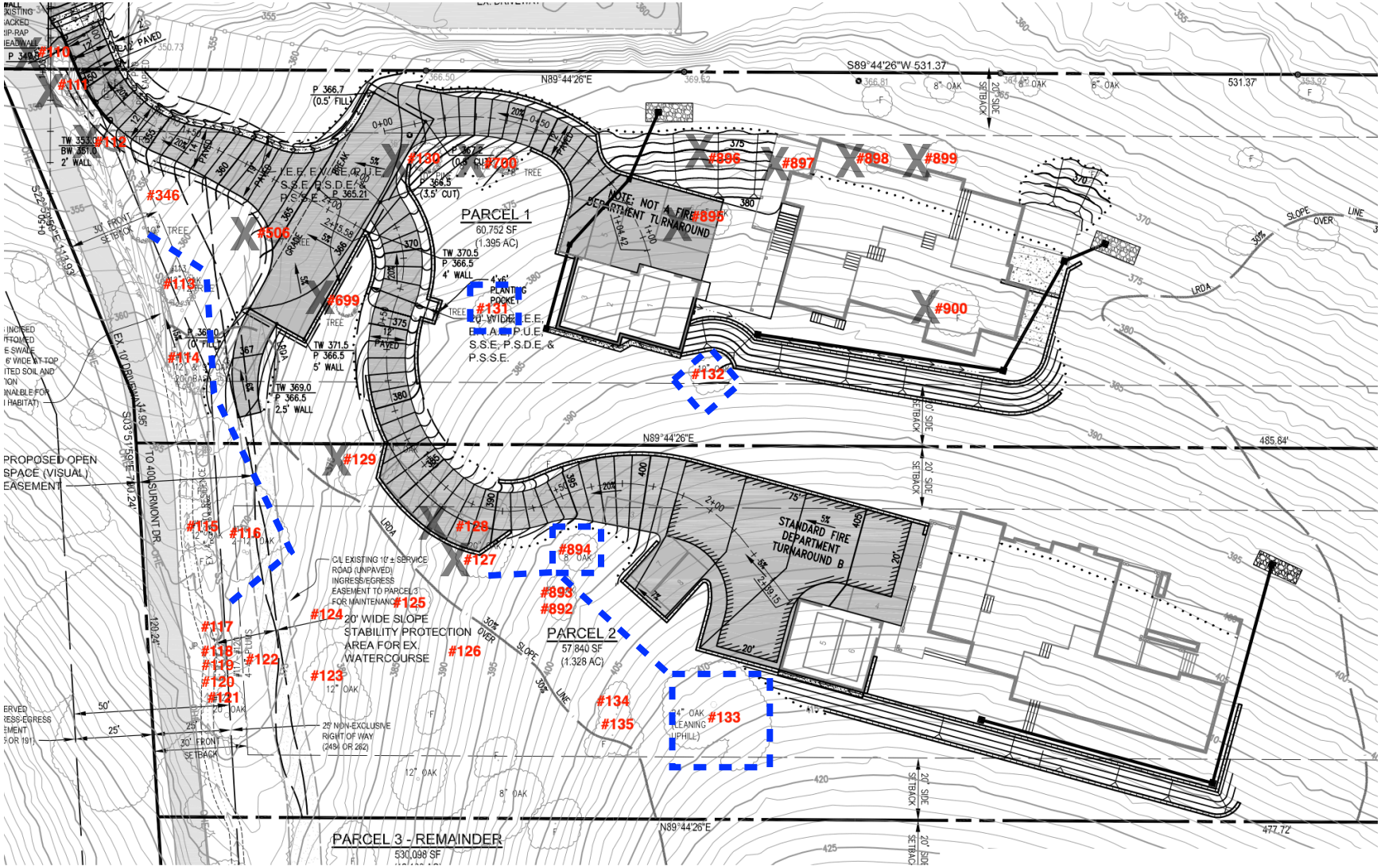
Trunk: Stem of a tree.

Trunk Formula Method: Method to appraise the monetary value of trees considered too large to be replaced with nursery or field grown stock. Based on developing a representative unit cost for replacement with the same or comparable species of the same size and in the same place, subject to depreciation for various factors. Contrast with replacement cost method.

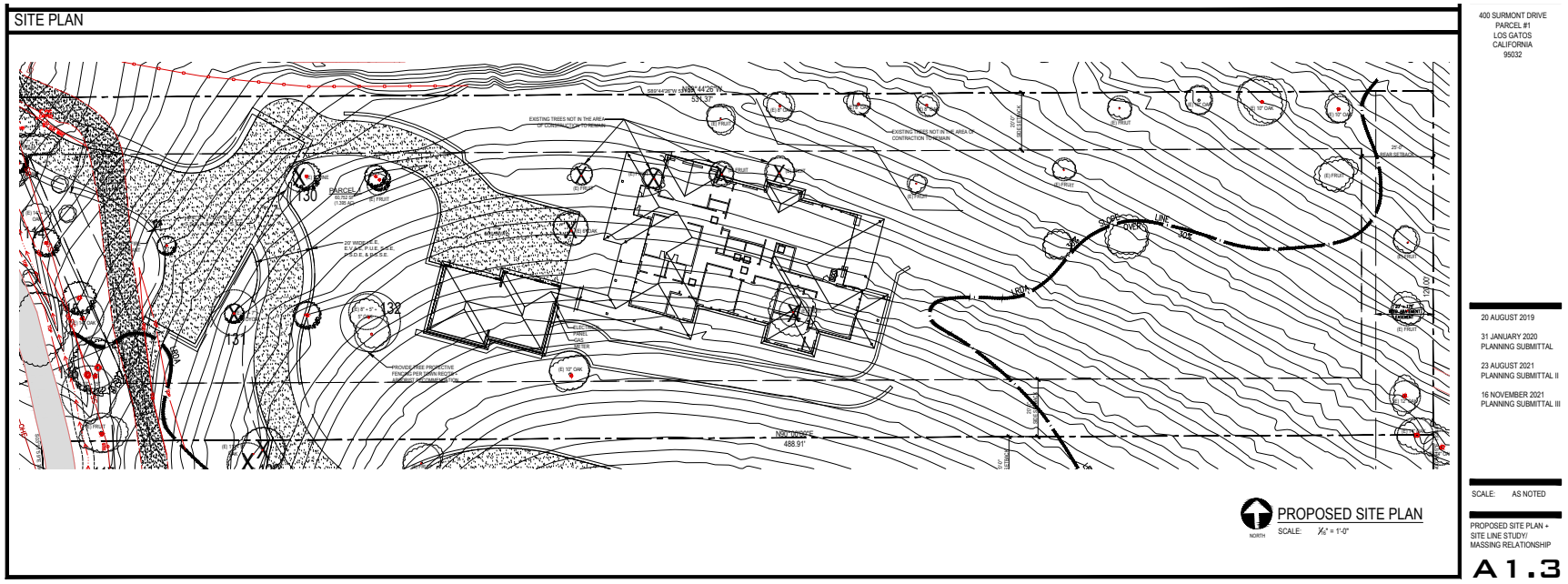
Volunteer: A tree, not planted by human hands, that begins to grow on residential or commercial property. Unlike trees that are brought in and installed on property, volunteer trees usually spring up on their own from seeds placed onto the ground by natural causes or accidental transport by people. Normally, volunteer trees are considered weeds and removed, but many desirable and attractive specimens have gone on to become permanent residents on many public and private grounds.

Appendix A: Site Plan and Tree Locations

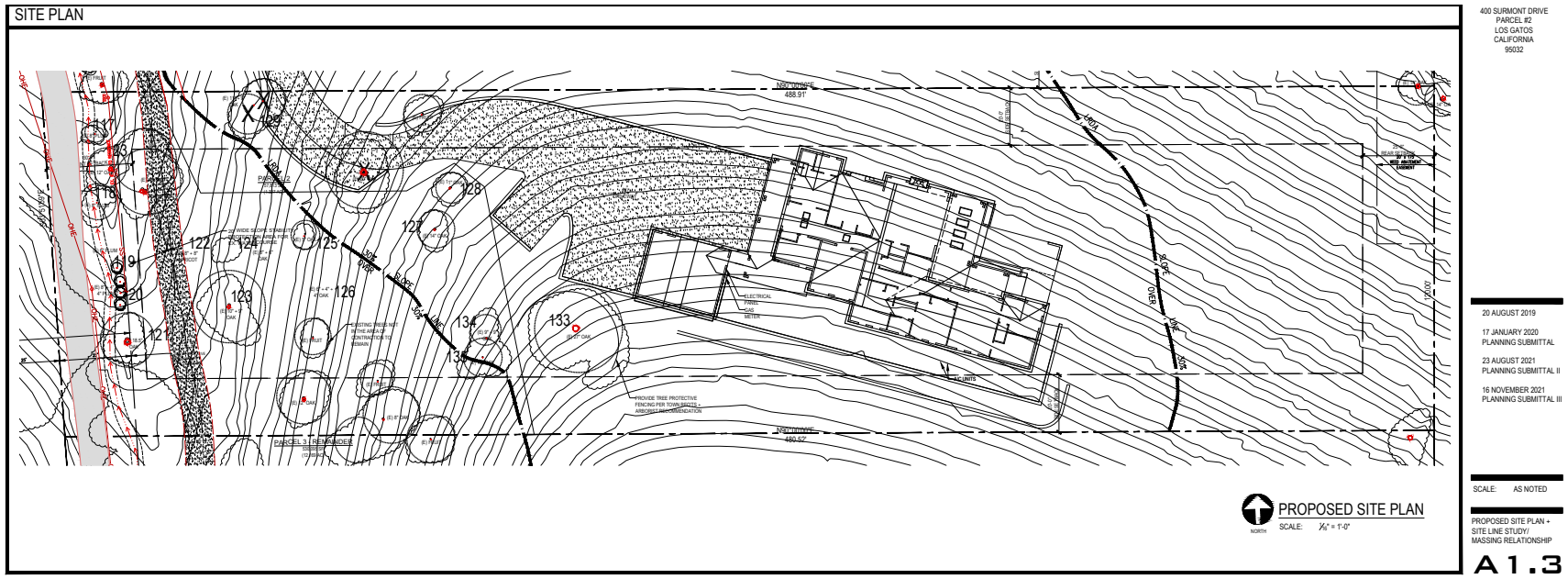
Site plan not to scale. Trees with an 'X' next to them are highly impacted. The blue dash represents the tree protection fence.



A1: Site Plan Parcel 1



A2: Site Plan Parcel 2



Appendix B: Tree Inventory and Assessment Tables

Table 2: Inventory Summary

Tree Species	I.D. Number	Trunk Diameter (in.)	~ Height (ft.)	~ Canopy Diameter (ft.)	Condition	Suitability for Preservation	Expected Impact	Rounded Value	Status
apricot (*Prunus armeniaca*)	110	8	10	15	Poor	Poor	High	$470.00	Exempt
coast live oak (*Quercus agrifolia*)	111	6, 5	15	15	Fair	Fair	High	$750.00	Protected
apricot (*Prunus armeniaca*)	112	7, 7	15	15	Poor	Poor	High	$710.00	Exempt
holly oak (*Quercus ilex*)	113	13	30	30	Fair	Fair	Low	$2,340.00	Protected
coast live oak (*Quercus agrifolia*)	114	14, 9	35	30	Fair	Fair	Low	$2,700.00	Protected
coast live oak (*Quercus agrifolia*)	115	14	35	35	Good	Good	Low	$1,380.00	Protected
coast live oak (*Quercus agrifolia*)	116	13, 15	35	35	Fair	Fair	Low	$2,090.00	Large Protected
wild plum (*Prunus sp.*)	117	8	25	25	Good	Poor	Low	$620.00	Exempt
wild plum (*Prunus sp.*)	118	8	25	25	Good	Poor	Low	$620.00	Exempt
wild plum (*Prunus sp.*)	119	6	25	25	Good	Poor	Low	$390.00	Exempt
wild plum (*Prunus sp.*)	120	8, 4, 3	25	25	Good	Poor	Low	$770.00	Exempt
coast live oak (*Quercus agrifolia*)	121	18.5	35	35	Good	Good	Low	$5,400.00	Protected
apricot (*Prunus armeniaca*)	122	8, 8	15	15	Fair	Poor	Low	$1,700.00	Exempt

Tree Species	I.D. Number	Trunk Diameter (in.)	~ Height (ft.)	~ Canopy Diameter (ft.)	Condition	Suitability for Preservation	Expected Impact	Rounded Value	Status
coast live oak (*Quercus agrifolia*)	123	10, 9	35	35	Fair	Fair	Low	$1,820.00	Protected
holly oak (*Quercus ilex*)	124	8, 6	25	25	Fair	Fair	Low	$1,420.00	Protected
holly oak (*Quercus ilex*)	125	5	20	20	Good	Good	Low	$620.00	Protected
holly oak (*Quercus ilex*)	126	6, 4, 4	20	20	Fair	Fair	Low	$940.00	Protected
coast live oak (*Quercus agrifolia*)	127	14	30	30	Good	Good	High	$3,140.00	Protected
coast live oak (*Quercus agrifolia*)	128	11	30	30	Good	Good	High	$1,990.00	Protected
coast live oak (*Quercus agrifolia*)	129	11, 9	25	25	Good	Good	High	$3,140.00	Protected
stone pine (*Pinus pinea*)	130	9	25	15	Good	Poor	High	$880.00	Protected
toyon (*Heteromeles arbutifolia*)	131	7, 7, 7	25	25	Fair	Fair	Moderate	$2,150.00	Protected
coast live oak (*Quercus agrifolia*)	132	8, 5, 5	30	30	Fair	Fair	Moderate	$1,120.00	Protected
coast live oak (*Quercus agrifolia*)	133	27	55	55	Good	Good	Moderate	$11,300.00	Large Protected
coast live oak (*Quercus agrifolia*)	134	9, 9	25	25	Good	Good	Low	$2,730.00	Protected
coast live oak (*Quercus agrifolia*)	135	13	25	25	Good	Good	Low	$2,730.00	Protected
wild plum (*Prunus sp.*)	346	4, 4, 4, 4	10	8	Good	Poor	Low	$930.00	Exempt

Tree Species	I.D. Number	Trunk Diameter (in.)	~ Height (ft.)	~ Canopy Diameter (ft.)	Condition	Suitability for Preservation	Expected Impact	Rounded Value	Status
apricot (*Prunus armeniaca*)	506	3, 3, 3,	10	8	Good	Poor	High	$1,100.00	Exempt
apricot (*Prunus armeniaca*)	699	7, 7	10	8	Poor	Poor	High	$710.00	Exempt
coast live oak (*Quercus agrifolia*)	700	6	15	10	Fair	Fair	High	$460.00	Protected
apricot (*Prunus armeniaca*)	892	4, 4, 4, 6	10	8	Dead	Poor	Low	$0.00	Exempt
coast live oak (*Quercus agrifolia*)	893	13	25	15	Good	Good	Low	$2,730.00	Protected
coast live oak (*Quercus agrifolia*)	894	9	15	10	Good	Good	Moderate	$1,380.00	Protected
apricot (*Prunus armeniaca*)	895	6,4, 3	10	8	Poor	Poor	High	$470.00	Exempt
coast live oak (*Quercus agrifolia*)	896	6	15	10	Poor	Poor	High	$230.00	Protected
apricot (*Prunus armeniaca*)	897	4	10	8	Poor	Poor	High	$150.00	Exempt
apricot (*Prunus armeniaca*)	898	10	10	8	Poor	Poor	High	$710.00	Exempt
apricot (*Prunus armeniaca*)	899	8	10	8	Poor	Poor	High	$470.00	Exempt
apricot (*Prunus armeniaca*)	900	12	10	8	Poor	Poor	High	$1,000.00	Exempt

Appendix C: Photographs

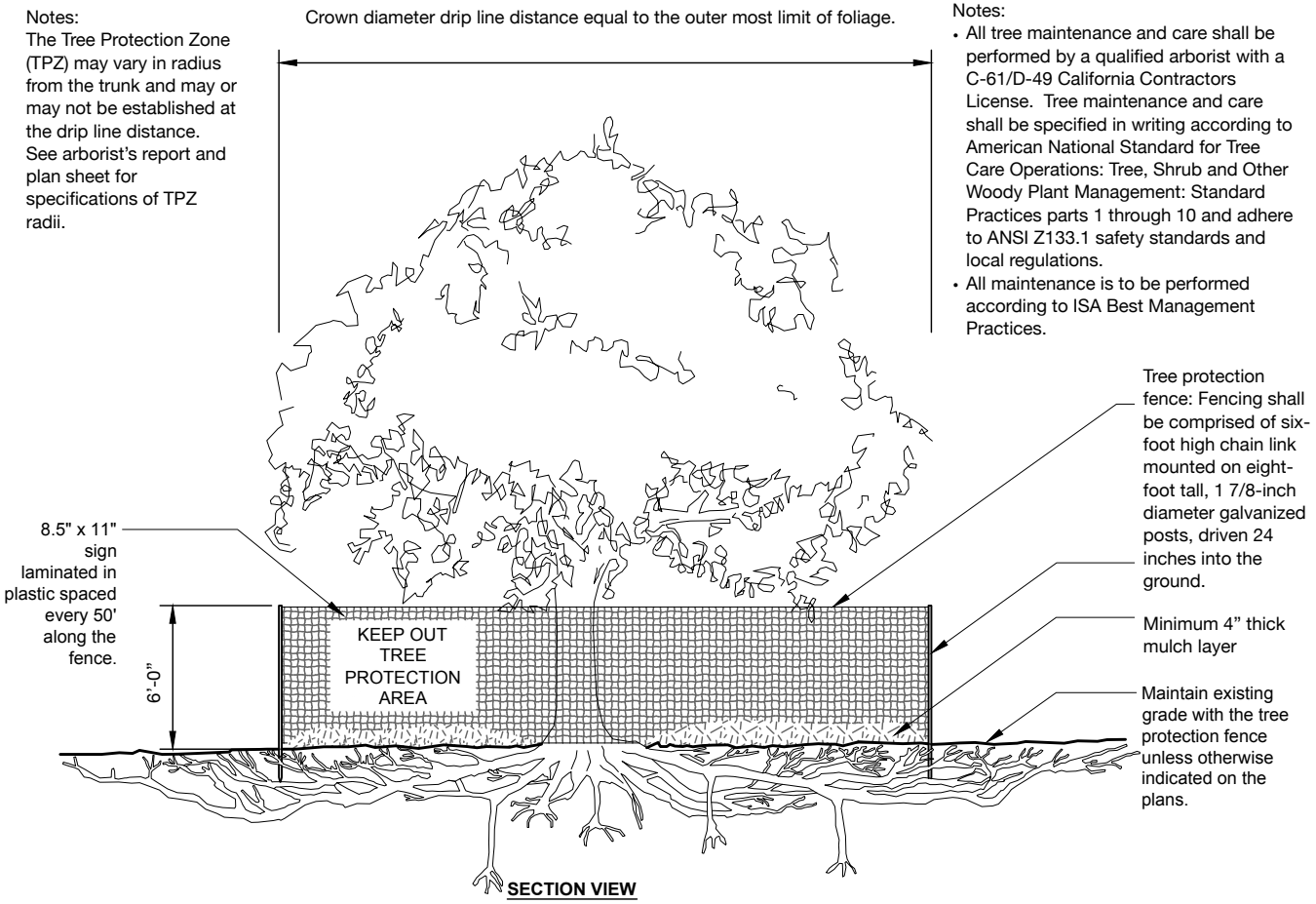
C1: Existing service road and oaks

C2: Parcel 1 driveway entrance

Appendix D: Tree Protection Guidelines

D1: Fence Specifications

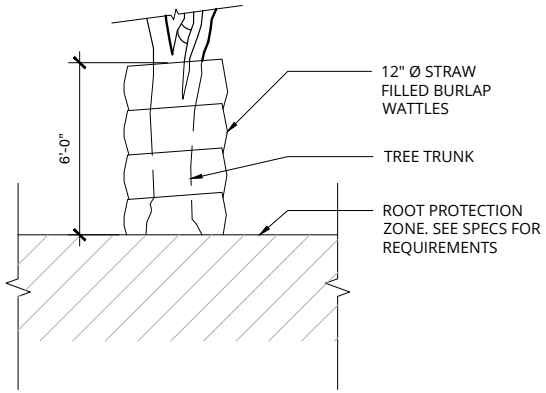
Notes:
The Tree Protection Zone (TPZ) may vary in radius from the trunk and may or may not be established at the drip line distance. See arborist's report and plan sheet for specifications of TPZ radii.



Notes:
- All tree maintenance and care shall be performed by a qualified arborist with a C-61/D-49 California Contractors License. Tree maintenance and care shall be specified in writing according to American National Standard for Tree Care Operations: Tree, Shrub and Other Woody Plant Management: Standard Practices parts 1 through 10 and adhere to ANSI Z133.1 safety standards and local regulations.
- All maintenance is to be performed according to ISA Best Management Practices.

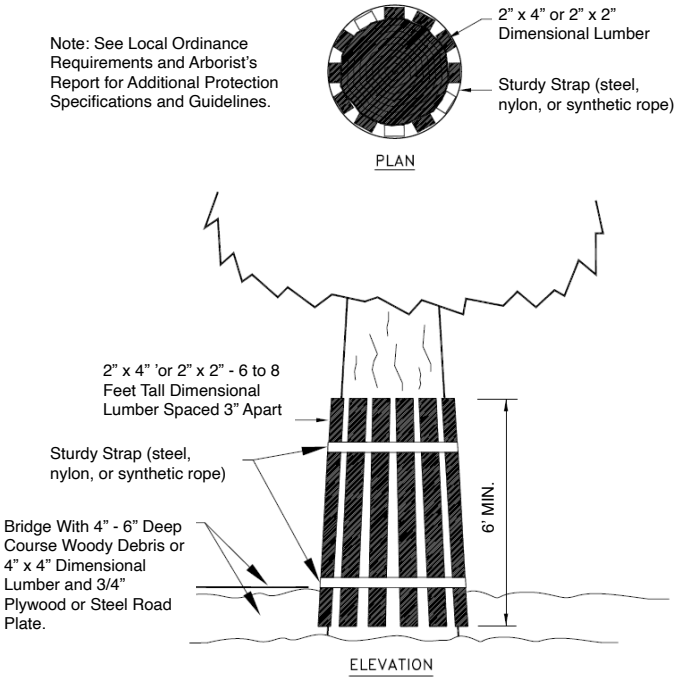
S-X TREE PROTECTION

D2: Trunk Protection Specifications



SECTION VIEW

S-Y TRUNK PROTECTION WITH WATTLE



Trunk Protection Vertical Timber Detail

Section 29.10.1005. - Protection of Trees During Construction

Tree Protection Zones and Fence Specifications

1. **Size and materials:** Six (6) foot high chain link fencing, mounted on two-inch diameter galvanized iron posts, shall be driven into the ground to a depth of at least two (2) feet at no more than ten-foot spacing. For paving area that will not be demolished and when stipulated in a tree preservation plan, posts may be supported by a concrete base.
2. **Area type to be fenced:** Type I: Enclosure with chain link fencing of either the entire dripline area or at the tree protection zone (TPZ), when specified by a certified or consulting arborist. Type II: Enclosure for street trees located in a planter strip: chain link fence around the entire planter strip to the outer branches. Type III: Protection for a tree located in a small planter cutout only (such as downtown): orange plastic fencing shall be wrapped around the trunk from the ground to the first branch with two-inch wooden boards bound securely on the outside. Caution shall be used to avoid damaging any bark or branches.
3. **Duration of Type I, II, III fencing:** Fencing shall be erected before demolition, grading or construction permits are issued and remain in place until the work is completed. Contractor shall first obtain the approval of the project arborist on record prior to removing a tree protection fence.
4. **Warning Sign:** Each tree fence shall have prominently displayed an eight and one-half-inch by eleven-inch sign stating: "Warning —Tree Protection Zone—This fence shall not be removed and is subject to penalty according to Town Code 29.10.1025.” Text on the signs should be in both English and Spanish (Appendix E).

All persons, shall comply with the following precautions

1. Prior to the commencement of construction, install the fence at the dripline, or tree protection zone (TPZ) when specified in an approved arborist report, around any tree and/or vegetation to be retained which could be affected by the construction and prohibit any storage of construction materials or other materials, equipment cleaning, or parking of vehicles within the TPZ. The dripline shall not be altered in any way so as to increase the encroachment of the construction.
2. Prohibit all construction activities within the TPZ, including but not limited to: excavation, grading, drainage and leveling within the dripline of the tree unless approved by the Director.
3. Prohibit disposal or depositing of oil, gasoline, chemicals or other harmful materials within the dripline of or in drainage channels, swales or areas that may lead to the dripline of a protected tree.
4. Prohibit the attachment of wires, signs or ropes to any protected tree.
5. Design utility services and irrigation lines to be located outside of the dripline when feasible.
6. Retain the services of a certified or consulting arborist who shall serve as the project arborist for periodic monitoring of the project site and the health of those trees to be preserved. The project arborist shall be present whenever activities occur which may pose a potential threat to the health of the trees to be preserved and shall document all site visits.
7. The Director and project arborist shall be notified of any damage that occurs to a protected tree during construction so that proper treatment may be administered.

Monitoring

Any trenching, construction or demolition that is expected to damage or encounter tree roots should be monitored by the project arborist or a qualified ISA Certified Arborist and should be documented.

The site should be evaluated by the project arborist or a qualified ISA Certified Arborist after construction is complete, and any necessary remedial work that needs to be performed should be noted.

Root Pruning

Roots greater than two inches in diameter shall not be cut. When roots over two inches in diameter are encountered and are authorized to be cut or removed, they should be pruned by hand with loppers, handsaw, reciprocating saw, or chain saw rather than left crushed or torn. Roots should be cut beyond sinker roots or outside root branch junctions and be supervised by the project arborist. When completed, exposed roots should be kept moist with burlap or backfilled within one hour.

Boring or Tunneling

Boring machines should be set up outside the drip line or established Tree Protection Zone. Boring may also be performed by digging a trench on both sides of the tree until roots one inch in diameter are encountered and then hand dug or excavated with an Air Spade® or similar air or water excavation tool. Bore holes should be adjacent to the trunk and never go directly under the main stem to avoid oblique (heart) roots. Bore holes should be a minimum of three feet deep.

Tree Pruning and Removal Operations

All tree pruning or removals should be performed by a qualified arborist with a C-61/D-49 California Contractors License. Treatment, including pruning, shall be specified in writing according to the most recent ANSI A-300A Standards and Limitations and performed according to ISA Best Management Practices while adhering to ANSI Z133.1 safety standards. Trees that need to be removed or pruned should be identified in the pre-construction walk through.

Appendix E: Tree Protection Signs
E1: English

Warning
Tree Protection Zone

This Fence Shall Not Be Removed
And Is Subject To Penalty According To
Town Code 29.10.1025

E2: Spanish

Cuidado
Zona De Arbol Pretejido

Esta valla no podrán ser sacados
Y está sujeta a sanción en función de
Código Ciudad del 29.101025

Qualifications, Assumptions, and Limiting Conditions

Any legal description provided to the consultant is assumed to be correct. Any titles or ownership of properties are assumed to be good and marketable. All property is appraised or evaluated as though free and clear, under responsible ownership and competent management.

All property is presumed to be in conformance with applicable codes, ordinances, statutes, or other regulations.

Care has been taken to obtain information from reliable sources. However, the consultant cannot be responsible for the accuracy of information provided by others.

The consultant shall not be required to give testimony or attend meetings, hearings, conferences, mediations, arbitration, or trials by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.

This report and any appraisal value expressed herein represent the opinion of the consultant, and the consultant's fee is not contingent upon the reporting of a specified appraisal value, a stipulated result, or the occurrence of a subsequent event.

Sketches, drawings, and photographs in this report are intended for use as visual aids, are not necessarily to scale, and should not be construed as engineering or architectural reports or surveys. The reproduction of information generated by architects, engineers, or other consultants on any sketches, drawings, or photographs is only for coordination and ease of reference. Inclusion of said information with any drawings or other documents does not constitute a representation as to the sufficiency or accuracy of said information.

Unless otherwise expressed: a) this report covers only examined items and their condition at the time of inspection; and b) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that structural problems or deficiencies of plants or property may not arise in the future.

Certification of Performance

I Richard Gessner, Certify:

That I have personally inspected the tree(s) and/or the property referred to in this report, and have stated my findings accurately. The extent of the evaluation and/or appraisal is stated in the attached report and Terms of Assignment;

That I have no current or prospective interest in the vegetation or the property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved;

That the analysis, opinions and conclusions stated herein are my own;

That my analysis, opinions, and conclusions were developed and this report has been prepared according to commonly accepted Arboricultural practices;

That no one provided significant professional assistance to the consultant, except as indicated within the report.

That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party, nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any other subsequent events;

I further certify that I am a Registered Consulting Arborist® with the American Society of Consulting Arborists, and that I acknowledge, accept and adhere to the ASCA Standards of Professional Practice. I am an International Society of Arboriculture Board Certified Master Arborist®. I have been involved with the practice of Arboriculture and the care and study of trees since 1998.

Richard J. Gessner

ASCA Registered Consulting Arborist® #496
ISA Board Certified Master Arborist® WE-4341B

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