

**Assessment of Ten (10) Protected-Size Trees
at
55 Rogers Road
Los Gatos, California**

Prepared for:
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Town of Los Gatos Community Development Department
110 E. Main Street
Los Gatos, CA 95030

Field Visit:
Walter Levison, Contract Town Arborist (CTA)
11/30/2016

Report by CTA
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1.0 Summary

- a. Below is a matrix style overview of protected-size trees (non-exempt species, 4 inches diameter at 4.5 feet above grade). Below, the CTA has outlined expected impacts to each tree, along with suggestions for adjustments to the plan set that will optimize tree survival over the long term. Removal trees (if any) are noted as such in the matrix.

The CTA calculated the appraised value of each tree, which can be used as a tool for determining the proper security bond amount to have the applicant post with the Town as a hedge against site plan-related tree damages (if applicable). Appraised values can also be used to determine damage fees if trees were damaged in terms of root loss and/or physical hits to above-ground portions during or after construction to the point that mitigation is required. Mitigation replacement rate and size is also noted for each tree in the case that removal of trees or damage to trees occurs.

Table 1.0(a) (REFER TO THE CTA'S TREE MAP MARKUP WHEN REVIEWING THIS MATRIX)

Line Number	Tree Tag Number	Common Name	Large Protected Tree (LPT)?	Appraised Value	Site plan changes required to reduce impacts to less than significant	Replacement Rate Per Canopy Lost	Replacement Size Tree
1	1	Italian cypress	No	\$300.	(Tree may need to be removed or radically pruned to achieve fire department code regulated road width for fire truck clearance)	2	24" Box
2	2	Italian cypress	No	\$630.	(Tree may need to be removed or radically pruned to achieve fire department code regulated road width for fire truck clearance)	2	24" Box
3	3	Aleppo pine	No	\$4,190.	<p>Option 1: Keep all new driveway renovation work to above grade or above the elevation of the existing baserock so that the work essentially "floats" over the old baserock layer. This would require that existing grade elevations remain unaltered, since the roots of this tree extend laterally between grade and two feet below grade.</p> <p>Option 2: Use standard method excavation, compaction, etc. and move the driveway further westward to achieve greater offset between tree trunk edge and the driveway cut.</p>	4	24" Box

Line Number	Tree Tag Number	Common Name	Large Protected Tree (LPT)?	Appraised Value	Site plan changes required to reduce impacts to less than significant	Replacement Rate Per Canopy Lost	Replacement Size Tree
4	4	California black oak	YES	\$33,000.	(To be removed per project team). Per the tree ordinance, the Town will only receive \$1,500 as mitigation for the loss of this \$33,000 "large protected tree" (LPT) status specimen.	6	24" Box
5	5	Blue oak	No	\$9,700.	The entire footprint of the proposed new residence would need to be moved to achieve an offset of at least 15 linear feet, in order to allow for fencing to be erected at 10 feet offset from trunk, if this tree were to be retained in its current condition.	4	24" Box
6	6	Blue oak	No	\$6,800.	(Tree to be removed per plan).	4	24" Box
7	7	Aleppo pine	No	\$980.	No changes to proposed plan required. Tree can be adequately preserved if fencing is erected and maintained at the location shown on the CTA's tree map markup in this report.	3	24" Box
8	8	Blue oak	No	\$6,300.	No changes to proposed plan required. Tree can be adequately preserved if fencing is erected and maintained at the location shown on the CTA's tree map markup in this report.	4	24" Box
9	9	California toyon	No	\$1,060.	No changes to proposed plan required. Tree can be adequately preserved if fencing is erected and maintained at the location shown on the CTA's tree map markup in this report. Note that the neighbor is currently treating this area of the site as if it was their property, and has built landscape features on the 55 Rogers property without permission.	3	24" Box

Line Number	Tree Tag Number	Common Name	Large Protected Tree (LPT)?	Appraised Value	Site plan changes required to reduce impacts to less than significant	Replacement Rate Per Canopy Lost	Replacement Size Tree
10	10	Elm species	No	\$310.	It is not clear if this tree will be retained or not. It is a remnant stump with profuse sprouting, located in close proximity to the proposed new residence footprint. The CTA suspects that the tree will need to be removed to clear proposed new work.	3	24" Box

2016 Town of Los Gatos In-lieu fee equivalent = \$250 per each required 24" box mitigation tree planting not installed on the site.

b. Summary of tree disposition and tree issues:

i. Tree Removals:

It is expected that **trees #4, 5, and #10** will likely need to be removed to clear the proposed residence footprint. The combined total value of these trees is $\$33,000 + \$9,700 + \$310 = \$43,010$. The mitigation required for this loss of these three trees would be installation of 13 new 24" box size trees as allowable per the tree ordinance, or payment of an in-lieu fee of \$250 per tree, which is $\$250 \times 13 = \mathbf{\$3,250}$. Given that there is little available planting space on this site, payment of in-lieu fees is preferable to planting of 13 new tree specimens on the site. However, a combination of fee payments and three or four tree plantings on site may be a good compromise.

Trees #1 and #2 may also need to be removed to clear a fire department enforced roadway width that allows for fire truck clearance. Current clearance is approximately 9 feet. The canopies of these Italian cypress cannot be pruned to provide any greater clearance than is available at present without disfiguring the trees and possibly killing them. Mitigation required for loss of these two trees would be an additional 4 plantings of 24" box size, or payment of $\$250 \times 4 = \mathbf{\$1,000}$.

Tree #6 is already proposed to be removed in the area adjacent to the proposed new residence footprint. The mitigation fee for this removal is **\$1,000 per the above fee matrix.**

ii. Retain with minimal impacts:

Trees #7, 8, and #9 can be retained without significant impacts, assuming that chain link fencing is erected at the locations specified on the CTA's tree map in this report.

iii. Retain with Potentially Significant Impacts:

Tree #3 will be retained and protected under the current proposed site plan. However, if the driveway is renovated per plan and a cut is made along the radius as shown within the canopy dripline of this tree, it is possible that significant root loss will occur, and the tree could decline or die.

The CTA suggests that one of the following two options be considered:

- The methods and materials used for a driveway renovation should be specified to allow for a “no-dig floating system” to be installed over grade with no cuts below the top of existing older base. Typically, a biaxial geogrid such as Tensar BX1100 is laid over the ground, and new baserock and other materials are built up over that initial load bearing geogrid layer (see recommendations section for a sample spec image).
- The driveway footprint should be pushed farther westward to allow for better offset from the trunk of tree #3.

c. Missing Plan Sheets:

The following sheets were not submitted for review at the time of writing, and should be reviewed by the CTA and/or by Planning Staff prior to this project being allowed to move forward:

- Irrigation pipe trenching and surface drip tubing.
- Landscape.
- Grading and Drainage.
- Utilities.
- Lighting (if any).

d. Canopy Replacement Requirement:

See above matrix in section 1.0(a) of this report. The Town allows for either replacement of removed trees with 24” box size tree plantings on site, or payment of in-lieu fees in the amount of \$250 per required mitigation tree not planted on site, or a combination of both.

e. Security Bonding:

The new 2015 iteration of the Town tree ordinance section 29.10.1000 (c)3 includes wordage that requires that all trees being retained on a development site need to be appraised for dollar value at the applicant’s expense prior to building or grading permits being issued by the Town. Part ‘f’ of this same tree ordinance section states that the Town may condition a security bond prior to issuance of a permit, in the sum of \$5,000 per each tree being preserved, or \$25,000, whichever is less. The ordinance does not contain wordage as to whether this includes neighbor-owned trees adjacent to construction. Therefore, the CTA will assume that neighbor-owned trees are included as trees “required to be preserved” if they are part of this CTA arborist report tree study.

At least four (4) trees #3, 7, 8, and #9 will be preserved at site, which is a total potential bond of \$5,000 per tree being preserved, or $\$5,000 \times 4 = \$20,000$. It is suggested that a bond of \$20,000 be posted as a hedge against damages to these four trees during site plan related work.

Note that other tagged survey trees may or may not be retained on the site (to be determined).

2.0 Assignment & Background

Walter Levison, Contract Town Arborist (CTA) was directed to tag with numbered aluminum tags and assess all Protected Size (4 inch diameter and greater) trees both on the property proposed for site plan work and (in some cases) adjacent to the site plan area within 10 linear feet of property lines.

Note that “exception” trees not protected under the current Town tree ordinance (e.g. fruit and nut trees <18 inches diameter, and Tasmanian blue gum, red gum, blackwood acacia, tulip tree, tree of heaven, palms (except *Phoenix canariensis*), and privet <24 inches diameter, etc.) were not tagged or assessed by the CTA.

On “Hillside” properties (see Hillside map, this page), all eucalyptus species measuring less than 24 inches diameter are considered exception trees, and are not protected by Town ordinance provisions.

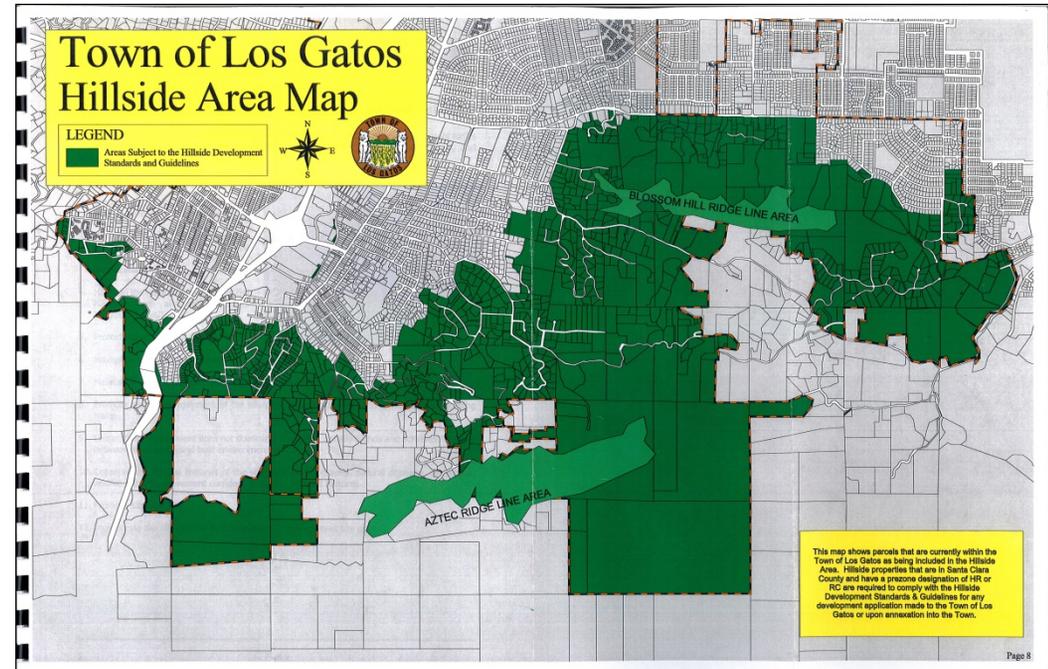
Large protected tree (LPT) means any oak (*Quercus*), California buckeye (*Aesculus californica*), or Pacific madrone (*Arbutus menziesii*) which has a 24 inch or greater diameter (75 inch circumference); or any other species of tree with a 48 inch or greater diameter (150 inch circumference). Trunk measurement in the case of a multiple stem tree is the sum of all mainstem diameters.

Per the above definition, **California black oak #4 is a large protection tree (LPT) designate.** This tree is proposed by the project team to be removed. The value of this tree is **\$33,000**, but the Town tree ordinance allows for only a mitigation of six 24” box size plantings, or payment of a \$1,500 in-lieu fee. Staff may want to review this site plan project in terms of the actual tree value that will be lost as a result of the proposed garage footprint.

3.0 Tree Location & Protection Fence Map

The CTA marked up the applicant’s preliminary proposed site plan sheet A1 drawn 10/4/2016 by Chris Spaulding, Architect, of Berkeley, California which is rendered over a topographic survey by TS Civil of Los Gatos, California.

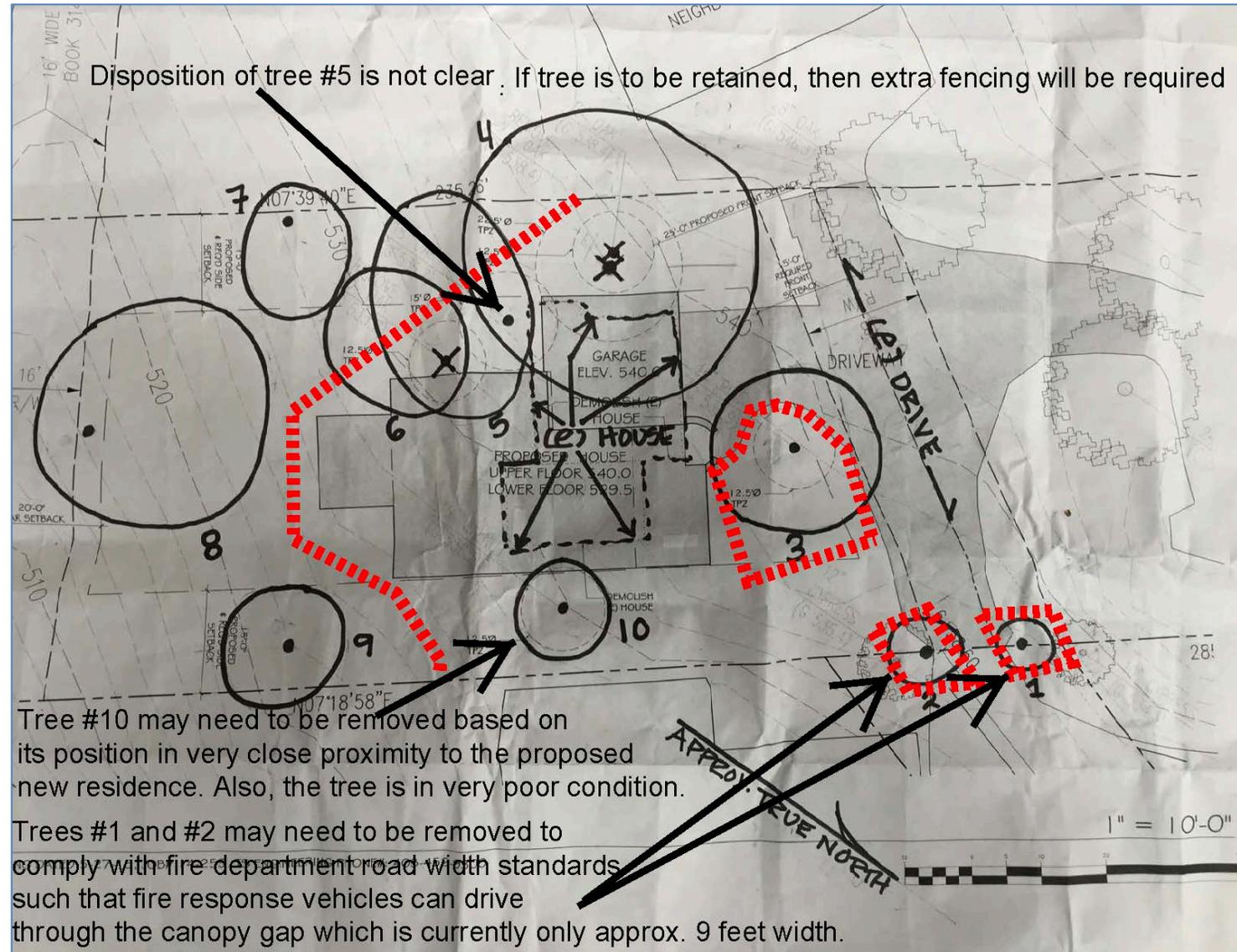
Tree canopy edges or “driplines” are shown to approximate scale using black outline clouding on this marked-up sheet for all ten subject trees. Disregard the architect’s CAD renderings of the canopy driplines which are shown far too small in diameter compared to actual.



Some of the trees in this study were not previously noted on any sheet, and were "rough plotted" by the CTA based on visual assessment and using a Nikon rangefinder to shoot distances from tree to tree.

Note the existing residence dimensions as shown on this sheet as black dashed line, along with the proposed new residence footprint shown shaded.

The CTA's initial suggested routes for chain link tree root zone protection fencing are noted as red dashed lines. The current suggested fence route for trees #1 and #2 is probably not feasible, since the driveway area needs to be kept open for fire trucks to certain code distances. The CTA suspects that trees #1 and #2 may need to be removed in order to achieve the minimum fire truck width distance (not verified at time of writing). The disposition of trees #5 and #10 is also open to debate. It is expected that one or both of these trees will also need to be removed due to their close proximity to the proposed residence footprint.



4.0 Observations & Discussion

California black oak #4 stability

Oak #4 is a large protected tree (LPT) designate that is proposed to be removed. The tree has an overall condition of 60% or “Fair”. However, the internal decay cavity at the trunk base represents a loss of structural live wood. When the live wood wall thickness is calculated and divided by the total trunk radius, the ratio of live wood wall thickness to trunk radius (minus bark) is roughly 33% based on the CTA’s initial visual assessment. 33% is by coincidence the standard minimum recommended live wood wall to trunk radius ratio per international risk standards for trees that do not have voids, and which present no additional “aggravating conditions” such as trunk lean or other structural issues. Given that this tree does exhibit a void, the minimum recommended ratio of live wood to trunk radius for structural stability is slightly higher to account for the presence of the void.

What this means is that the tree is basically on the edge of being considered a retainable tree versus a removal candidate based solely on the internal trunk decay conditions. Town Staff can choose to consider the tree to be a loss of \$33,000 in oak value from the landscape, or consider it to be a wise removal that is in accordance with standard tree risk reduction practice. Both lines of thinking would be considered reasonable from a knowledgeable arborist’s point of view.

With the tree located in close proximity to the proposed garage, loss of roots on the north side from garage footing excavation would be severe, and would likely cause decline of the tree and/or loss of structural stability. Therefore, removal of the tree appears to be the best option. The only question is whether some type of additional compensation beyond the Town tree ordinance’s allowable mitigation of only \$1,500 (or six 24” box size tree plantings) is warranted.

5.0 Town of Los Gatos – What Trees are Protected?

Per the most recent (2015) iteration of the Town of Los Gatos tree ordinance (Town Code Chapter 29 – Zoning Regulations, Article 1), the following regulations apply to all trees within the Town’s jurisdiction (wordage adjusted):

1. All trees with at least a single mainstem measuring four (4) inches diameter or greater at 4.5 feet above grade are considered “**Protected Trees**” when removal relates to any development review.
2. 12 inch diameter (18 inch multistem total) trees on developed residential property not currently subject to development review.
3. 8 inch diameter (8 inch multistem total) blue oak (*Quercus douglasii*), black oak (*Quercus kellogii*), California buckeye (*Aesculus californica*), and Pacific madrone (*Arbutus menziesii*) on developed residential lots not currently subject to development review.
4. 8 inch diameter (8 inch multistem total) trees on developed residential property not currently subject to development review, on lots in the designated **Hillside Area** per the official Town map.
5. All trees with a single mainstem or sum of multiple mainstems totaling 48 inches diameter or greater at 4.5 feet above grade are considered “**Large Protected Trees**” (LPT).

6. All oak species (*Quercus spp.*), California buckeye (*Aesculus californica*), and Pacific madrone (*Arbutus menziesii*) with one or more mainstems totaling 24 inches diameter or more at 4.5 feet above grade are considered “**Large Protected Trees**” (LPT).
7. Section 29.10.0965. Prohibitions: A **permit** is required to prune, trim, cut off, or perform any work, on a single occasion or cumulatively, over a three-year period, affecting 25% or more of any **Protected Tree** (including below ground root system).
8. Section 29.10.0965. Prohibitions: A **permit** is required to prune, trim, or cut any branch or root greater than four (4) inches in diameter of a **Large Protected Tree**.
9. Section 29.10.0965. Prohibitions: A permit is required to conduct severe pruning on any protected tree. Severe pruning is defined in section 29.10.0955 as “topping or removal of foliage or significant scaffold limbs or large diameter branches so as to cause permanent damage and/or disfigurement of a tree, and/or which does not meet specific pruning goals and objectives as set forth in the current version of the International Society of Arboriculture Best Management Practices-Tree Pruning and ANSI A300-Part 1 Tree, Shrub, and Other Woody Plant Management-Standard Practices, (Pruning).”
10. Exceptions:

Severe Pruning Exception in Town Code section 29.10.1010(3) “.....except for pollarding of fruitless mulberry (*Morus alba*) or other species approved by the Town Arborist....”.

Protected Tree Exceptions:

- a. Edible fruit or nut bearing trees less than 18 inches diameter (multistem total or single stem)
- b. *Acacia melanoxylon* (blackwood acacia) less than 24 inches (multistem total or single stem)
- c. *Liriodendron tulipifera* (tulip tree) less than 24 inches (multistem total or single stem)
- d. *Ailanthus altissima* (tree of heaven) less than 24 inches (multistem total or single stem)
- e. *Eucalyptus globulus* (Tasmanian blue gum) less than 24 inches (multistem total or single stem)
- f. *Eucalyptus camaldulensis* (River red gum) less than 24 inches (multistem total or single stem)
- g. *Other eucalyptus species* (E. spp.) not noted above, less than 24 inches (multistem total or single stem)
(REMOVAL O.K. ONLY AT HILLSIDE AREA LOCATIONS PER OFFICIAL TOWN MAP):
www.losgatosca.gov/documentcenter/view/176
- h. All palm species (except *Phoenix canariensis*) less than 24 inches (multistem total or single stem)
- i. *Ligustrum lucidum* (glossy privet) less than 24 inches (multistem total or single stem)

6.0 Recommendations

1. Project Arborist (“PA”):

It is suggested that a third party ASCA registered consulting arborist or ISA Certified Arborist with good experience with tree protection during construction be retained by the applicant, to provide pre-project verification that tree protection and maintenance measures outlined in this section of the arborist report are adhered to. Periodic (e.g. monthly) inspections and summary reporting, if required as a project condition of approval, are suggested in order to verify contractor compliance with tree protection throughout the site plan project. This person will be referred to as the project arborist (“PA”). The PA should monitor soil moisture within the root protection zones of trees being retained, using a Lincoln soil moisture probe/meter or equivalent. If required, inspection reports shall be sent to Mr. Levi Hill, Associate Planner, at lhill@losgatosca.gov.

Sample wordage for a condition of approval regarding monitoring of tree protection and tree condition:

“The required protective fencing shall remain in place until final landscaping and inspection of the project. Project arborist approval must be obtained and documented in a monthly site activity report sent to the Town. A mandatory Monthly Tree Activity Report shall be sent at least once monthly to the Town planner associated with this project (lhill@losgatosca.gov) beginning with the initial tree protection verification approval letter”.

2. Special Project Arborist Monitoring:

If the project is built as currently proposed, then a project arborist or “PA” shall monitor excavation of any required new driveway cuts (if grades are cut down from existing elevations), and advise the project team on root pruning along this area.

The PA shall document root cuts in digital images sent to Town Staff.

3. Project Team Actions or Clarifications Requested:

a. Site Plan Design Adjustments, Verifications & Special Specifications:

i. Tree Removal In-Lieu Fees: (Per the Town *tree canopy replacement standard* matrix).

Tree #1: \$500 (if removed).
Tree #2: \$500 (if removed).
Tree #4: \$1,500.
Tree #5: \$1,000.
Tree #6: \$1,000.
Tree #10: \$750 (if removed).

ii. Driveway Grades & Footprint: Project team shall verify driveway elevations. If the proposed new cut elevations are below existing elevations, then the project team shall consider moving the driveway footprint southwestward to achieve better offset distance between the trunk edge of pine #3 and the driveway edge.

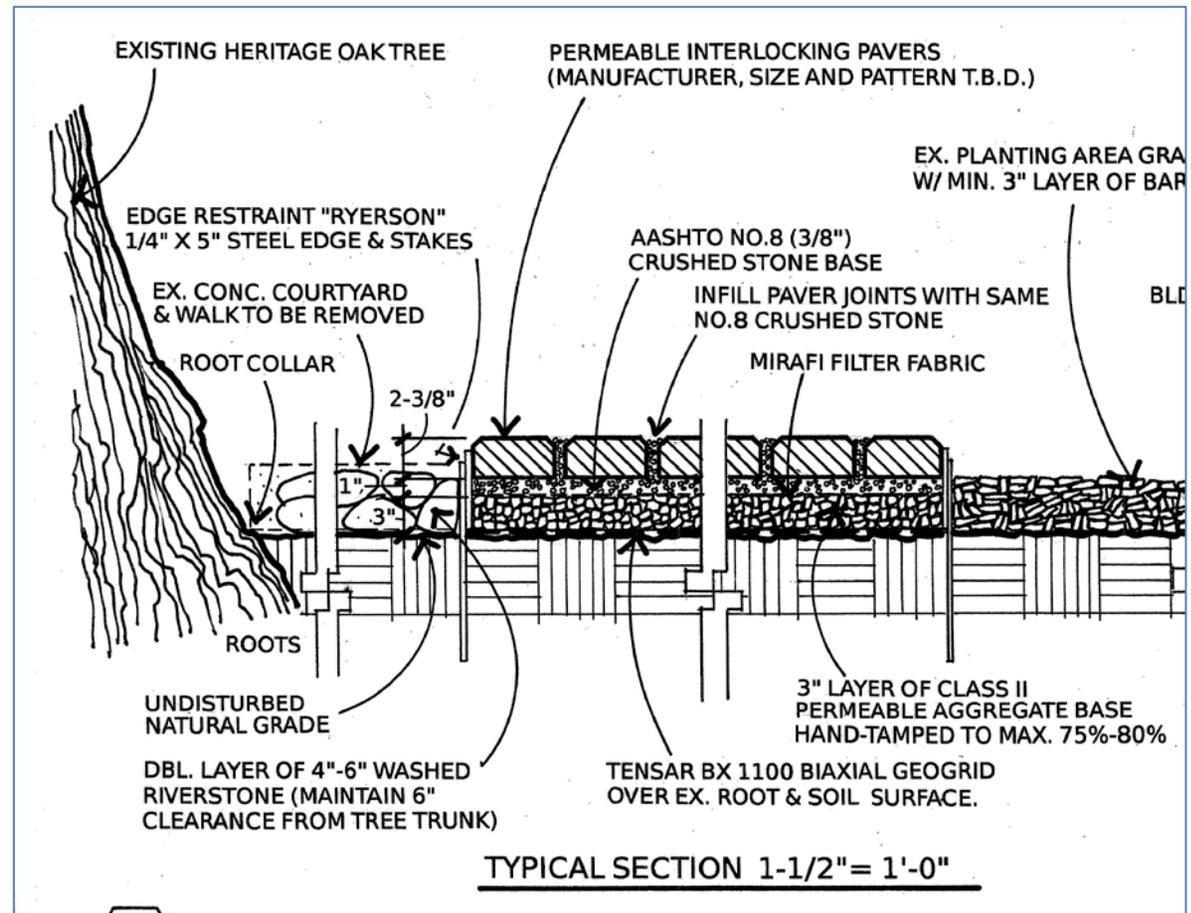
iii. Driveway Option / No-Dig: If the driveway can be built over existing grades without cutting down into the root system of pine #3, then project team shall consider use of a biaxial geogrid such as Tensor BX-1100 as an underlayment over existing soil base. This is called a no-dig or floating driveway system (see sample spec side cut detail at right). This system allows for 100% retention of lateral tree roots, with no cuts at all into the ground, other than steel pins that are placed to hold the over-grade steel Ryerson edging restraints.

iv. Landscape and Irrigation: Project team shall verify the types, trench depths, etc. of all irrigation main lines, valves, laterals, pop-ups, etc. (if any proposed) within 20 to 25 feet of trees being on the site. Project team shall use only flexible poly tubing type irrigation pipes for all areas within 20 linear feet of all trees being retained.

v. Utility and Lighting Conduit Trenching: Project team shall verify locations of all proposed utility trenches and lighting conduit trenches, and shall attempt to keep all trench edges offset 15 to 20 feet minimum from the trunk edges of trees being retained.

vi. Grading and Drainage: Project team shall submit a grading and drainage plan showing all proposed grading and drain pipe trench routing. All trenches shall be routed to at least 15 to 20 feet minimum from the trunk edges of all trees being retained. If possible, grading for new driveway route shall be eliminated such that the existing grade elevations can be maintained (if pine #3 is to be preserved in its current condition).

vii. Security Bond: The Town code provides a mechanism that may require bond posting by a project applicant in the amount of up to \$5,000 per tree being retained, or \$25,000, whichever is less. Per this code item, the security bond for this site may be up to \$20,000 or more, depending on how many total trees are retained. The CTA suggests a bond of at least \$6,300 to cover the value of tree #8.



4. Trunk Buffer Type III Protection:

Prior to demolition commencement, install a trunk buffer around the lowermost 8 to 10 feet of the trunk of **tree #3**.

Wrap approximately 15 to 20 wraps of orange plastic snow fencing around the trunk between grade and 8 feet above grade to create a padding at least 1 to 2 inches thickness.

Stand 2x4 wood boards upright, side by side, around the entire circumference of the trunk. Affix each buffer using duct tape (do not use wires or ropes). See spec image above right.

Note: If trees #4 or #5 are retained, then they will also require trunk buffer wrap protection.

5. Chain Link Fencing Type I and/or Type II Protection:

Erect five-foot tall chain link fence on seven-foot long, two-inch diameter iron tube posts pounded 24 inches into the ground (see sample image at right).

Pre-demolition fence: Per the red dashed lines on the tree map mark-up in the CTA's arborist report (routes may be subject to change, depending on the finalized alignments of work items).

This fencing must be erected prior to any heavy machinery traffic or construction material arrival on site.

The protective fencing must not be temporarily moved during construction . No materials, tools, excavated soil, liquids, substances, etc. are to be placed or dumped, even temporarily, inside the root protection zone or "RPZ".

No storage, staging, work, or other activities will be allowed inside the RPZ except with PA monitoring.

6. Signage: The RPZ fencing shall have one sign affixed with UV-stabilized zip ties to the chain link at eye level for every 20-linear feet of fencing, minimum 8"X11" size each, plastic laminated, with wordage that includes the Town Code section that refers to tree fence protection requirements (wordage can be adjusted):



TREE PROTECTION ZONE FENCE ZONA DE PROTECCION PARA ARBOLES

**-NO ENTRE SIN PERMISO-
-LLAME EL ARBOLISTA-**

**REMOVAL OF THIS FENCE IS
SUBJECT TO PENALTY ACCORDING TO
LOS GATOS TOWN CODE 29.10.1025**

**PROJECT ARBORIST:
TELEFONO CELL:**

EMAIL:

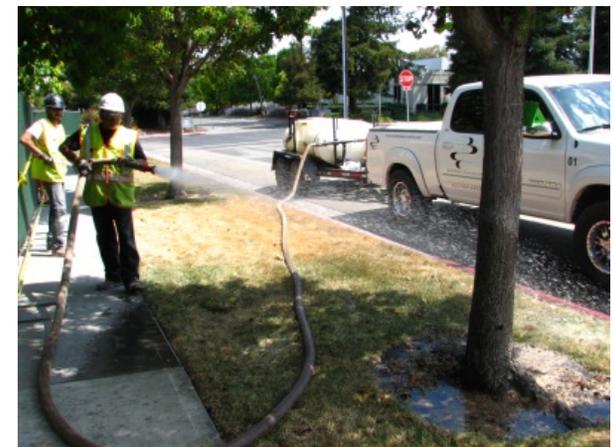
7. Irrigation Temporary During Construction:

Apply temporary irrigation to certain specified trees being retained, at a frequency and duration or total output to be specified by the project arborist (PA).

Method of water delivery can be soaker hose, emitter line, garden hose trickle, water truck, tow-behind water tank with spray apparatus, etc.

Initial suggestion by the CTA is 3x/week heavy irrigation of **tree #3**, at a rate of 30 to 50 gallons per each irrigation event, between the root protection zone fencing and the trunk of this tree.

Note: If trees #1 or #2 are retained, they will also require periodic heavy irrigation.



8. Pruning:

All pruning shall be performed only by, or under direct, full-time supervision of an ISA-Certified Arborist, and shall conform to the most current iteration of the American National Standard Institute pruning guidelines and accompanying ISA Best Management Practices / Pruning booklet:

- ANSI A300 (Part 1) tree, shrub, and other wood plant maintenance / standard practices (*pruning*). 2001.
- Best Management Practices / Tree Pruning: companion publication to the ANSI A300 Part 1: tree, shrub, and other wood plant maintenance / standard practices (*pruning*). International Society of Arboriculture. 2002.



Suggested Pruning Prescription:

If trees #1 or #2 are retained, then lateral fire truck clearance pruning will likely be required to increase the width of the road. However, this is likely cause decline in the trees, or kill them outright. Therefore, the trees will probably have to be removed if additional horizontal clearance beyond the current 9-foot roadway airspace is required.

9. Root Pruning at Driveway (Only if Standard Deep Excavation is Performed):

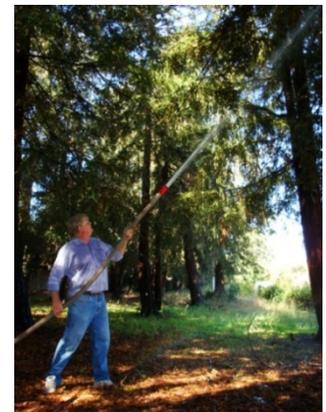
If woody roots measuring greater than 1-inch in diameter are encountered within 20-feet of any tree being retained during site work (paying special attention to **pine #3**), contractors shall immediately alert the project arborist, and shall proceed to sever roots at right angles to the direction of root growth using sharp hand tools such as professional grade loppers, hand shears, chain saw, A/C sawzall, or other tools only under his/her direct supervision. See spec images at right. Note that a Sawzall blade indicating use for "bimetal" or "demolition" is typically not a good choice for this work. Instead, opt for a relatively large-toothed blade that indicates use for "pruning" or "wood" (see image at right).



Woody roots shall not be allowed to remain shattered or broken in any way as a result of site activities. Shattered or broken areas shall be hand dug back into clear healthy root tissue and re-severed at right angles to root growth direction under the direct supervision of the project arborist (PA).

10. Water Spray:

Spray off foliage of all trees within 30 feet of construction activity using a very high power garden hose or a pressure washer system set on low pressure setting to wash both the upper and lower surfaces of foliage. This helps keep the gas portals (stomata) unclogged for better gas exchange which is crucial for normal tree function (see image at right in which



a fire hose system was used to wash approximately 50 redwood tree specimens during a one-year long demolition period). Spray should be applied approximately twice yearly, or when ambient airborne dust concentration is unusually high.

7.0 Tree Protection and Maintenance Directions per Town Code

The following is excerpted directly from the 2015 iteration of the Town of Los Gatos tree ordinance sections which provide specific tree protection directions and limitations on root pruning and above-ground pruning:

Sec. 29.10.1000. New property development.

(a) A tree survey shall be conducted prior to submittal of any development application proposing the removal of or impact to one or more protected trees. The development application shall include a Tree Survey Plan and Tree Preservation Report based on this survey. The tree survey inventory numbers shall correspond to a numbered metal tag placed on each tree on site during the tree survey. The tree survey plan shall be prepared by a certified or consulting arborist, and shall include the following information:

- (1) Location of all existing trees on the property as described in section 29.10.0995;
- (2) Identify all trees that could potentially be affected by the project (directly or indirectly- immediately or in long term), such as upslope grading or compaction outside of the dripline;
- (3) Notation of all trees classified as protected trees;
- (4) In addition, for trees four (4) inches in diameter or larger, the plan shall specify the precise location of the trunk and crown spread, and the species, size (diameter, height, crown spread) and condition of the tree.

(b) The tree survey plan shall be reviewed by the Town's consulting arborist who shall, after making a field visit to the property, indicate in writing or as shown on approved plans, which trees are recommended for preservation (based on a retention rating of high/moderate/low) using, as a minimum, the Standards of Review set forth in section 29.10.0990. This plan shall be made part of the staff report to the Town reviewing body upon its consideration of the application for new property development;

(c) When development impacts are within the dripline of or will affect any protected tree, the applicant shall provide a tree preservation report prepared by a certified or consulting arborist. The report, based on the findings of the tree survey plan and other relevant information, shall be used to determine the health and structure of existing trees, the effects of the proposed development and vegetation removal upon the trees, recommendations for specific precautions necessary for their preservation during all phases of development (demolition, grading, during construction, landscaping); and shall also indicate which trees are proposed for removal. The tree preservation report shall stipulate a required tree protection zone (TPZ) for trees to be retained, including street trees, protected trees and trees whose canopies are hanging over the project site from adjacent properties. The TPZ shall be fenced as specified in section 29.10.1005:

- (1) The final approved tree preservation report shall be included in the building permit set of development plans and printed on a sheet titled: Tree Preservation Instructions (Sheet T-1). Sheet T-1 shall be referenced on all relevant sheets (civil, demolition, utility, landscape, irrigation) where tree impacts from improvements may be shown to occur;
- (2) The Town reviewing body through its site and design plan review shall endeavor to protect all trees recommended for preservation by the Town's consulting arborist. The Town reviewing body may determine if any of the trees recommended for preservation should be removed, if

based upon the evidence submitted the reviewing body determines that due to special site grading or other unusual characteristics associated with the property, the preservation of the tree(s) would significantly preclude feasible development of the property as described in section 29.10.0990;

- (3) Approval of final site or landscape plans by the appropriate Town reviewing body shall comply with the following requirements and conditions of approval:

a. The applicant shall, within ninety (90) days of final approval or prior to issuance of a grading or building permit, whichever occurs first, secure an appraisal of the condition and value of all trees included in the tree report affected by the development that are required to remain within the development using the Tree Value Standard methodology as set forth in this Chapter. The appraisal of each tree shall recognize the location of the tree in the proposed development. The appraisal shall be performed in accordance with the current edition of the Guide for Plant Appraisal published by the Council of Tree and Landscape Appraisers (CTLA) and the Species and Group Classification Guide published by the Western Chapter of the International Society of Arboriculture. The appraisal shall be performed at the applicant's expense, and the appraisal shall be subject to the Director's approval.

b. The site or landscape plans shall indicate which trees are to be removed. However, the plans do not constitute approval to remove a tree until a separate permit is granted. The property owner or applicant shall obtain a protected tree removal permit, as outlined in section 29.10.0980, for each tree to be removed to satisfy the purpose of this division.

(d) Prior to acceptance of proposed development or subdivision improvements, the developer shall submit to the Director a final tree preservation report prepared by a certified or consulting arborist. This report shall consider all trees that were to remain within the development. The report shall note the trees' health in relation to the initially reported condition of the trees and shall note any changes in the trees' numbers or physical conditions. The applicant will then be responsible for the loss of any tree not previously approved for removal. For protected trees, which were removed, the developer shall pay a penalty in the amount of the appraised value of such tree in addition to replacement requirements contained in section 29.10.0985 of this Code. The applicant shall remain responsible for the health and survival of all trees within the development for a period of five (5) years following acceptance of the public improvements of the development or certificate of occupancy.

(e) Prior to issuance of any demolition, grading or building permit, the applicant or contractor shall submit to the Building Department a written statement and photographs verifying that the required tree protection fence is installed around street trees and protected trees in accordance with the tree preservation report.

(f) If required by the Director and conditioned as part of a discretionary approval, a security guarantee shall be provided to the Town. Prior to the issuance of any permit allowing construction to begin, the applicant shall post cash, bond or other security satisfactory to the Director, in the penal sum of five thousand dollars (\$5,000.00) for each tree required to be preserved, or twenty-five thousand dollars (\$25,000.00), whichever is less. The cash, bond or other security shall be retained for a period of one (1) year following acceptance of the public improvements for the development and shall be forfeited in an amount equal to five thousand dollars (\$5,000.00) per tree as a civil penalty in the event that a tree or trees required to be preserved are removed, destroyed or severely damaged.

(g) An applicant with a proposed development which requires underground utilities shall avoid the installation of said utilities within the dripline of existing trees whenever possible. In the event that this is unavoidable, all trenching shall be done using directional boring, air-spade excavation or by hand, taking extreme caution to avoid damage to the root structure. Work within the dripline of existing trees shall be supervised at all times by a certified or consulting arborist.

(h) It shall be a violation of this division for any property owner or agent of the owner to fail to comply with any development approval condition concerning preservation, protection, and maintenance of any protected tree.

(Ord. No. 2114, §§ I, II, 8-4-03)

Sec. 29.10.1005. Protection of trees during construction.

(a) Protective tree fencing shall specify the following:

- (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 10-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 2-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 8.5 x 11-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".

(b) 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.

(Ord. No. 2114, §§ I, II, 8-4-03)

Sec. 29.10.1010. Pruning and maintenance.

All pruning shall be in accordance with the current version of the International Society of Arboriculture Best Management Practices—Tree Pruning and ANSI A300-Part 1 Tree, Shrub and Other Woody Plant Management—Standard Practices, (Pruning) and any special conditions as determined by the Director. For developments, which require a tree preservation report, a certified or consulting arborist shall be in reasonable charge of all activities involving protected trees, including pruning, cabling and any other work if specified.

- (1) Any public utility installing or maintaining any overhead wires or underground pipes or conduits in the vicinity of a protected tree shall obtain permission from the Director before performing any work, including pruning, which may cause injury to a protected tree. (e.g. cable TV/fiber optic trenching, gas, water, sewer trench, etc.).
- (2) Pruning for clearance of utility lines and energized conductors shall be performed in compliance with the current version of the American National Standards Institute (ANSI) A300 (Part 1)- Pruning, Section 5.9 Utility Pruning. Using spikes or gaffs when pruning, except where no other alternative is available, is prohibited.
- (3) No person shall prune, trim, cut off, or perform any work, on a single occasion or cumulatively, over a three-year period, affecting twenty-five percent or more of the crown of any protected tree without first obtaining a permit pursuant to this division except for pollarding of fruitless mulberry trees (*Morus alba*) or other species approved by the Town Arborist. Applications for a pruning permit shall include photographs indicating where pruning is proposed.
- (4) No person shall remove any Heritage tree or large protected tree branch or root through pruning or other method greater than four (4) inches in diameter (12.5" in circumference) without first obtaining a permit pursuant to this division.

(Ord. No. 2114, §§ I, II, 8-4-03)

8.0 Tree Replacement Standards – Los Gatos Town Code

(Excerpted from Town Code 29.10.0985 and 29.10.0987)

- (1) Two (2) or more replacement trees, of a species and size designated by the Director, shall be planted on the subject private property. Table 3-1 The Tree Canopy—Replacement Standard shall be used as a basis for this requirement. The person requesting the permit shall pay the cost of purchasing and planting the replacement trees.
- (2) If a tree or trees cannot be reasonably planted on the subject property, an in-lieu payment in an amount set forth by the Town Council by resolution shall be paid to the Town Tree Replacement Fund to:
 - a. Add or replace trees on public property in the vicinity of the subject property; or
 - b. Add or replace trees or landscaping on other Town property; or
 - c. Support the Town's urban forestry management program. (Ord. No. 2114, §§ I, II, 8-4-03)

Table 3-1 - Tree Canopy - Replacement Standard

Canopy Size of Removed Tree ¹	(Staff is using 24" box size as the Replacement Standard for SFR Projects as of 2016) ^{2,4}	Single Family Residential Replacement ^{3,4}
10 feet or less	Two 24 inch box trees	Two 15 gallon trees
More than 10 feet to 25 feet	Three 24 inch box trees	Three 15 gallon trees
More than 25 feet to 40 feet	Four 24 inch box trees; or Two 36 inch box trees	Four 15 gallon trees
More than 40 feet to 55 feet	Six 24 inch box trees; or Three 36 inch box	Not Available
Greater than 55 feet	Ten 24 inch box trees; or Five 36 inch box trees	Not Available

Notes

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

²Often, 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.

³Single 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.

⁴Replacement 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 Hillside Development Standards and Guidelines Appendix A and Section 29.10.0987 Special Provisions--Hillsides.

Sec. 29.10.0987. Special Provisions—Hillsides

The Town of Los Gatos recognizes its hillsides as an important natural resource and sensitive habitat which is also a key component of the Town's identity, character and charm. In order to maintain and encourage restoration of the hillside environment to its natural state, the Town has established the following special provisions for tree removal and replacement in the hillsides:

- (1) All protected trees located 30 or more feet from the primary residence that are removed shall be replaced with native trees listed in *Appendix A Recommended Native Trees for Hillside Areas of the Town of Los Gatos Hillside Development Standards and Guidelines* (HDS&G).
- (2) All protected trees located within 30 feet of the primary residence that are removed shall be replaced as follows:
 - (a) If the removed tree is a native tree listed in Appendix A of the HDS&G, it shall only be replaced with a native tree listed in Appendix A of the HDS&G.
 - (b) If the removed tree is not listed in Appendix A, it may be replaced with a tree listed in Appendix A, or replaced with another species of tree as approved by the Director.
 - (c) Replacement trees listed in Appendix A may be planted anywhere on the property.
 - (d) Replacement trees not listed in Appendix A may only be planted within 30 feet of the primary residence.
- (3) Replacement requirements shall comply with the requirements in Table 3-1 Tree Canopy Replacement Standard of this Code.
- (4) Property owners should be encouraged to retain dead or declining trees where they do not pose a safety or fire hazard, in order to foster wildlife habitat and the natural renewal of the hillside environment.

9.0 Author's Qualifications

- Continued education through The American Society of Consulting Arborists, The International Society of Arboriculture (Western Chapter), and various governmental and non-governmental entities.
- Contract Town Arborist, Town of Los Gatos, California
Community Development Department / Planning Division
2015-present
- Tree Risk Assessment Qualified (ISA TRAQ Course Graduate, Palo Alto, California)
- Millbrae Community Preservation Commission (Tree Board)
2001-2006
- ASCA Registered Consulting Arborist #401
- ASCA Arboriculture Consulting Academy graduate, class of 2000
- Associate Consulting Arborist

Barrie D. Coate and Associates
4/99-8/99

- Contract City Arborist, City of Belmont, California
Planning and Community Development Department
5/99-present
- ISA Certified Arborist #WC-3172
- Peace Corps Soil and Water Conservation Extension Agent
Chiangmai Province, Thailand 1991-1993
- B.A. Environmental Studies/Soil and Water Resources
UC Santa Cruz, Santa Cruz, California 1990

(My full curriculum vitae is available upon request)

10.0 Assumptions and Limiting Conditions

Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownership to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised and evaluated as through free and clean, under responsible ownership and competent management.

It is assumed that any property is not in violation of any applicable codes, ordinance, statutes, or other government regulations.

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

The consultant/appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

Unless required by law otherwise, the possession of this report or a copy thereof does not imply right of publication or use for any other purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consultant/appraiser.

Unless required by law otherwise, neither all nor any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales, or other media, without the prior expressed conclusions, identity of the consultant/appraiser, or any reference to any professional society or institute or to any initiated designation conferred upon the consultant/appraiser as stated in his qualifications.

This report and any values expressed herein represent the opinion of the consultant/appraiser, and the consultant's/appraiser's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.

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

Unless expressed otherwise:

- a. information contained in this report covers only those items that were examined and reflects the conditions of those items 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 problems or deficiencies of the plants or property in question may not arise in the future.

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

Arborist Disclosure Statement:

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning, and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

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

11.0 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.

Signature of Consultant



12.0 Digital Images

WLCA archived images of survey trees on 11/30/2016. Some trees are omitted from this image display, due to the high density of tree cover which prevented normal photography in many areas of the site.

Tree #	Image	Tree #	Image
L to R 1 and 2		3	
3	 <p data-bbox="289 1214 1062 1455"> This pathway will be demolished, and a new driveway built in close proximity to the trunk. This work will necessarily sever the root system of this tree unless a special specification is used such as a "floating system" placed completely over grade using a biaxial geogrid (e.g. Tensar BX1100). Note however that if grade is cut down, then use of the geogrid would be meaningless in terms of actual root preservation, since the roots of this pine extend between grade and 24 inches below grade (approx.) </p>	4	

Tree #	Image	Tree #	Image
4		5	
6		7	

Tree #	Image	Tree #	Image
8		9	
10			

13.0 Tree Data Table

Tree Tag Number	Genus & Species	Common Name	Trunk1 Diameter	Trunk2 Diameter	Trunk3 Diameter	Sum of All Trunk Diameters	Height & Canopy Spread (Ft.)	Health & Structural Rating (100% Each)	Overall Condition Rating (0 to 100%)	Large Protected Tree? (LPT) 24" oaks, buckeye, and madrone, and 48" other species	(R)emove Tree	(S)ave Tree	(D)isposition Unclear	Severity of Impacts Expected from Site Plan Related Work	Lopsided Canopy (note direction)	Trunk Lean (note direction)	Girdling Roots	Buried Root Crown	Pests and Disease Presence, and Other Notes	SUGGESTED ROOT PROTECTION FENCE RADIUS (Ft.)	MAINTENANCE AND PROTECTION CODES
1	<i>Cupressus sempervirens</i>	Italian cypress	8	2	2	Est. 16	30/6	60/50	50% Fair	No			X	Assume existing roadway has been rebuilt and will not require further work. Also note there is only an estimated 9 feet of open width currently between the canopies of trees #1 and #2, which could be considered a violation of local fire truck clearance requirements.					Susceptible to drought and canker issues.	(If retained) 5 feet radius (Note that tree canopy extends into the roadway, and may be damaged by machinery, etc. during ingress/egress)	RPZ
2	<i>Cupressus sempervirens</i>	Italian cypress	12	5	2	Est. 19	35/10	60/50	60% Fair	No			X	(Same as tree #1)					Susceptible to drought and canker issues.	(If retained) 5 feet radius (Note that tree canopy extends into the roadway, and may be damaged by machinery, etc. during ingress/egress)	RPZ

Tree Tag Number	Genus & Species	Common Name	Trunk1 Diameter	Trunk2 Diameter	Trunk3 Diameter	Sum of All Trunk Diameters	Height & Canopy Spread (Ft.)	Health & Structural Rating (100% Each)	Overall Condition Rating (0 to 100%)	Large Protected Tree? (LPT) 24" oaks, buckeye, and madrone, and 48" other species	(R)Remove Tree	(S)ave Tree	(D)isposition Unclear	Severity of Impacts Expected from Site Plan Related Work	Lopsided Canopy (note direction)	Trunk Lean (note direction)	Girdling Roots	Buried Root Crown	Pests and Disease Presence, and Other Notes	SUGGESTED ROOT PROTECTION FENCE RADIUS (Ft.)	MAINTENANCE AND PROTECTION CODES
3	<i>Pinus halepensis</i>	Aleppo pine (initial identification, not verified 100%)	18.0			18.0	45/28	85/85	85% Good	No	X			Impacts could be severe, depending on the methods and materials used to renovate the driveway. Disregard the architect's rendering of the canopy which is too small.					Note limbs hang down to 9 feet above grade, and will need to be pruned up to gain vertical airspace clearance.	7 to 12 feet radius	Pruning to clear driveway, RPZ, W, TB
4	<i>Quercus kelloggii</i>	California black oak	30.6	14.7		45.3	35/45	75/50	Est. 60% Fair	YES	X		Owner notes this as two trees, but in actuality, it is a single tree. The entire tree will need to be removed if project is built as proposed.					Note hollow area at grade is 19 inches in diameter. Ratio of live wood to trunk radius is approx. 0.33, which is approximately the threshold for removal for structural stability.	Proposed new residence will be approx. 2.5 feet from trunk edge of this tree. The only way the tree could be retained in this case would be if a floating grade beam and pier system were to be designed to avoid destruction of the root system altogether. Given that the tree is proposed by the project team to be removed, this is a non-issue unless Staff decides that the tree needs to be retained.	n/a	
5	<i>Quercus douglasii</i>	Blue oak	20.7			20.7	35/40	80/60	75% Good	No	X		Canopy is severely lopsided downhill. Project team did not note this tree on the plan sheet. CTA assumes tree will need to be removed, based on site plan footprint.	S					n/a	n/a	

Tree Tag Number	Genus & Species	Common Name	Trunk1 Diameter	Trunk2 Diameter	Trunk3 Diameter	Sum of All Trunk Diameters	Height & Canopy Spread (Ft.)	Health & Structural Rating (100% Each)	Overall Condition Rating (0 to 100%)	Large Protected Tree? (LPT) 24" oaks, buckeye, and madrone, and 48" other species	(R) Remove Tree	(S) Save Tree	(D) Disposition Unclear	Severity of Impacts Expected from Site Plan Related Work	Lopsided Canopy (note direction)	Trunk Lean (note direction)	Girdling Roots	Buried Root Crown	Pests and Disease Presence, and Other Notes	SUGGESTED ROOT PROTECTION FENCE RADIUS (Ft.)	MAINTENANCE AND PROTECTION CODES
6	<i>Quercus douglasii</i>	Blue oak	18.5			18.5	35/30	80/60	70% Good	No	X			Conflicts with proposed new residence footprint.	S				Trunk leans downhill. Canopy leans downhill.	n/a	n/a
7	<i>Pinus halepensis</i>	Aleppo pine	11.9			11.9	30/20	75/50	61% Fair	No		X		Tree not noted on any sheet. Tree is in a position that will allow for excellent retention via use of chain link protection fencing. Minimal impacts from project expected, if fencing is erected per the CTA's map	E				Fencing to protect this tree's root zone will cause loss of most or all potential staging area in the rear yard.	20 to 25 feet radius	RPZ
8	<i>Quercus douglasii</i>	Blue oak	15.9			15.9	40/30	85/65	75% Good	No		X		Tree not noted on any sheet. Tree is in a position that will allow for excellent retention via use of chain link protection fencing. Minimal impacts from project expected, if fencing is erected per the CTA's map	N + W				Fencing to protect this tree's root zone will cause loss of most or all potential staging area in the rear yard.	25 to 35 feet radius	RPZ

Tree Tag Number	Genus & Species	Common Name	Trunk1 Diameter	Trunk2 Diameter	Trunk3 Diameter	Sum of All Trunk Diameters	Height & Canopy Spread (Ft.)	Health & Structural Rating (100% Each)	Overall Condition Rating (0 to 100%)	Large Protected Tree? (LPT) 24" oaks, buckeye, and madrone, and 48" other species	(R)Remove Tree	(S)ave Tree	(D)isposition Unclear	Severity of Impacts Expected from Site Plan Related Work	Lopsided Canopy (note direction)	Trunk Lean (note direction)	Girdling Roots	Buried Root Crown	Pests and Disease Presence, and Other Notes	SUGGESTED ROOT PROTECTION FENCE RADIUS (Ft.)	MAINTENANCE AND PROTECTION CODES
9	<i>Heteromeles arbutifolia</i>	California toyon	4	4	4	Est. 18	20/20	85/70	78% Good	No	X		Tree not noted on any sheet. Tree is in a position that will allow for excellent retention via use of chain link protection fencing. Minimal impacts from project expected, if fencing is erected per the CTA's map.					Fencing to protect this tree's root zone will cause loss of most or all potential staging area in the rear yard. Note that the neighbor has built landscaped areas with path stones, etc. that are near this tree.	10 to 15 feet radius	RPZ	
10	<i>Ulmus sp.</i>	Elm species	15.1			15.1	17/17	10/10	10% Very Poor	No		X	Tree is currently in very poor condition, with the mainstem split out such that the tree is only a remnant stump with profuse sprouting occurring. It is not clear if the owner wishes to retain this tree, or remove it.					Tree is a remnant stump with profuse sprouting. Also note that the neighbor's residence encroaches to within 1 or 2 horizontal feet of the property line. It is not clear whether the neighboring residence will need to be partially demolished to achieve standard code setbacks.	(If retained) 3 to 10 feet radius	RPZ, TB	

Tree Maintenance and Protection Codes Used in Data Table:

RPZ: Root protection zone fence, chain link, with 2" diameter iron posts driven 24" into the ground, 6 to 8 feet on center max. spacing.

RB: Root buffer consisting of wood chip mulch laid over existing soil as a 12 inch thick layer, overlain with 1 inch or greater plywood strapped together with metal plates. This root buffer or soil buffer should be placed over the entire width of the construction corridor between tree trunks and construction.

RP: Root pruning. Prune woody roots measuring greater than or equal to 1 inch diameter by carefully back-digging into the soil around each root using small hand tools until an area is reached where the root is undamaged. Cleanly cut through the root at right angle to the root growth direction, using professional grade pruning equipment and/or a Sawzall with wood pruning blade. Backfill around the cut root immediately (same day), and thoroughly irrigate the area to saturate the uppermost 24 inches of the soil profile.

BDRP: Back-dig root pruning: Hand-dig around the broken root, digging horizontally into the open soil root zone until a clean, unbroken, unshattered section of the root is visible. Proceed as per 'root pruning'.

RCX: Root crown excavation. Retain an experienced arborist to perform careful hand-digging using small trowels or other dull digging tools to uncover currently-buried buttress root flares. Digging shall occur between trunk edge and at least two (2) feet horizontal from trunk edge. The final soil elevation will be at a level such that the tree's buttress roots visibly flare out from the vertical trunk.

TB: Trunk buffer consists of 20-40 wraps of orange plastic snow fencing to create a 2 inch thick buffer over the lowest 8 feet of tree trunk (usually takes at least an entire roll of orange fencing per each tree). Lay 2X4 wood boards vertically, side by side, around the entire circumference of the trunk. Secure buffer using duct tape (not wires).

F: Fertilization with slow-release Greenbelt 22-14-14 tree formula, as a soil injection application using a fertilizer injection gun. This brand and formulation is commonly used by reputable tree care companies in the Bay Area. Apply at label rate and injection hole spacing.

M: 4-inch thick layer of chipper truck type natural wood chips (example source: Lyngso Garden Supply, self pick-up). Do not use bark chips or shredded redwood bark.

W: Irrigate using various methods to be determined through discussion with General Contractor. Irrigation frequency and duration to be determined through discussion and/or per directions in this report. Native oak species typically require 1x/month irrigation, while other tree species tend to prefer 2x/month or 4x/month moderate to heavy irrigation during construction.

P: Pruning per specifications noted elsewhere. All pruning must be performed only under direct site supervision of an ISA Certified Arborist, or performed directly by an ISA Certified Arborist, and shall conform to all current ANSI A300 standards.

MON: A Project Arborist must be present to monitor specific work as noted for each tree.