

**Assessment of Eight (8) Protected-Size Trees
At and Adjacent to
94 Hernandez
Los Gatos, California**

Prepared for:
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Field Visit:
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12/16/2024

Report by CTA
Iteration 12/22/2024 R1

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1.0 Summary in Table and Paragraph Formats

- a. Below is a matrix style overview of protected-size trees (non-exempt species, 4-inches diameter at 4.5 feet above grade) on and adjacent to the site. In the table, the CTA (Contract Town Arborist) has outlined expected impacts to each tree, along with suggestions for adjustments to the plan set (if applicable) that will optimize tree survival over the long term. Note that in the case of 94 Hernandez, the property owner of native oaks #41, 42, 43, 44, and #45 is 124 Hernandez.

Mitigation replacement rate and size is noted for each tree in the case that removal or damage to trees occurs.

Note: Only trees within relatively close proximity of proposed work are included in this tree study (e.g. tree trunks located between approximately zero and 30 linear feet of current proposed new grading, utility trenching, excavation, haul routes, landscaping, etc. as shown on proposed plans, and regulated species/size trees with canopy driplines that encroach over the applicant's property lot line.

New Staff Protocols 2021 Onward / High Risk Trees & Extreme Risk Trees & Dead Trees

Per my communications with Town Planning Division Staff in 2021, all trees with a TRAQ risk rating of "high" or "extreme", and all trees in "dead" (i.e. 0 to 5% overall condition ratings) are allowed to be removed as no-fee removals, without any canopy replacement fees or plantings required, when a site is undergoing entitlement review. The reference for this no-fee/no-replacement removal standard is Town tree ordinance code section 29.10.0985.

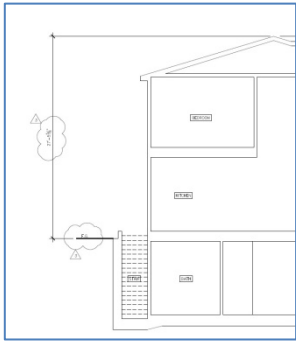
Table 1.0(a) (REFER TO THE CTA'S TREE MAP MARKUP WHEN REVIEWING THIS MATRIX)

Note that there are zero (0) protected-size trees expected to be removed as part of the applicant's site plan project work. However, it is still possible that some negative impacts to trees being protected in place may occur as a result of the proposed addition work and proposed garage renovation work. Use of trunk buffer wraps, horizontal stem wraps, and chain link root protection zone fencing per the CTA's tree map markup in section 12.0 of this report, will reduce impacts to trees to a less than significant level (assuming that these protection measures are set up correctly per spec prior to commencement of site work, and maintained in good condition throughout the entire site plan work period until final occupancy inspection by Town Staff).

Line Number	Tree Tag Number	Common Name	Large Protected Tree (LPT)?	Appraised Value	Site plan changes or restrictions required to reduce impacts to "less than significant"	Replacement Rate Per Canopy Lost	Replacement Size Tree
1	41	California valley oak	--	\$230.	Avoid irrigation pipe trenching deeper than 4 inches below grade, during landscape installation along the west property line area. Fence off root zone per the red dashed line on the CTA's tree map markup in this report, throughout the entire demolition, grading, and construction process.	3	24" box

Line Number	Tree Tag Number	Common Name	Large Protected Tree (LPT)?	Appraised Value	Site plan changes or restrictions required to reduce impacts to "less than significant"	Replacement Rate Per Canopy Lost	Replacement Size Tree
2	42	California valley oak	--	\$1,830.	Avoid irrigation pipe trenching deeper than 4 inches below grade, during landscape installation along the west property line area. Fence off root zone per the red dashed line on the CTA's tree map markup in this report, throughout the entire demolition, grading, and construction process. CRITICAL ROOT ZONE: 12 FEET RADIUS.	3	24" box
3	43	Coast live oak LPT	YES	\$24,900.	Avoid irrigation pipe trenching deeper than 4 inches below grade, during landscape installation along the west property line area. Fence off root zone per the red dashed line on the CTA's tree map markup in this report, throughout the entire demolition, grading, and construction process. Storm Drain Inlet and Piping Proposed: Note that the proposed SD box and pipe encroach into the area noted on the CTA's tree map as "Critical Root Zone" (CRZ) which is shown as a red highlighted area. New drain inlet box and storm drain pipe build are shown on applicant plans at roughly 13 to 14 feet radius offset from the mainstem edge of this Large Protected Tree (LPT) designate native oak specimen, which is within the CRITICAL ROOT ZONE of 19 FEET RADIUS. Staff may want to have the applicant redesign this storm drain facility in order to move it farther eastward to outside of the author's suggested RPZ fence alignment shown on the CTA tree map as a red dashed line.	10	24" box

Line Number	Tree Tag Number	Common Name	Large Protected Tree (LPT)?	Appraised Value	Site plan changes or restrictions required to reduce impacts to "less than significant"	Replacement Rate Per Canopy Lost	Replacement Size Tree
4	44	Coast live oak	--	\$1,260.	Avoid irrigation pipe trenching deeper than 4 inches below grade, during landscape installation along the west property line area. Fence off root zone per the red dashed line on the CTA's tree map markup in this report, throughout the entire demolition, grading, and construction process. The CRITICAL ROOT ZONE of this tree is 8 feet radius, which means the applicant's proposed graded drainage swale will be outside of the CRZ, but will encroach within the CRZ of tree #45 (refer to line 5 of this table below).	3	24" box

Line Number	Tree Tag Number	Common Name	Large Protected Tree (LPT)?	Appraised Value	Site plan changes or restrictions required to reduce impacts to "less than significant"	Replacement Rate Per Canopy Lost	Replacement Size Tree
5	45	Coast live oak LPT	YES	\$12,600.	Avoid irrigation pipe trenching deeper than 4 inches below grade, during landscape installation along the west property line area. Fence off root zone per the red dashed line on the CTA's tree map markup in this report, throughout the entire demolition, grading, and construction process. Proposed new graded swale, stairs, and basement structural wall excavation are all shown on applicant plans at distances within the CRITICAL ROOT ZONE of 18 feet radius from the mainstem edge of this Large Protected Tree (LPT) designate native oak specimen. Staff may or may not choose to have the applicant redesign the proposed residence build footprint in order to move it farther eastward to outside of the CRZ. The author's suggested Root Protection Zone fence (RPZ) is shown on the attached tree map markup as a red dashed line at approximately 14 feet radius offset from the mainstem edge of tree #45: a distance which is "almost" the Critical Root Zone offset radius of 18 feet, and may be acceptable from a "compromise standpoint" in terms of maintaining relatively long root zone radius protected behind hard fencing. Before deciding on this fencing/buildout issue, there is the additional issue of negative impact of required clearance pruning of tree #45 to reduce length of canopy which encroaches over the proposed 27 foot height residence massing with roughly 35 feet radius east extension, with limb elevations ranging from 12 feet to 18 feet elevation above grade, and smaller diameter branches, twigs, and foliage hanging down to 10 feet. 	6	24" box

Line Number	Tree Tag Number	Common Name	Large Protected Tree (LPT)?	Appraised Value	Site plan changes or restrictions required to reduce impacts to "less than significant"	Replacement Rate Per Canopy Lost	Replacement Size Tree
6	46	Italian cypress	--	\$660.	Fence off root zone per the red dashed line on the CTA's tree map markup in this report, throughout the entire demolition, grading, and construction process. Minimal impacts to tree root zone expected, if protection fencing can be maintained at a few feet south of the property line fence.	2	24" box
7	47	Italian cypress	--	\$660.	Fence off root zone per the red dashed line on the CTA's tree map markup in this report, throughout the entire demolition, grading, and construction process. Minimal impacts to tree root zone expected, if protection fencing can be maintained at a few feet south of the property line fence.	2	24" box
8	48	Italian cypress	--	\$660.	Fence off root zone per the red dashed line on the CTA's tree map markup in this report, throughout the entire demolition, grading, and construction process. Minimal impacts to tree root zone expected, if protection fencing can be maintained at a few feet south of the property line fence.	2	24" box

2017 Town of Los Gatos In-lieu fee equivalent = \$250 per each required 24" box mitigation tree planting not installed on the site. (This project is on a lot that is greater than 10,000 square feet, and is therefore not allowed to use 15 gallon size trees for on-site replacement plantings).

1.0 (b) Summary of tree disposition and tree issues, based on the set of plans submitted to planning division:

1.0b (i) OVERVIEW

8 total trees #41 through #48 were assessed by the CTA in close proximity to proposed work. **Trees #43 and #45** are considered **Large Protected Trees (LPT)** per Town tree ordinance definitions.

Total value of all 8 study trees expected to be protected in place (PIP): \$42,800.

The Critical Root Zone (CRZ) of trees #43 and #45 are 19 feet radius and 18 feet radius offset from mainstem edges, respectively, which means that chain link tree root zone protection fencing (RPZ fencing) needs to be set up per the tree map markup by the CTA attached to this arborist report.

Note however that the CRZ of tree #45 shown as red highlighting on the tree map markup actually extends eastward beyond the applicant's proposed structural wall, where excavation for the basement cavity will occur, which means that the root system of tree #45 will be severed (destroyed) at an offset radius distance from mainstem somewhat shorter than the suggested CRTZ offset radius distance of 18 feet from mainstem.

Also note that the applicant's proposed roofline is slightly above 27 feet elevation above grade at the finish roof peak, with a height of roughly 22 feet above grade at the westmost end of the residence facing the tree #45 canopy. This means that the tree #45 canopy of height ranging from 12 feet to 18 feet minimum elevation above grade will actually conflict directly with the applicant's proposed building massing (see CTA tree map black clouding which represents current canopy extent as of December, 2024, versus the applicant's proposed residence exterior walls and roofline). The extent of required canopy pruning to clear the residence and any airspace above the residence to allow for roof construction, will mean that the canopy will be negatively impacted to a severe degree throughout the eastmost 25 feet of extent of the tree #45 canopy due to removal of live limbs, branches, twigs, and foliage within that area.

CUMULATIVE IMPACTS TO TREE #45 EXPECTED:

The combination of root loss during proposed basement structural basement wall excavation at approximately 16 to 17 feet east of mainstem, plus proposed swale grading west of the structural wall closer to the tree, plus a severe degree of horizontal and vertical airspace clearance pruning required to clear the proposed residence exterior walls and roofline, are an overall "severe impact" to the tree, in terms of potential long term loss of vigor (health). Impacts to above ground (canopy) and below ground (root system) portions of the tree are considered "cumulative impacts", and are considered in combination to determine actual severity of total expected construction related impact to the tree's health and structure.

Note that this is a neighbor-owned tree on the 124 Hernandez property that may be damaged to a severe degree due to planned site work at 94 Hernandez.

PROTECTION

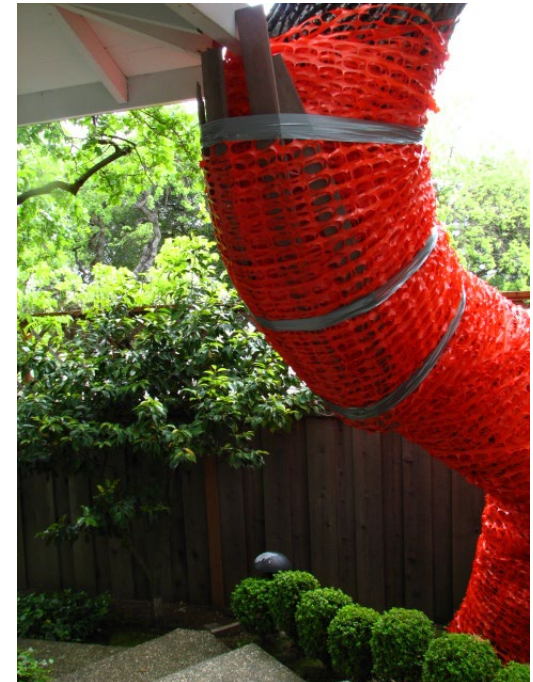
Protection will involve use of lower mainstem wraps of multiple rolls of orange plastic per each single tree, multiple rolls of orange plastic snow fencing wrap for horizontal overhanging stems, and chain link fence panels for root zone protection along the red dashed lines indicated on the CTA's tree map markup in section 12.0 of this report.

REMOVALS

(None).

MITIGATION FEES

Mitigation in-lieu fees required for **removal of zero on-site trees = (\$0).**



1.0b (ii) IMPACTS TO TREES BEING PROTECTED IN PLACE / MITIGATION OF IMPACTS

- Tree #43 (Off-site Large Protected Tree): Consider adjusting the location of the proposed new storm drain inlet box and storm drain pipe trench to farther eastward than currently proposed on the applicant plan sheets, in order to allow for protective fencing to be erected along the red dashed line indicated on the CTA tree map markup.
- Tree #45 (Off-site Large Protected Tree):
 - STRUCTURAL BASEMENT WALL: Consider adjusting the proposed building footprint farther eastward to push the proposed structural basement wall farther eastward than currently proposed on applicant plan sheets (optional).
 - STORM DRAIN SYSTEM: Consider adjusting the proposed new graded swale to farther offset from mainstem to allow fencing to be erected as far as possible offset from mainstem (optional).
 - CANOPY VS. BUILDING EXTERIOR ELEVATIONS: Consider adjusting the proposed new residence exterior wall location facing this tree which is currently proposed as a 22 foot height massing, with a finish roof peak of 22+ feet elevation above grade (optional). It is not clear whether any adjustment of the proposed massing could reduce the “severe” degree of clearance pruning of the eastmost 25 feet of canopy mass down to a “minimal” degree of pruning, since the canopy overhangs some 25 feet length of new residence massing.
 - LANDSCAPE PLANTINGS AND IRRIGATION PIPE TRENCHING: Verify that all landscape plant and tree installation irrigation systems to be installed within the tree #45 “Critical Root Zone” of 18 feet radius from mainstem will be on-grade “floating” drip emitter systems and/or bubbler systems set on top of grade to avoid irrigation pipe deep trenching impacts to the tree root zone. This type of minimal impact floating irrigation system needs to be used for the entire length of the oak tree #41, 42, 43, 44, 45 critical root zone (CRZ) area, which is the entire west side of the property shown as red highlight on the CTA’s tree map markup.
- (ALL OAKS) / HISTORICAL CONCRETE MATERIAL DEMOLITION: There is a concrete linear foundation or patio edging (?) of unknown extent, depth of embedment, and origin, along the east side of the existing wooden property line fence adjacent to oaks #43, 44, 45 that is expected to be demolished during site work at this project address. The CTA suggests having an arborist monitor this work in the case that the materials are somehow comingled with roots extended from the oak trees on the other side of the fence (oak tree mainstems are located on west side of the wooden property line fence). If the material is demolished, it may cause damage to oak roots, and may also damage the existing wooden property line fence pier footings, in which case it is possible the entire property line fence would be required to be removed and replaced, causing further damage to the oak trees’ root systems in the process, and opening up the entire open soil root zones of the oaks to potential construction-related foot traffic and other activity such as machinery movement (if the wooden fence were to be temporarily removed).

1.0b (iii)

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. In the case of this site, with 8 protected-size trees being retained on site and adjacent to site ($8 \times \$5,000 = \$40,000$.), the **minimum \$25,000 bond amount** therefore kicks in as the bond dollar amount appropriate for this project.

2.0 Assignment & Background

Walter Levison, Contract Town Arborist (CTA) was directed to tag and assess all Protected-Size (4 inch diameter and greater) trees in relatively close proximity to the proposed site plan project.

On site and off site trees were tagged with numeric tags "41" through "48" by the CTA, affixed to the mainstem of each tree at roughly eye-level. These tag numbers are noted on the CTA's tree map markup attached to the end of this written report. Neighbor trees #45 through #48 were not tagged due to lack of access.

Oaks #41, 42, 43, 44, and #45 are located on neighbor property 124 Hernandez, in very close proximity to the property line wooden fence.

(Tree #43 appears to actually be a joint-owned tree located on both 94 Hernandez and 124 Hernandez, assuming the existing wooden fence is actually the legal property lot line, with a portion of the mainstem cross section extending eastward across the property line wooden fence at grade).

The CTA summarized the tree situation from a long-term site manager's perspective, both in table form and in written form above, in section 1.0.

Specific recommendations for tree maintenance and protection are outlined below in section 4.0.

Digital images of the trees archived by the CTA are included below in this report for reference of existing pre-project conditions.

The tree data table with detailed tree information based on the CTA's field assessment December, 2024 makes up section 11.0 of this report. The CTA used a forester's D-tape to determine trunk diameter at 4.5 feet above grade, or at a narrow point below a mainstem fork if the fork occurs at 4.5 feet above grade. The D-tape converts actual trunk circumference into diameter in inches and tenths of inches. Tree heights were measured using a digital Nikon forestry pro 550 hypsometer. Tree canopy spread was visually estimated as a total diameter spread for each tree specimen.

The embedded tree map mark-up in report section 12.0 prepared by the CTA was created using the applicant's grading and drainage sheet C-1 iteration February 8, 2023. This tree map was marked up with various highlight coloration as discussed in section 12.0. The most important highlight to note on the CTA's map markup is the red highlighted areas which indicate the extent of "critical root zone" minimum suggested offset radius for all new construction activity, which actually extends into the proposed new basement structural wall excavation zone, proposed swale grading area, proposed stairs, and proposed vertical exterior walls along the west side of the proposed new residence. Combined impacts of proposed excavation work and airspace clearance pruning required to clear the above ground building massing are a cumulative "severe" impact to tree #45 "health", and likely also "structure".

3.0 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 kelloggii*), 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)

Note that per the exception in part 'a' above, fruiting olive trees with stems totaling less than 18 inches are considered non-protected trees exempt from regulation by the Town.

4.0 Recommendations

1. Project Arborist ("PA"):

Initial Signoff

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 Ms. Jocelyn Shoopman, Senior Planner, at:

jshoopman@losgatosca.gov

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

"The required protective fencing and trunk buffer wraps indicated in the CTA's arborist report recommendations section 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 (jshoopman@losgatosca.gov) beginning with the initial tree protection verification approval letter".

The project arborist (PA) (not Walter Levison, Contract Town Arborist) is suggested to work with the project team to directly monitor a portion of the following items such as:

- **Clearance pruning of tree #45 eastmost 25 feet of canopy massing to clear exterior finish walls and finish roof which appear to extend to between 22 feet elevation and 27 feet elevation per applicant's 2023 side view drawings. A "severe" degree of pruning will be performed on a neighbor-owned tree at 124 Hernandez, possibly reducing its overall condition to "poor" or "fair" from current "good" overall condition. The pruning is expected to occur throughout the eastmost 25 feet of horizontal length of canopy (i.e. severe pruning of the canopy mass between roughly 10 feet east and 35 feet east of the wooden property line fence where the tree mainstem base is located).**

2. Project Team Pre-Project Clarifications or Changes Requested:

It is suggested that Town Staff request clarification from the applicant, or request special work methods, materials, specifications, and/or buildout location adjustments, for the following items that may reasonably be expected to occur as part of the applicant's planned site work:

2a. Basement structural wall east of **tree #45**. Staff may want to discuss optional adjustment of basement structural wall location to push proposed excavation farther eastward to outside critical root zone of tree #45 which is indicated on the CTA's map as a red highlighted area. It is not known whether adjustment of the proposed basement structural wall to further east of its position shown on the 2023 plan sheets is feasible.

2b. Swale east of **tree #45**. Staff may want to have applicant move or remove this drainage swale and inlet drain box, to avoid root zone damage to tree #45 root system within critical root zone which for this tree is 18 feet offset radius from mainstem edge as shown by the red highlighted area on the CTA's tree map markup.

2c. Storm drain and pipe east of **tree #43**. Staff may want to have applicant push the proposed drain inlet box and piping to outside of (east of) the critical root zone of tree #45, which is 19 feet offset radius from the mainstem edge of this tree. Note that the CTA's suggested chain link protection fencing is indicated at much farther eastward offset than the location of the applicant's current proposed location of the storm drain facility.

2d. Finish exterior roof and exterior walls vs. **tree #45** canopy clearance pruning. It is not clear whether the severe degree of direct conflict between proposed building walls and finish roof can be adjusted to clear the eastmost 25 horizontal feet of the tree #45 canopy massing, to avoid pruning of a severe degree that would otherwise reduce the tree's overall condition rating from current "good" overall condition to an expected "fair" or "poor" condition if the building footprint were not adjusted from its position as shown on proposed plan sheets. Current proposed residence buildout will require clearance pruning between 10 feet east of the wooden property line fence and 35 feet east of the wooden property line fence, removing large diameter limbs as well as live branches, twigs, and foliage, to a "severe" degree. The residence is currently shown with exterior walls that extend vertically to 22 feet elevation, and a proposed finish roof peak of 27+ feet above grade, which will conflict with the current canopy that exhibits large diameter limbs of 12 to 18 feet elevation above grade, and live branches, twigs, and foliage that hang down to 10 feet above grade.

It is not clear if a shift of the proposed residence footprint eastward from the current applicant-proposed location would render the site plan project possibly unbuildable (a subject outside the CTA's purview).

2e. Historical concrete materials and Wooden Fence Pier Footings: Verify whether existing linear concrete material located just east of the wooden fence property line is to remain or be demolished along the west site property line wooden fence near to **trees #43, 44, 45**. The removal of this material could potentially cause severe damage to comingled oak tree roots growing around the historical materials. Also, the concrete materials appear to be connected in some manner to the existing wooden property line fence pier footings, which means that removal of the linear concrete material may destabilize the wooden fence pier footings to some degree, which would then require that the fence itself including the concrete pier footings be demolished and rebuilt, potentially causing further damage to or destruction of woody root mass connected to study oak specimens noted above.

2f. Landscape Irrigation Pipe Trenching Layout: The applicant's proposed landscape plan sheet included with the submittal set of plans does not indicate locations of or specifications for irrigation pipe trenching.

The CTA suggests that Staff have the applicant submit an irrigation plan sheet that indicates maximum of 4 inches of cut depth for all irrigation pipe trenching within 30 linear feet of oaks #41, 42, 43, 44, 45, to avoid unnecessary damage to or loss of woody roots attached to these native oak tree specimens.

Toward this end, the use of drip emitter lines and/or irrigation bubblers will be required to be indicated on the irrigation plan, to avoid deep trenching beyond the suggested maximum 4 inches cut depth for irrigation pipe trenching suggested by the CTA.

At right is an image of commercial grade ultra heavy duty thick-walled UV-resistant flexible $\frac{1}{2}$ " diameter black PVC piping that is used by many of the CTA's project teams for installation of "floating" over-grade irrigation systems for new trees on projects that the author is involved with. The bubblers attached to this type of piping are $\frac{1}{2}$ " diameter flood bubblers that emit either 0.50, 1.0, or 2.0 gallons per minute each, as noted embossed on the top of each black plastic bubbler. For example, embossing will state "0.50 GPM" on the top of the bubbler.



The advantages of using this type of commercial super duty type thick-walled tubing are:

- Can be placed in sun over-grade without trenching which avoids damaging tree root zones.
- Material is fully UV resistant when stated so on the exterior pipe wall (see image).
- Material is flexible and can be bent in many directions.
- Material is highly resistant to physical damage by rodents and string trimmers.
- Material is actually flexible PVC, which means it can be solvent welded (cold blue-glued) to all standard schedule 40 white PVC components such as the threaded end conversion piece shown in the image. Once this piece is blue-glued to the flex tubing, the flood bubbler simply screws on over the schedule 40 piece, and can be easily removed for cleaning out to remove silt and other debris on a yearly basis, and re-screwed on in seconds. If the flood bubbler itself breaks or malfunctions, it can be easily removed and replaced in seconds over the threaded schedule 40 end piece shown in this image.

3. Security Bond:

It is suggested that Town Staff condition this project on receiving security bond monetary funds from the applicant in the amount of **\$25,000**, as a hedge against potential decline or death of one or more of the survey trees to remaining on-site or off-site in close proximity to the proposed site plan project. Staff may choose to reduce this fee to a lesser amount. See table 1.0(a) for individual tree appraised values.

This security bond is suggested to allow the Town to hedge against damage to or decline/death of **trees #43 and #45**, which are Large Protected Tree (LPT) designates of large mainstem diameter size class and canopy extent.

4. Chain Link Fencing Type I and/or Type II Root Protection Zone (RPZ):

Prior to commencing site demolition, erect chain link fencing panels set on moveable concrete block footings. Wire the fence panels to iron layout stakes pounded 24 inches into the ground at the ends of each fence panel to keep the fence route stabilized and in its correct position. Do not wire the fence panels to the trunks of the trees.

Pre-construction fence:

Per the heavy red dashed lines indicated on the tree map mark-up in the CTA's arborist report section 12.0.

Protective fencing shall be at the farthest possible offset distances from trees being retained.

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 (project arborist) monitoring.

Maintain fencing in place until final occupancy signoff by the Town's inspector.

(Note that this particular project indicates planting of a landscape plan and assumed irrigation piping, which will assumedly require removal of the RPZ fencing at the end phase of project to allow for landscape and irrigation installation).



5. Trunk Buffer Wraps:

Trunk Buffer Wraps: For each of trees #41, 42, 43, 44, 45.

Wrap the lowermost 6 feet of mainstem with three (3) entire rolls of orange plastic snow fencing (per each single tree).

Secure the plastic with duct tape around the outside only.

Place wooden 2X4 boards vertically, along the side of mainstem that faces expected construction and related activity. Continue wrapping duct tape over the wooden boards to secure them in place.

Refer to the digital image at right of a CTA project that correctly installed trunk buffer wraps per this specification, showing the wooden board install method with boards on the outside of the plastic wraps.

Given that the trees are located west of an existing wooden property line fence, the wooden boards around the orange plastic are designed to provide a redundant level of protection in the case that the wooden property line fence is required to be demolished and rebuilt. The CTA suspects that the fence will in fact be rebuilt, given that the fence footings are comingled with existing historical concrete foundation materials expected to be demolished during the site project work.



6. Signage: The RPZ fencing shall have one sign affixed with UV-stabilized zip ties to the chain link at eye level for every 15 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:

NOTE: THE CTA IS NOT THE "PROJECT ARBORIST". The project arborist is a private arborist contracted by the applicant or applicant's team of professionals who then monitors the project and reports to Town of Los Gatos planning division on a monthly basis with tree condition and tree protection inspection reports.

7. Water Spray:

Spray off foliage of all trees **within 20 feet of construction** activity using a very high power garden hose or a pressure washer system set on low pressure 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.

Spray should be applied approximately **once-monthly**, or when ambient airborne dust concentration is unusually high.



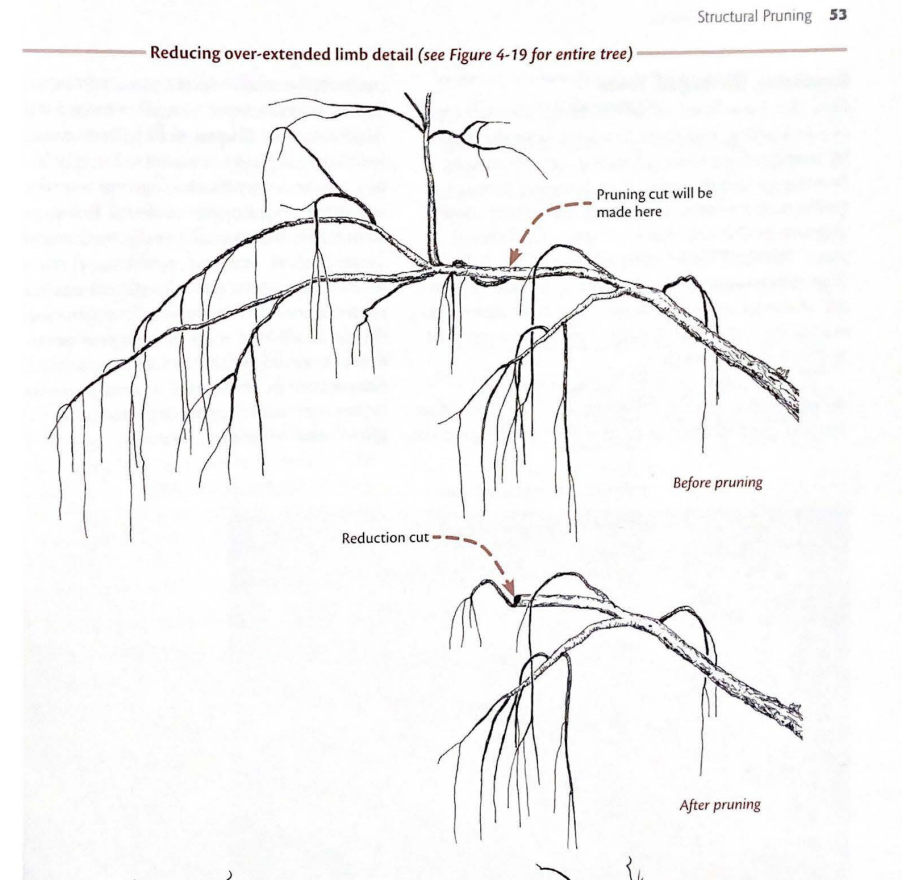
8. Pruning / Stem Length Reduction Pruning:

Retain an ISA certified arborist to perform or directly supervise pruning (on-site) per the following specifications:

STEM LENGTH REDUCTION PRUNING: Horizontal and vertical airspace clearance pruning of neighbor-owned trees #43 and #45 on 124 Hernandez should focus almost exclusively on stem length reduction pruning: a process which involves removal of selected ends of stems or limb systems to shorten the canopy from the outermost ends of the stems/limbs (refer to the spec image at right). Stems are removed at a viable fork using a “reduction cut”, leaving in place a side branch that is of large enough in diameter to remain viable and take on the role of terminal growth (i.e. typically the side branch will be at least 1/3 the diameter of the original stem being cut).

All pruning will be required to follow the standards outlined in the most currently published iteration of **ANSI-A300 Part 1: tree, shrub, and other woody plant maintenance / standard practices / pruning.**

Refer also to the comparison graphic on the following page where the CTA visually contrasts incorrect “liontail pruning” and correct stem “length reduction pruning”.



**AUTHOR'S GRAPHIC / LION TAIL PRUNING VS.
PROPER ENDWEIGHT REDUCTION PRUNING:**

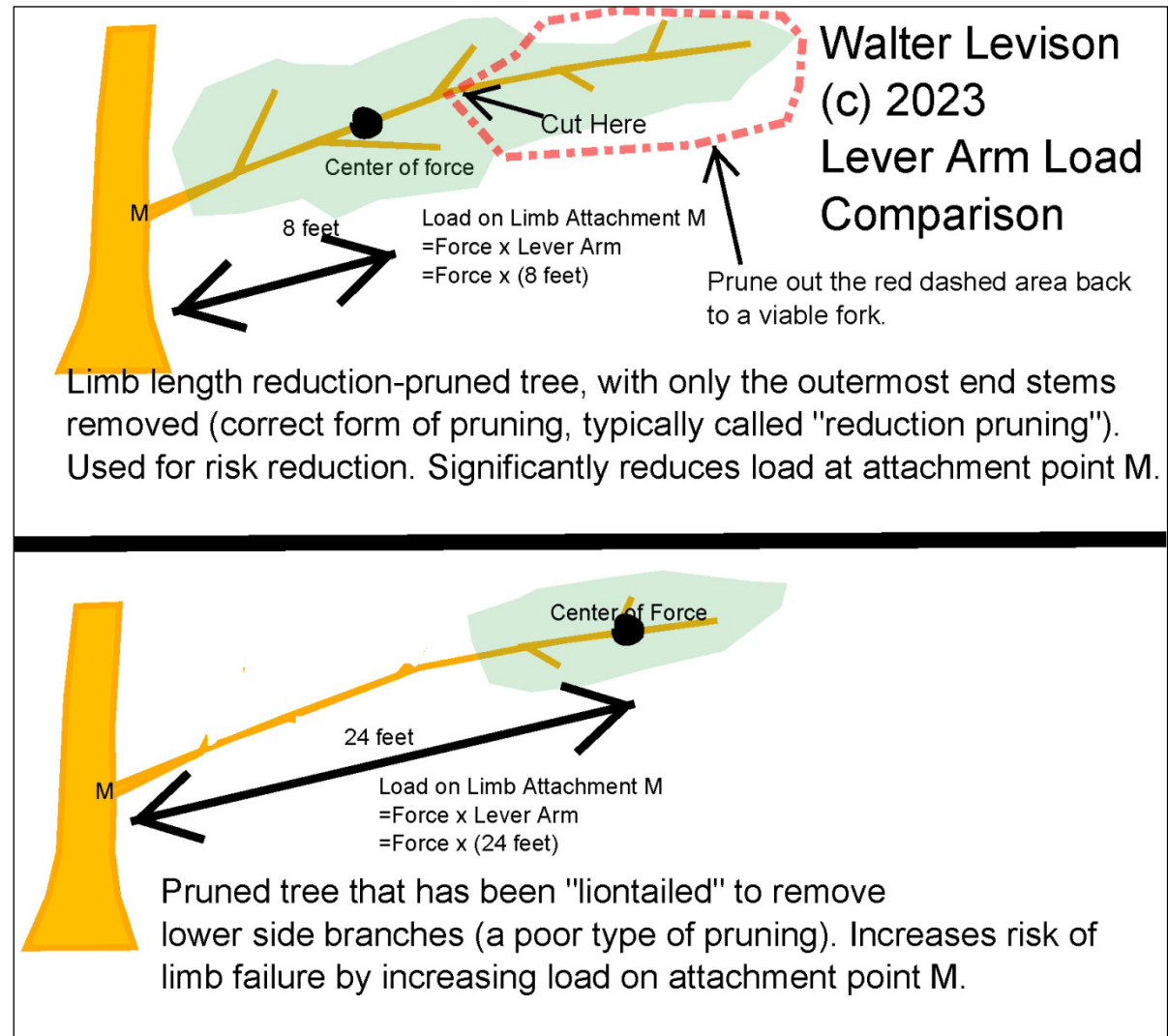
The graphic on this page was prepared by the CTA in order to provide a visual for clients as to what the beneficial mechanism is behind correct stem length reduction pruning performed at the outermost end portion of a limb or limb system (removal of the uppermost, outermost material), versus incorrect "liontail" pruning which involves removal of innermost, lower elevation stem materials.

- Correct length reduction pruning reduces risk of stem failure at the attachment point by reducing actual "load on limb attachment M".
- Incorrect pruning such as liontailing pruning causes an increase in actual load on limb attachment M, resulting in a relative increase in risk of stem failure in the future.

It is suggested that the property owners share the graphic image on this page, and the previous page image, with tree care company personnel performing pruning work at this property, in order to provide them with visual representations of stem length reduction pruning.

9. Tree Removal In-Lieu Fees / 94 Hernandez:

As indicated above in this report, there are zero (0) on-site trees proposed by the applicant to be removed. In lieu fee for removal of regulated size on-site trees is therefore zero dollars (\$0.).



5.0 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)

6.0 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 single family residential 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 trees	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--Hillside.

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.

7.0 Author's Qualifications (Partial)

- 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
5/1999-5/2020 (21 continuous years)
- ISA Certified Arborist #WE-3172A
- U.S. Peace Corps Soil and Water Conservation Extension Agent
Chiangmai Province, Thailand 1991-1993
- B.A. Environmental Studies/Soil and Water Resources
UC Santa Cruz (UCSC), Santa Cruz, California 1990
UCSC Chancellor's Award, 1990. Walter Levison B.A. thesis held in UCSC library special collections as award-winning document that chronicles the Yunnan Province field ecology study performed in 1989.
- Rainforest Ecology Fieldwork, 12-Weeks. Wildlands Studies.
(Yunnan Province, China). 1989.
First joint U.S.-China ecology study ever performed in history, documented in Walter Levison's B.A. thesis, University of California, Santa Cruz.

(My full curriculum vitae is available upon request)

8.0 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. Arborist 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.

9.0 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

DIGITAL BADGES:

ISA CERTIFIED ARBORIST CREDENTIAL:

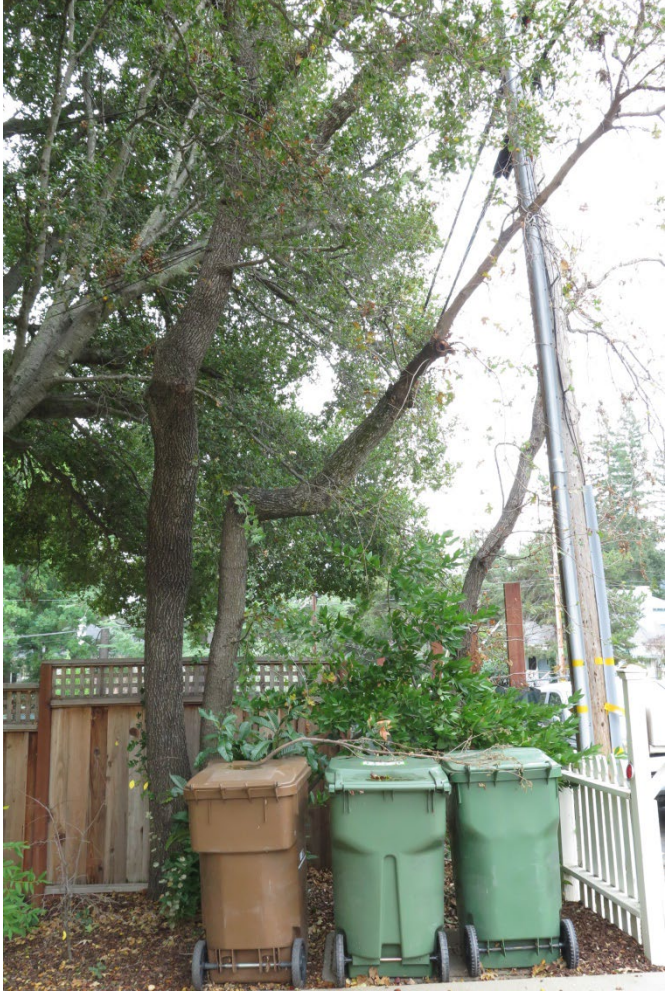
https://certificates.isa-arbor.com/f1918723-df46-48cc-ace2-c12625530fec?record_view=true

ISA TREE RISK ASSESSMENT QUALIFIED (TRAQ):

https://certificates.isa-arbor.com/d180515f-ab75-440b-9c66-106005e3cf10?record_view=true#gs.hpb30w

10.0 Digital Images

WLCA archived new digital images of the trees in December, 2024

Tree Tag	Image	Tree Tag	Image
41		42	

Tree Tag	Image	Tree Tag	Image
43		43	 Eastward extension of canopy through 94 Hernandez airspace.

Tree Tag	Image	Tree Tag	Image
44	 Tree 44 (foreground) exhibits a significant lean off vertical, away from the subject lot, and a relatively very narrow canopy spread. There is a PG&E power pole located in very close proximity to the mainstem base.	45	

Tree Tag	Image	Tree Tag	Image
45	 The canopy extends some 35 feet eastward from the base mainstem location, with limbs at roughly 12 to 18 feet elevation above grade. Smaller stems and live foliage do hang down to roughly 10 feet above grade. The location of this tree canopy massing will directly conflict with the applicant's proposed residence footprint in terms of exterior siding and roof peaks that are between 22 and 27 feet elevation above grade. The degree of pruning required to clear the massing above ground is expected to be a "severe" level of pruning of the east side of tree #45 canopy, resulting in permanent loss of health (vigor) and possibly also severe permanent loss of structural branch architecture. There is no clear solution as to how the proposed residence massing might be redesigned or repositioned in some manner by the applicant's project team to significantly reduce the required airspace clearance pruning to a lesser degree below "severe" pruning. This neighbor-owned "Large Protected Tree"(LPT) designate native oak specimen will be reduced in overall condition rating from current "good" condition to an expected "fair" or "poor" as a result of the applicant's site work activity proposed, which requires performance of relatively very extensive clearance pruning.	45	 The existing concrete linear material shown here appears to potentially be embedded to a significant depth below grade (not verified). As noted above in this report, removal of this material may cause damage to or destruction of roots of oaks located on 124 Hernandez, and damage to the existing wooden fence pier footings, potentially requiring a complete rebuild of the existing wooden fence and pier footings.

Tree Tag	Image	Tree Tag	Image
46 47 48	 Left to Right 46, 47, 48. These neighbor trees have root systems that extend an unknown radial length into the subject property at 94 Hernandez.	--	(Intentionally Blank)

11.0 Tree Data Table

NOTE 1: Fruit and nut trees measuring less than 18" diameter (total of all mainstems) both on the site and on adjacent neighbor properties were excluded from this study as "exemption trees" per the Town tree ordinance.

NOTE 2: Tree Conservation suitability ratings (TCS) were determined using the **applicant's currently-proposed site plan layout**. If the site plan layout can be adjusted to provide greater offset distances between trees and proposed construction work, the TCS ratings may improve compared to the TCS ratings stated in the below 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%)	(R)emove Tree	(S)ave Tree	(D)isposition Unclear	Tree Conservation Suitability Rating	Lopsided Canopy (note direction)	Trunk Lean (note direction)	Girdling Roots	Root Flares Buried in Fill Soil	Pests and Disease Presence, and Other Notes	SUGGESTED ROOT PROTECTION FENCE RADIUS (Ft.)	MAINTENANCE AND PROTECTION CODES
41	<i>Quercus lobata</i> NEIGHBOR TREE	California valley oak	6.7	-	-	6.7	22/15	30/20	25% Poor		X		Poor	South east	South east			Tree has been directionalized by PG&E pruners to grow under and around the overhead high voltage electrical wires.	18 feet offset radius from mainstem.	Trunk buffer (TB) Root Protection Zone (RPZ) chain link fence, per CTA's tree map markup red dashed line.
42	<i>Quercus lobata</i> NEIGHBOR TREE	California valley oak	12.9	10.0	-	22.9	25/20	40/25	30% Poor		X		Mod		South			Multiple dogleg bends noted due to PG&E high voltage electrical wire pruning to directionalize growth around the wires.	18 feet offset radius from mainstem.	Trunk buffer (TB) Root Protection Zone (RPZ) chain link fence, per CTA's tree map markup red dashed line.

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%)	(R)emove Tree	(S)lave Tree	(D)isposition Unclear	Tree Conservation Suitability Rating (RPS)	Lopsided Canopy (note direction)	Trunk Lean (note direction)	Girdling Roots	Root Flares Buried in Fill Soil	Pests and Disease Presence, and Other Notes	SUGGESTED ROOT PROTECTION FENCE RADIUS (Ft.)	MAINTENANCE AND PROTECTION CODES
43	<i>Quercus agrifolia</i> Large Protected Tree (LPT) Appears to be "Joint-Owned" Tree	Coast live oak	39.2	--	--	39.2	45/60	75/60	65% Good		X		Good	East	Various			Some PG&E line clearance pruning was performed at south side. Canopy extends 40 feet radius over 94 Hernandez, and was limbed up in past to 15 to 25 feet elevation. Tree canopy does not appear to conflict with proposed new residence massing. Note multiple codominant mainstems fork between 6 and 15 feet, with one bark inclusion narrow angle fork at 6 feet.	30 feet offset radius from mainstem.	Trunk buffer (TB) Root Protection Zone (RPZ) chain link fence, per CTA's tree map markup red dashed line. Suggest push storm drain inlet box and piping further eastward to allow RPZ fencing to be erected as shown on CTA's map. Restrict all landscape irrigation pipe trenching to 4 inches cut depth max. for all locations under the canopy dripline. Verify if linear concrete materials will be removed from the east side of wooden property line fence base.

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%)	(R) Remove Tree	(S) Save Tree	(D) Is position Unclear	Tree Conservation Suitability Rating (RFS)	Lopsided Canopy (note direction)	Trunk Lean (note direction)	Girdling Roots	Root Flares Buried in Fill Soil	Pests and Disease Presence, and Other Notes	SUGGESTED ROOT PROTECTION FENCE RADIUS (Ft.)	MAINTENANCE AND PROTECTION CODES
44	<i>Quercus agrifolia</i> NEIGHBOR TREE	Coast live oak	9.2	-	-	9.2	35/16	50/50	50% Fair		X		Mod	North west	North west			PG&E power pole is located 6 inches offset radius from the mainstem edge of this tree.	22 to 25 feet radius offset (in order to protect the tree #45 root system).	TB Trunk buffer wraps. RPZ Chain link root protection zone fencing per CTA's tree map markup.

45	<i>Quercus agrifolia</i> Large Protected Tree (LPT) NEIGHBOR TREE	Coast live oak	25.3	12.9	--	38.2	45/50	80/60	70% Good	X		Poor to Mod based off of current plan sheet conflicts	East	East			Canopy extends roughly 35 feet eastward radius over the property, with the eastmost 25 feet of the canopy conflicting in a severe manner with the proposed residence exterior siding and roof peaks that extend upward 22 to 27 feet elevation above grade within that eastmost 25 feet of canopy (see CTA's tree map markup in this report). Proposed basement structural wall excavation shown on plans within the tree's critical root zone of 18 feet radius, which means root system could also be compromised to some degree during the site work. Cumulative impacts to tree are considered "severe" (i.e. clearance pruning plus root pruning).	(To be determined). Ideally the fence should be at least 18 feet radius offset eastward from the mainstem edge. The "non-ideal" fence alignment as shown on the CTA's tree map markup is at only 10 feet eastward offset, to allow for proposed drainage swale grading and other work as currently proposed on the applicant plan sheets. The CTA suggests discussion regarding residence vs. canopy clearance pruning.	Trunk buffer (TB) Root Protection Zone (RPZ) chain link fence, ideally at 14 to 16 feet eastward offset radius. Suggest eliminate or move the proposed storm drain swale grading area and inlet box so that RPZ fencing can be tightlined against the basement structural wall excavation line. Restrict all landscape irrigation pipe trenching to 4 inches cut depth max. for all locations under the canopy dripline. Verify if linear concrete materials will be removed from the east side of wooden property line fence base.
46	<i>Cupressus sempervirens</i> NEIGHBOR TREE	Italian cypress	Est. 6	--	--	Est. 6	40/3	60/60	60% Fair	X		Mod				Yes.	Drought issues due to tree's location in hot valley location without heavy regular irrigation water applications.	5 to 6 feet radius offset.	RPZ Root protection zone chain link fencing per CTA's tree map markup.

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%)	(R)emove Tree	(S)ave Tree	(D)isposition Unclear	Tree Conservation Suitability Rating (RCS)	Lopsided Canopy (note direction)	Trunk Lean (note direction)	Girdling Roots	Root Flares Buried in Fill Soil	Pests and Disease Presence, and Other Notes	SUGGESTED ROOT PROTECTION FENCE RADIUS (Ft.)	MAINTENANCE AND PROTECTION CODES
47	<i>Cupressus sempervirens</i> NEIGHBOR TREE	Italian cypress	Est. 6	--	--	Est. 6	40/3	60/60	60% Fair		X		Mod				Yes.	Same as above.	5 to 6 feet radius offset.	RPZ Root protection zone chain link fencing per CTA's tree map markup.
48	<i>Cupressus sempervirens</i> NEIGHBOR TREE	Italian cypress	Est. 6	--	--	Est. 6	40/3	60/60	60% Fair		X		Mod				Yes.	Same as above.	5 to 6 feet radius offset.	RPZ Root protection zone chain link fencing per CTA's tree map markup.

Overall Tree Condition Ratings / Breakdown of Numeric Ranges (New, Per *Guide for Plant Appraisal, 10th Edition*):

00 - 05% = Dead

06 - 20% = Very Poor

21 – 40% = Poor

41 – 60% = Fair

61 – 80% = Good

81 – 100% = Exceptional

Tree Conservation Suitability (TCS) Ratings¹

A tree's suitability for conservation is determined based on its health, structure, age, species and disturbance tolerances, proximity to proposed cutting and filling, proximity to proposed construction or demolition as shown on the most current plan sheet iterations, and potential longevity, using a scale of good, fair, or poor (Fite, K, and Smiley, E. T., 2016). The following list defines the rating scale. Note that if proposed site work can be offset to farther linear distances from a tree's trunk edge, a tree's TCS rating may be elevated by one rating tier, given that there would be a corresponding reduction in expected future root zone impacts.

TCS Ratings	Range of values	
Good	80-100	Trees with good health, good structural stability and good expected longevity after construction.
Moderate	60-79	Trees with fair health and/or structural defects that may be mitigated through treatment. These trees require more intense management and monitoring, before, during, and after construction, and may have shorter life expectancy after development.
Poor	<59	Trees are expected to decline during or after construction regardless of management. The species or individual may possess characteristics that are incompatible or undesirable in landscape settings or unsuited for the intended use of the site.

TCS Ratings Worksheet Factors (Total Possible: 100 Points)

Health (1-15)
Root Cut/Fill Distance from Trunk (1-15)
Structure Defects (1-15)
Construction Tolerance of the tree species (1-15)
Age relative to typical species lifespan (1-10)
Location of construction activity (1-10)
Soil quality/characteristics (1-10)
Species desirability (1-10)

¹ Derived from Fite and Smiley, 2016. *Best Management Practices: Managing Trees During Construction*, 2nd Edition. International Society of Arboriculture.

Tree Maintenance and Protection Codes Used in Data Table:

RPZ / TPZ: Root protection zone or "Tree Protection Zone" fence, chain link, with 2" diameter iron posts driven 24" into the ground, 6 to 8 feet on center max. spacing. Alternative material: chain link fence panels set over concrete block-type footings, with the fence panels wired to steel pins pounded 24 inches into the ground at both ends of each panel.

RB: Root buffer consisting of wood chip mulch lain 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 ISA-Certified 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.

12.0 Embedded: Tree Location & Protection Fence Map Mark-up

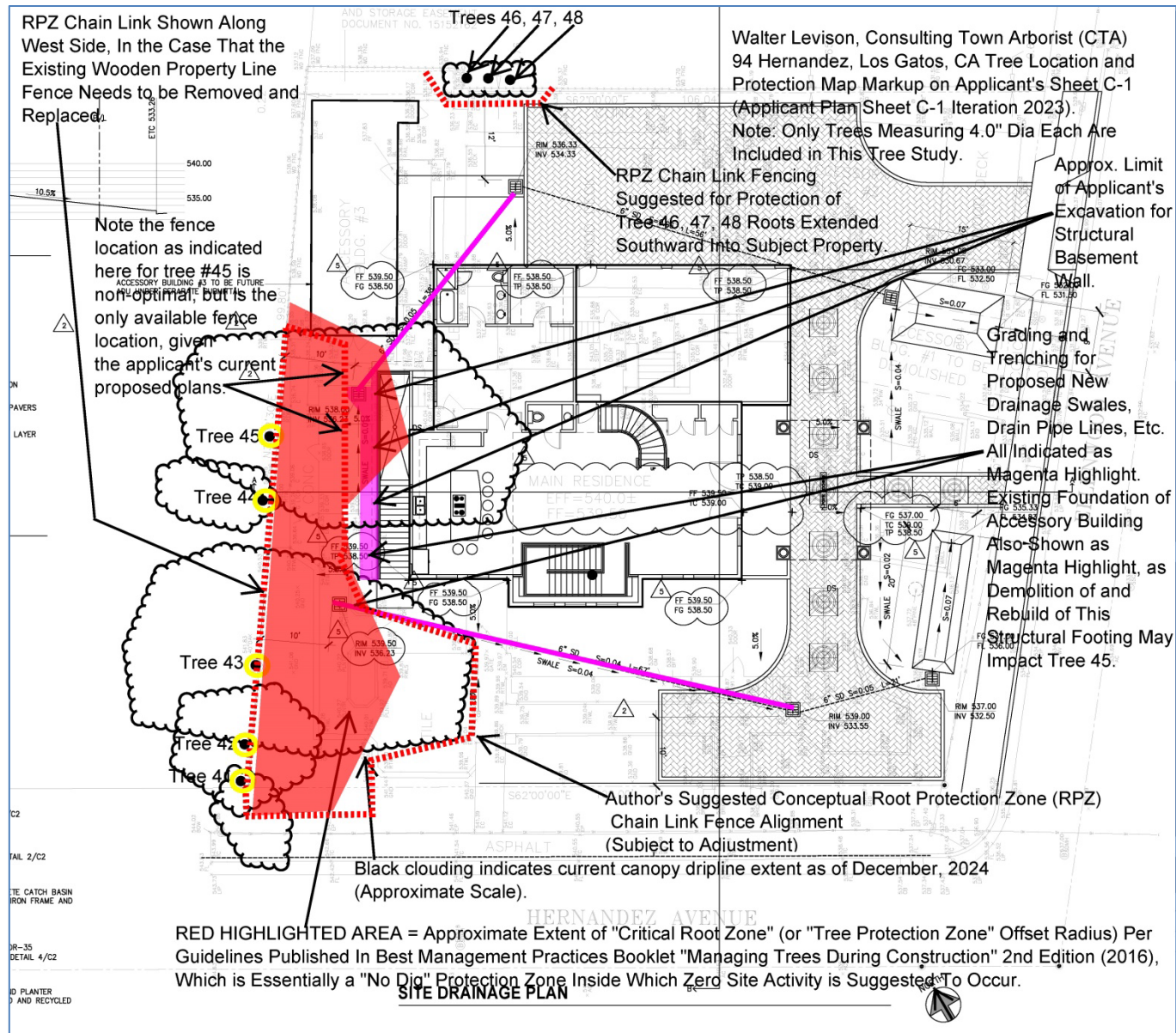
The CTA marked up the applicant's grading plan sheet and converted the markup to a jpeg which is embedded in this section 12.0 below.

The markups added to the applicant's document include:

- Numeric tree tag numbers 41 through 48 noted in large font size.
- Approximate canopy driplines shown in true scale, in relation to proposed new work, using **"black clouding"** (placed directly over the applicant architect's line dashed line rendering of canopy driplines, which were found to be roughly accurate when ground-truthed by the CTA).
- **Red dashed heavy lines** = the CTA's suggested root protection zone (RPZ) chain link fence routing for protection of horizontally-extended woody roots.
- **Yellow circles** showing tree mainstems suggested to be wrapped with orange plastic snow fencing as "trunk buffer wraps" (2 to 3 rolls of plastic per each single tree).
- **Red highlight** indicates "critical root zone" (CRZ) offset radius open soil root zone area east of the trees' mainstems where the CTA suggests that zero site work occur. This is considered a "no dig" or "no work" off-limits zone, which is designed to prevent reductions in long term tree health or structure related to loss of or damage to woody root and absorbing root mass extended radially out from the mainstems of the trees. CRZ minimum offset radius is typically at least 6 x diameter of the mainstem, extrapolated as a radial vector out from a tree's mainstem edge in all directions.

Note that the red highlighted CRZ area for tree #45 extends beyond the locations of the tree protection zone fence and the applicant's proposed structural basement wall and stairs, which means that project buildout as currently proposed by the applicant, will significantly encroach beyond the CRZ of tree #45, potentially causing significant to severe loss of tree health or structure. Note also that this encroachment does not include the building massing above ground which itself will encroach in a severe manner into the canopy massing of tree #45, requiring severe degree of canopy airspace clearance pruning to clear proposed building exterior walls and roof peaks. The combined cumulative impacts from below ground and above ground buildout will be considered "severe" degree of negative impact to tree #45 if the project were to be built as currently proposed per the February 2023 plan sheets.

- **Magenta highlight** indicating the approx. locations of applicant's proposed new drainage inlet box and pipe trenching work in close proximity to oaks #43 and #45.



13.0 Attached: CTA Tree Appraisal Worksheet using 10th Edition of *Guide for Plant Appraisal* as Basis