



## MEMORANDUM

DATE:	11/20/19
TO:	Kristina Tierney, City of Sonoma CDD
CC:	
FROM:	James MacNair
SUBJECT:	1211 Broadway, Sonoma
RE:	Arborist Report Addendum

Ms. Tierney:

This memorandum is an addendum to the arborist report for the 1211 Broadway project dated May 15, 2019.

The purpose of this addendum is to document any additional tree removals resulting from the adjustment of the south property line. An easement has been acquired that will expand the construction zone into the adjacent property to the south. The new site plans show the limit of work at the edge of the existing house and barn in the rear portion of the property.

There are only three trees potentially impacted by the new easement and construction improvements. There are two glossy privets (*Ligustrum lucidum*) located immediately behind the house and adjacent to the new driveway. These trees are poor quality and originally where in pots and subsequently rooted into the ground.

The only other tree that may need construction protection is a coast redwood (*Sequoia sempervirens*) located adjacent to the rear fence on a bordering property to the west. The trunk is estimated at 20 inches, which implies a 15 to 20-foot radius tree protection zone. Otherwise all of the trees discussed in the May report are still designated for removal including tree #10, a valley oak growing near the fence line.

Attached are tree protection specifications for implementation in the presumed tree protection zone of 20 radial feet from the face of trunk for the coast redwood. A review of the grading and utility plans indicate surface grading, installation of a 6-inch curb, and a sanitary sewer line end within 20 feet of the redwood.

The valley oak on the property to the north is recommended for a complete risk assessment. In my opinion the tree is likely at high risk of failure due to root impacts within the critical root zone as discussed in the May arborist report and at the tree committee meeting. The current

plan shows a 10-inch storm drain, trash enclosure, and grading all close to the base of the tree. These improvements will add cumulative impacts to this tree.

Please contact me with any questions or if additional information is required. Attached are images showing the site and trees.

Site/Tree Images:



View of new easement next to house. The oaks were included in the May report.



Two glossy privets likely impacted by the new driveway construction.



Valley oak #10 that was included in the May report.



Coast redwood on property to west that may require construction protection procedures.

Development of the project infrastructure, including roads, utilities, drainage facilities, etc. will alter the natural terrain and affect existing trees growing close to the construction areas. Impacts will primarily occur as a result of the site grading requirements and underground utility installations. The following procedures are recommended to maximize tree survivability.

1. Tree Protection Zone and Critical Root Zone

- 1.1. All construction activity (grading, filling, paving, landscaping) will respect a Tree Protection Zone (TPZ) around trees to be protected. The TPZ will typically be a distance of a one-foot radial distance from the trunk for each one-inch of trunk diameter. Exceptions to this standard may occur depending upon the age, condition, and species tolerance of individual trees. The Critical Root Zone is the radial area around the trunk where all root impacts should be avoided or mitigated with specialized procedures. Typically, the critical root zone will be a radial distance equal to three times (3X) the trunk diameter.

2. Construction Observations and Supervision

- 2.1. All arboricultural and related soil work should be performed under the observation of an International Society of Arboriculture (ISA) Certified Arborist (Supervising Arborist), or Client designated representative.
- 2.2. All specified arboricultural work should be completed prior to site grading (root pruning, crown pruning, fencing, etc.)
- 2.3. The contractor is required to meet with the Supervising Arborist or Client designated representative to review the tree protection requirements, including work procedures, access routes, and storage areas.

3. Tree Protection Fencing

- 3.1. Fencing at a minimum of four feet in height and clearly marked to prevent inadvertent encroachment by heavy machinery should be installed either at the edge of the Tree Protection Zone (TPZ), the crown drip line (whichever is further from the trunk), or at the edge of the construction zone, if the construction zone protrudes into the TPZ. The Supervising Arborist, or Client designated representative, should approve the location of the fencing. All fencing should be in place prior to any site grading. Fences may not be relocated or removed without the written permission of the Supervising Arborist or Client designated representative.
- 3.2. Bilingual (English/Spanish) signage with a contact phone number shall be attached to the fencing in multiple locations with the following language:

**Tree Preservation Area  
Entry Prohibited without Authorization by...**

- 3.3. Install trunk protection measures for trees within 10 feet of construction activities, which as a minimum shall include the installation of ½ in. closed cell foam padding around the trunk of each tree from soil grade to a height of 6 ft. above grade. 2" x 4" x 6' wood planks shall be installed on top of the padding and secured with metal straps in at least two locations. No

fasteners or other invasive hardware shall be driven into the protected trees. (This may not be applicable)

- 3.4. Contractor should maintain the protection fencing and prohibit all access to fenced areas by construction personnel or equipment until all site work is completed.
- 3.5. All structures including construction trailers, equipment storage areas and any other construction traffic are prohibited within fenced areas. Burning or debris piles are prohibited within fenced areas. No materials, equipment, spoil, waste, or washout water should be deposited or stored within fenced areas. Fences may not be moved without written permission of the Supervising Arborist or Client designated representative.
- 3.6. If temporary access within a fenced area is determined to be necessary, then a six-inch layer of bark mulch or gravel should be placed in all areas requiring access. This requirement for mulching should apply to all areas within the fenced area and subject to access. If equipment access is required, then the mulch should be overlaid with metal plates of sufficient thickness to adequately distribute bearing load.

#### 4. Demolition/Site Clearing

- 4.1. The following work must be accomplished before any demolition or site clearing activity occurs within 50 feet of protected trees.
- 4.2. The demolition contractor is required to meet with the project arborist or designated client representative at the site prior to beginning work to review all work procedures, access and haul routes, and tree protection measures.
- 4.3. The limits of all tree protection zones shall be staked in the field.
- 4.4. Tree(s) to be removed that have branches extending into the canopy of tree(s) to remain must be removed by a qualified arborist and not by demolition or construction contractors. The qualified arborist shall remove the tree in a manner that causes no damage to the tree(s) and understory to remain.
- 4.5. Any brush clearing required within the tree protection zone shall be accomplished with hand-operated equipment.
- 4.6. Trees to be removed shall be felled so as to fall away from tree protection zones and to avoid pulling and breaking of roots of trees to remain. If roots are entwined, the consultant may require first severing the major woody root mass before extracting the trees. This may be accomplished by cutting through the roots by hand, with a vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root-pruning equipment. [Note: If possible, show areas where root cutting is required on the demolition plan.]
- 4.7. Trees to be removed from within the tree protection zone shall be removed by a qualified arborist. The trees shall be cut near ground level and the stump ground out.
- 4.8. All downed brush and trees shall be removed from the tree protection zone either by hand or with equipment sitting outside the tree protection zone. Extraction shall occur by lifting the material out, not by skidding it across the ground.

- 4.9. Brush shall be chipped and placed in the tree protection zone to a depth of 6 inches.
- 4.10. Structures and underground features to be removed within the tree protection zone shall use the smallest equipment possible and operate from outside the tree protection zone. The consultant shall be on site during all operations within the tree protection zone to monitor demolition activity.
- 4.11. All trees shall be pruned in accordance with the provided Pruning Specifications.
- 4.12. A 6-foot chainlink fence with posts sunk into the ground shall be erected to enclose the tree protection zone
- 4.13. Any damage to trees due to demolition activities shall be reported to the consulting arborist within 6 hours so that remedial action can be taken. Timeliness is critical to tree health.
- 4.14. If temporary haul or access roads must pass over the root area of trees to be retained, a road bed of 6 inches of mulch or gravel shall be created to protect the soil. The road bed material shall be replenished as necessary to maintain a 6-inch depth.

## 5. Site Grading, Trenching, and Root Pruning

- 5.1. Keep site grading within designated construction zones. Grading cuts or trenching within the TPZ of a retained tree trunk requires special trenching procedures. Trenches should be dug manually with an air spade or with the use of a root cutting machine, rock cutter, or other approved root-pruning equipment. This root-pruning trench should be placed one foot inside the edge of the grading cut or trench edge. The depth of the trench should equal the depth of the grading cut to a maximum depth of 40 inches. All work that is expected to encounter roots must be monitored by the Supervising Arborist or Client designated representative.
- 5.2. A trench may be mechanically dug toward a tree until the edge of the TPZ is reached. From the edge of the TPZ, the special trenching procedures should apply.
- 5.3. Underground utilities, drain, and irrigation lines should be routed outside the TPZs. When lines must cross the TPZ, the lines should be bored or tunneled through the area at a depth approved by the supervising arborist. In these instances, a single shared utility conduit should be used to reduce impacts to trees.
- 5.4. Any roots one inch in diameter or larger requiring removal should be cut cleanly in sound tissue. The roots and surrounding soil should be moistened and covered with a thick mulch (4") to prevent desiccation. No pruning seals or paints should be used on wounds. Cut and exposed roots should be protected from drying. A water absorbent material (i.e. burlap) should be secured at the top of the trench and draped over the exposed roots. This material should be kept moistened and soil replaced as soon as practicable.
- 5.5. Porous pavements are recommended for use within the TPZ. Construction of the pavement sub-base should avoid grading cuts where possible.

6. Site Drainage

- 6.1. All grading shall be designed to provide positive drainage away from the base of the tree trunk, and not create ponding within the TPZ.

7. Pruning and Cabling

- 7.1. Any tree pruning, cabling, or other similar activity which may be proposed as part of site construction will be included on site plans and be reviewed by a qualified arborist or Client designated representative.
- 7.2. Pruning methods shall conform to the ANSI A 300-2001 Pruning Standard Practices and performed by an ISA Certified Arborist or Certified Tree Worker. Cabling or other support systems shall conform to the ANSI A 300 (part 3)-2000 Standard Practices

8. Tree Damage Mitigation

- 8.1. Trees damaged or significantly impacted during construction shall be evaluated by the Supervising Arborist or Client designated representative. Proper mitigation measures shall be specified and may include:
- 8.2. Pruning of damaged and dead wood.
- 8.3. Installation of a drip irrigation system to provide supplemental irrigation for three to five seasons following damage.
- 8.4. Proper low nitrogen fertilization timed to growth response and phenological development of the tree.
- 8.5. Periodic risk assessment of tree.
- 8.6. Replacement of tree per client requirements.
- 8.7. Alleviation of severe compaction by vertical mulching with augers or hydraulic soil probes.
- 8.8. Alleviation of surface compaction by light cultivation or raking and the application of mulch.