



# California Tree and Landscape Consulting, Inc.

March 31, 2022

RSC Engineering  
1420 Rocky Ridge Drive, Suite 150  
Roseville, CA 95661  
Via Email: t.wilson@rsc-engr.com

## PRELIMINARY ARBORIST REPORT & TREE INVENTORY

RE: Fiddymment Safeway, 1798 Pleasant Grove Blvd., APN #017-162-049-000; City of Roseville, CA jurisdiction

### Executive Summary

Tiffany Wilson of RSC Engineering, Inc., on behalf of the property owner, contacted California Tree and Landscape Consulting, Inc. to inventory and evaluate the trees protected by the City of Roseville Tree Preservation code, chapter 19.66, and offsite trees which may be impacted by the development of the site for purposes of providing documentation of the tree species and sizes for planning the development of the site. The property is located at 1798 Pleasant Grove Blvd. at the northeast corner of Fiddymment Drive and Pleasant Grove Blvd. in the City of Roseville, California. The property is currently vacant land. See Supporting Information Appendix 1 –Tree Location Map.

Ed Stirtz, ISA Certified Arborist #WE-0510A, and/or Nicole Harrison, ISA Certified Arborist #WE-6500AM, were on site at various times between March 21st, and March 24th, 2022. A total of 17 trees were evaluated, of which NONE are protected by size and species according to the City of Roseville Tree Preservation ordinance. 2 offsite trees, #15 and #16, may require pruning and/or have root impacts.

Tree Species		Trees Inventoried	Trees on the	Trees Protected according to the Roseville code	Trees proposed for Removal
Fremont Cottonwood	Populus fremontii	8	8	0	8
Pacific Willow	Salix sp.	1	1	0	1
Unidentified		1	0	0	0
Plum	Prunus sp.	1	0	0	0
Ornamental Pear	Pyrus calleryana	2	0	0	0
American Sweetgum	Liquidambar styraciflua	1	0	0	0
Aleppo pine	Pinus halepensis	2	0	0	0
London Planetree	Platanus x hispanica	1	0	0	0
<b>Totals</b>		<b>17</b>	<b>9</b>	<b>0</b>	<b>9</b>

**See Appendices for specific information on each tree**

## Methods

Appendix 2 in this report is the detailed inventory of the trees. The following terms will further explain our methods and findings.

A Level 2 – Basic Visual Assessment was performed in accordance with the International Society of Arboriculture’s best management practices. This assessment level is limited to the observation of conditions and defects which are readily visible. Additional limiting factors, such as blackberries, poison oak, and/or debris piled at the base of a tree can inhibit the visual assessment.

Tree Location: The GPS location of each tree was collected using the ESRI’s ArcGIS collector application on an Apple iPhone or Samsung. The data was then processed in ESRI’s ArcMap by Julie McNamara, M.S. GISci, to produce the tree location map.

Tree Measurements: DBH (diameter breast high) is normally measured at 4’6” (above the average ground height for “Urban Forestry”), but if that varies then the location where it is measured is noted in the ‘Measured at’ column. A steel diameter tape was used to measure all of the trees. A laser distance meter was used to measure distances. Canopy radius measurements may also have been estimated due to obstructions, such as steep slopes or other trees.

## Terms

Tree #	The number assigned to the tree on the Tree Location Map.
Species	The species of a tree is listed by our local and correct common name and botanical name by genus (capitalized) and species (lower case).
DBH	Diameter breast high' is normally measured at 4’6” (above the average ground height for “Urban Forestry”), but if that varies then the location where it is measured is noted in the next column “measured at”
Measured at	Height above average ground level where the measurement of DBH was measured.
Canopy radius	The farthest extent of the crown composed of leaves and small twigs. Most trees are not evenly balanced. This measurement represents the longest extension from the trunk to the outer canopy. The dripline measurement is from the center point of the tree and is shown on the Tree Location Map as a circle.
Arborist Rating	Subjective to condition and is based on both the health and structure of the tree. All of the trees were rated for condition, per the recognized national standard as set up by the Council of Tree and Landscape Appraisers and the International Society of Arboriculture (ISA) on a numeric scale of 5 (being the highest) to 0 (the worst condition, dead) as in Chart A. The rating was done in the field at the time of the measuring and inspection.

Arborist	Rating	
Excellent	<b>5</b>	No problems found from a visual ground inspection. Structurally, these trees have properly spaced branches and near perfect
Good	<b>4</b>	The tree is in good condition and there are no apparent problems that can be seen from a visual ground inspection.
Fair	<b>3</b>	The tree is in fair condition. There are some minor structural or health problems that pose no immediate risk of death or failure. When the recommended actions in an arborist report are completed correctly the defect(s) can be minimized or eliminated and/or health can be improved.

Poor	<b>2</b>	The tree has major problems. If the option is taken to preserve the tree, additional evaluation to identify if health or structure can be improved with correct arboricultural work including, but not limited to: pruning, cabling, bracing, bolting, guying, spraying, mistletoe removal, vertical mulching, fertilization, etc. Additionally, risk should be evaluated as a tree rated 2 may have structural conditions which indicate there is a high likelihood of failure. Trees rated 2 should be removed if these additional evaluations will not be performed.
Very Poor	<b>1</b>	The problems are extreme. This rating is assigned to a tree that has structural and/or health problems that no amount of work or effort can change. The issues may or may not be considered a high risk.
Dead	<b>0</b>	This indicates the tree has no significant sign of life.

**Notes:** Provide notable details about each tree which are factors considered in the determination of the tree rating including: (a) condition of root crown and/or roots; (b) condition of trunk; (c) condition of limbs and structure; (d) growth history and twig condition; (e) leaf appearance; and (f) dripline environment. Notes also indicate if the standard tree evaluation procedure was not followed (for example - why dbh may have been measured at a location other than the standard 54"). Additionally, notes will list any evaluation limiting factors such as debris at the base of a tree.

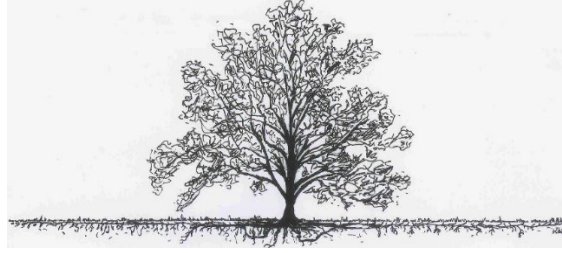
**Development Status** Projected development impacts are based solely on distance relationships between tree location and grading. Field inspections and findings during the project at the time of grading and trenching can change relative impacts. Closely followed guidelines and requirements can result in a higher chance of survival, while requirements that are overlooked can result in a dramatically lower chance of survival. Impacts are measured as follows:

### Discussion

Trees need to be protected from normal construction practices if they are to remain on the site and are expected to survive long term. While construction damage in the root zone is often the death of a tree, the time from when the damage occurs to when the symptoms begin and/or the tree dies can be years. Our recommendations are based on experience and the local ordinance requirements to enhance tree longevity. It requires the calculated root zone must remain intact as an underground ecosystem despite the use of heavy equipment to install foundations, driveways, underground utilities, and landscape irrigation systems. Simply walking and driving on soil can have serious consequences to tree health. The Tree Preservation Requirements and General Development Guidelines should be incorporated into the site plans and enforced onsite. The project arborist should be included in the development team during construction to provide expertise and make additional recommendations if additional impacts occur or tree response is poor.

### Root Structure

The majority of a tree's roots are contained in a radius from the main trunk outward approximately two to three times the canopy of the tree. These roots are located in the top 6" to 3' of soil. It is a common misconception that a tree underground resembles the canopy. The correct root structure of a tree is in the drawing below. All plants' roots need both water and air for survival. Poor canopy development or canopy decline in mature trees after development is often the result of inadequate root space and/or soil compaction.



The reality of where roots are generally located (Menzer, 2008)

## Pruning Mature Trees for Risk Reduction and/or Development Clearance

There are few good reasons to prune mature trees. Removal of deadwood, directional pruning, removal of decayed or damaged wood, and end-weight reduction as a method of mitigation for structural faults are the only reasons a mature tree should be pruned. Live wood over 3" should not be pruned unless absolutely necessary. Pruning cuts should be clean and correctly placed. Pruning should be done in accordance with the American National Standards Institute (ANSI) A300 standards.

Pruning causes an open wound in the tree. Trees do not "heal" they compartmentalize. It is far better to use more small cuts than a few large cuts as small pruning wounds reduce risk while large wounds increase risk. Any wound made today will always remain, but a healthy tree, in the absence of decay in the wound, will 'cover it' with callus tissue. Large, old pruning wounds which did not close with callous tissue often have advanced decay. These wounds are a likely failure point. Mature trees with large wounds have a high risk of failure.

Overweight limbs are a common structural fault in suppressed trees. There are two remedial actions for over-weight limbs (1) prune the limb to reduce the extension of the canopy, or (2) cable the limb to reduce movement. Cables do not hold weight they only stabilize the limb and additionally require annual inspection.

## Arborist Classifications

There are different types of Arborists:

**Tree Removal and/or Pruning Companies:** These companies may be licensed by the State of California to do business as a tree removal company, but they do not necessarily know anything about trees biology.

**Arborists:** Arborist is a broad term intended to mean someone with specialized knowledge of trees, but it is often used to imply knowledge that is not there.

**ISA Certified Arborist:** An International Society of Arboriculture Certified Arborist is someone who has trained, met the qualifications for application, and been tested to have specialized knowledge of trees. You can look up certified arborists at the International Society of Arboriculture website: [isa-arbor.org](http://isa-arbor.org).

**Consulting Arborist:** An American Society of Consulting Arborists Registered Consulting Arborist is someone who has been trained and then tested to have specialized knowledge of trees; and trained and tested to provide high quality reports and documentation. You can look up registered consulting arborists at the American Society of Consulting Arborists website: [ASCA-consultants.org](http://ASCA-consultants.org).

## RECOMMENDATIONS: SUMMARY OF TREE PROTECTION MEASURES

The Owner and/or Developer should ensure the project arborist's protection measures are incorporated into the site plans and followed. Tree specific protection measures can be developed when we have received a copy of the grading plans for the site.

### For Project Submittal to the City:

- Identify each tree on the final construction drawings and show the root protection zones for each tree as shown in the arborist recommendations. Note – These areas are not for use during construction unless under direct supervision of the project arborist.
- List the name and telephone number of the project arborist on the final construction drawings (grading plans) and a monitoring schedule a minimum of once per month during development.

### Prior to Onsite Activity:

- The project arborist should inspect the installed tree protection fencing prior to grading and/or grubbing for compliance with the recommended protection zones.
- The project arborist should directly supervise the irrigation, fertilization, placement of mulch and chemical treatments.
- Prior to any grading, or other work on the site that will come within 20' of a tree, irrigation will be required from April through October and placement of a 4-6" layer of chip mulch over the protected root zone. Chips should be obtained from onsite trees to be removed. (They are expensive to buy and bark and/or redwood and cedar will not be accepted)
- Clearance pruning should include removal of all the lower foliage that may interfere with equipment PRIOR to having grading or other equipment on site. The Project Arborist should approve the extent of foliage elevation and directly oversee the pruning to be performed by a contractor who is an ISA Certified Arborist.

### During Construction:

- Any and all work to be performed inside the protected root zone fencing shall be supervised by the project arborist.
- Grading for the retaining wall and pool cabana entry and northwest foundation shall be supervised by project arborist.
- The project arborist shall monitor the site a minimum of once per month during development and may require additional measures as a result of changing tree response.

Report Prepared by:



Nicole Harrison

Registered Consulting Arborist #719

ISA Certified Arborist #WC-6500AM, TRAQ

American Society of Consulting Arborists

Attachments

Appendix 1 – Tree Location Map

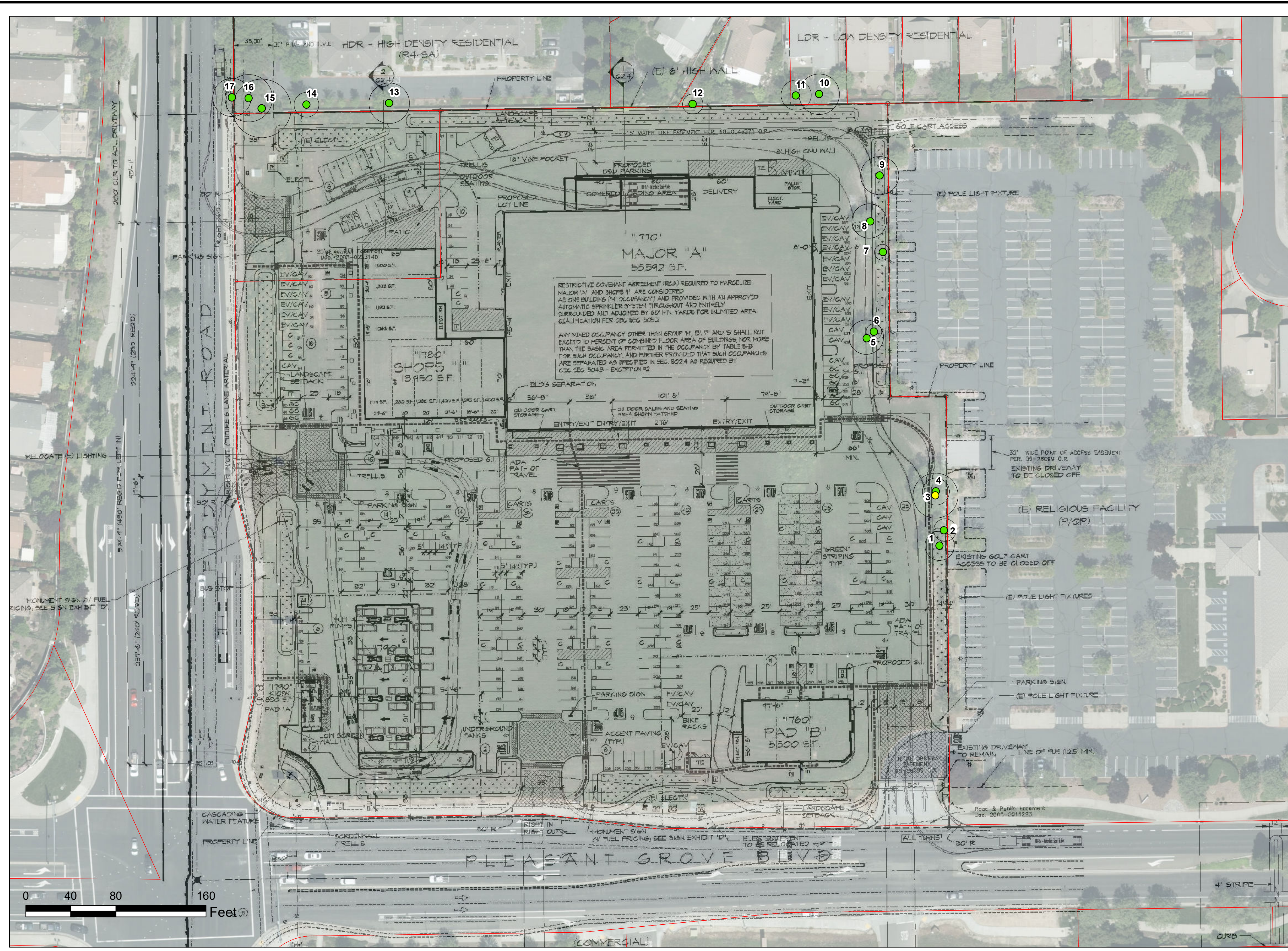
Appendix 2 – Tree Data

Appendix 3 – General Development Guidelines

Appendix 4 – Site Photos

Bibliography

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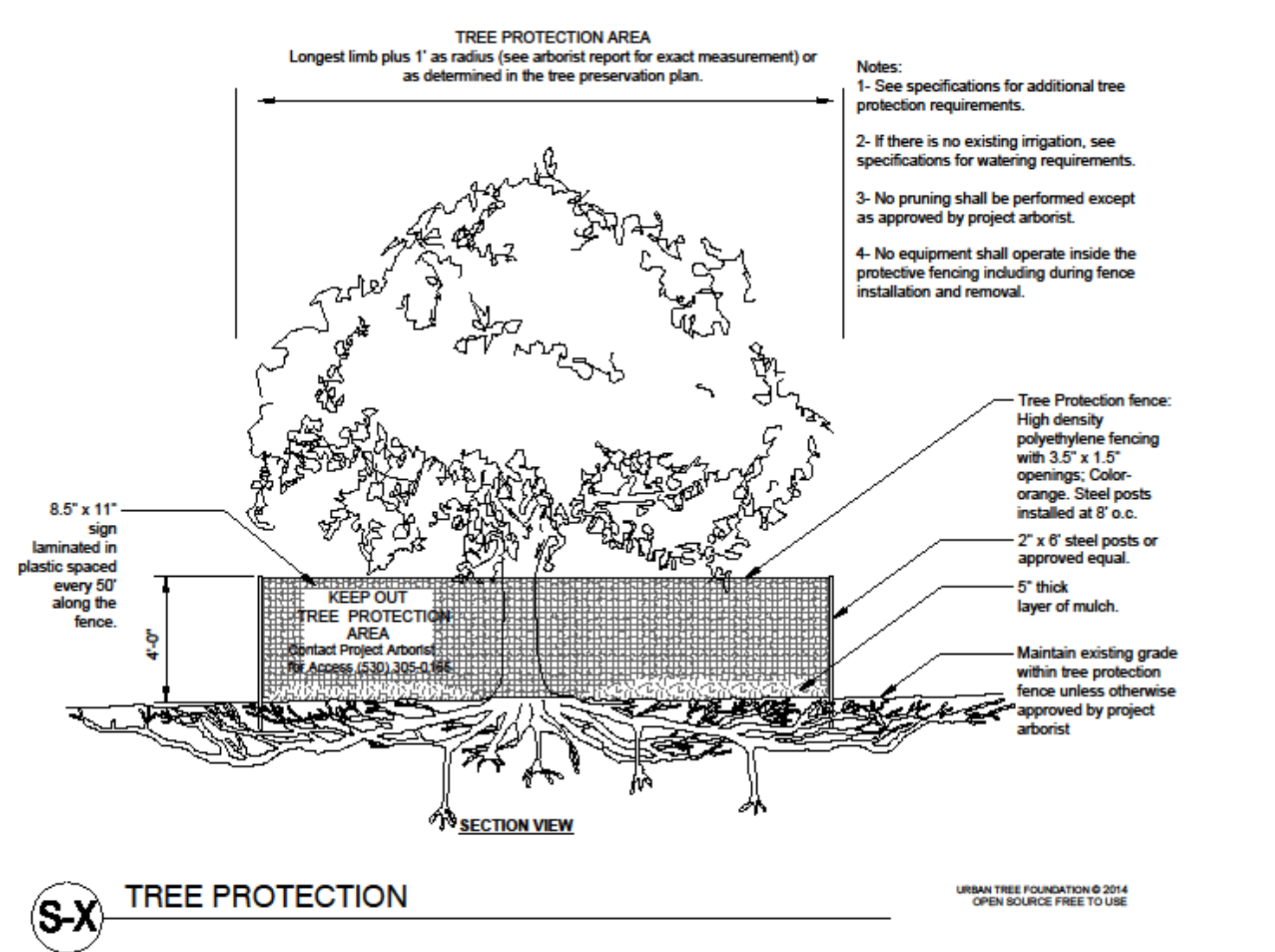
**California Tree & Landscape Consulting, Inc.**

359 Nevada Street, Suite 201  
Auburn, CA 95603

**TREE PROTECTION GENERAL REQUIREMENTS**

- The project arborist for this project is California Tree & Landscape Consulting. The primary contact information is Nicole Harrison (530) 305-0165. The project arborist may continue to provide expertise and make additional recommendations during the construction process if and when additional impacts occur or tree response is poor. Monitoring and construction oversight by the project arborist is recommended for all projects and required when a final letter of assessment is required by the jurisdiction.
- The project arborist should inspect the exclusionary root protection fencing installed by the contractors prior to any grading and/or grubbing for compliance with the recommended protection zones. Additionally, the project arborist shall inspect the fencing at the onset of each phase of construction. The root protection zone for trees is specified as the 'canopy radius' in Appendix 2 in the arborist report unless otherwise specified by the arborist. Note 'dripline' is not an acceptable location for installation of tree protection fencing.
- The project arborist should directly supervise any clearance pruning, irrigation, fertilization, placement of mulch and/or chemical treatments. If clearance pruning is required, the Project Arborist should approve the extent of foliage elevation and oversee the pruning to be performed by a contractor who is an ISA Certified Arborist. Clearance pruning should include removal of all the lower foliage that may interfere with equipment PRIOR to having grading or other equipment on site.
- No trunk within the root protection zone of any trees shall be removed using a backhoe or other piece of grading equipment.
- Clearly designate an area on the site that is outside of the protection area of all trees where construction materials may be stored, and parking can take place. No materials or parking shall take place within the protection zones of any trees on or off the site.
- Any and all work to be performed inside the protected root zone fencing, including all grading and utility trenching, shall be approved and/or supervised by the project arborist.
- Trenching, if required, inside the protected root zone shall be approved and/or supervised by the project arborist and may be required to be performed by hand, by a hydraulic or air spade, or other method which will place pipes underneath the roots without damage to the roots.
- The root protection zone for trees is specified as the 'canopy radius' in Appendix 2 in the arborist report unless otherwise specified by the arborist. Note 'dripline' is not an acceptable location for installation of tree protection fencing.

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**TREE INVENTORY MAP**

>Tree locations are approximate and were collected using apple iOS products.  
>Property line information was downloaded from Placer County on 03/26/2022.  
>Development plans provided by Nadel Studio One, Inc. dated 03/15/2022.

Property Line	<b>Arborist Rating</b>
Measured Tree Canopy	0 Dead
	1 Extreme Structure or Health Problems
	2 Major Structure or Health Problems
	3 Fair - Minor Problems
	4 Good - No Apparent Problems
	5 Excellent

**Sheet No.**  
**TPP 1.0**

**WEST ROSEVILLE MARKETPLACE**

Fiddlyment Road  
Roseville, Placer County, CA

Date: 3/26/2022

**APPENDIX 2 – TREE INFORMATION DATA**

Tree #	Protected By Code	Offsite	Species Common Name	Species Botanical Name	DBH	Measured at	Canopy Radius	Arborist Rating	Dvlpmt Status	Field Notes
1	No	No	Fremont Cottonwood	Populus fremontii	11	54	13	3 Fair - Minor Problems	Proposed for Removal	multi 6,11. Forks at grade, weak attachment.
2	No	No	Pacific Willow	Salix sp.	5	54	5	3 Fair - Minor Problems	Proposed for Removal	Multi 4", 5".
3	No	No	Fremont Cottonwood	Populus fremontii	11	54	15	2 Major Structure or Health Problems	Proposed for Removal	Multi 11"
4	No	No	Fremont Cottonwood	Populus fremontii	9	54	12	3 Fair - Minor Problems	Proposed for Removal	Multi 6", 8", 9".
5	No	No	Fremont Cottonwood	Populus fremontii	10	54	3	3 Fair - Minor Problems	Proposed for Removal	Multi 8", 10".
6	No	No	Fremont Cottonwood	Populus fremontii	6	54	7	3 Fair - Minor Problems	Proposed for Removal	Multi 5", 6"
7	No	No	Fremont Cottonwood	Populus fremontii	5	54	12	3 Fair - Minor Problems	Proposed for Removal	Multi 5", 5"
8	No	No	Fremont Cottonwood	Populus fremontii	10	54	13	3 Fair - Minor Problems	Proposed for Removal	
9	No	No	Fremont Cottonwood	Populus fremontii	14	54	17	3 Fair - Minor Problems	Proposed for Removal	Multi 6", 14".
10	No	Yes	Ornamental Pear	Pyrus calleryana		54	18	3 Fair - Minor Problems		~5' of over hang. Minor branch & root conflicts.
11	No	Yes	Unidentified		-	54	-	3 Fair - Minor Problems		
12	No	Yes	Plum	Prunus sp.	8	54	9	3 Fair - Minor Problems		~5' of overhang.

Tree #	Protected By Code	Offsite	Species Common Name	Species Botanical Name	DBH	Measured at	Canopy Radius	Arborist Rating	Dvlpmt Status	Field Notes
13	No	Yes	Ornamental Pear	Pyrus calleryana	15	54	18	3 Fair - Minor Problems		~ 5' of overhang.
14	No	Yes	American Sweetgum	Liquidambar styraciflua	15	54	11	3 Fair - Minor Problems		<5' of overhang.
15	No	Yes	Aleppo pine	Pinus halepensis	17	54	26	3 Fair - Minor Problems		Suppressed, leans south east over project. Moderate root conflicts, possible significant branch/limb conflicts.
16	No	Yes	Aleppo pine	Pinus halepensis	19	54	21	3 Fair - Minor Problems		Minor to moderate root impacts.
17	Yes	Yes	London Planetree	Platanus x hispanica	16	54	17	3 Fair - Minor Problems		Street tree.

## APPENDIX 3

### GENERAL DEVELOPMENT GUIDELINES

#### **Definitions**

**Root zone:** The roots of trees grow fairly close to the surface of the soil, and spread out in a radial direction from the trunk of tree. A general rule of thumb is that they spread 2 to 3 times the radius of the canopy, or 1 to 1 ½ times the height of the tree. It is generally accepted that disturbance to root zones should be kept as far as possible from the trunk of a tree.

**Inner Bark:** The bark on most large trees is quite thick, usually 1" to 2". If the bark is knocked off a tree, the inner bark, or cambial region, is exposed and/or removed. The cambial zone is the area where tissues responsible for adding new layers to the tree each year are located. Removing or damaging this tissue results in a tree that can only grow new tissue from the edges of the wound. In addition, the interior wood of the tree is exposed to decay fungi and becomes susceptible to decay. Tree protection measures require that no activities occur which can knock the bark off the trees.

#### **Methods Used in Tree Protection:**

No matter how detailed Tree Protection Measures are in the initial Arborist Report, they will not accomplish their stated purpose unless they are applied correctly and a Project Arborist oversees the construction. The Project Arborist should have the ability to enforce the Protection Measures. It is advisable for the Project Arborist to be present at the Pre-Construction meeting to answer questions the contractors may have about Tree Protection Measures. This also lets the contractors know how important tree preservation is to the developer.

**Root Protection Zone (RPZ):** Since in most construction projects it is not possible to protect the entire root zone of a tree, a Root Protection Zone is established for each tree to be preserved. The minimum Root Protection Zone is the area calculated as 1 to 1.25' for every inch of trunk diameter (ie. A 10" diameter tree will have an RPZ of 10') or the dripline, whichever is greater. The Project Arborist must approve work within the RPZ.

**Irrigate, Fertilize, Mulch:** Prior to grading on the site near any tree, the area within the Tree Protection fence should be fertilized with 4 pounds of nitrogen per 1000 square feet, and the fertilizer irrigated in. The irrigation should percolate at least 24 inches into the soil. This should be done no less than 2 weeks prior to grading or other root disturbing activities. After irrigating, cover the RPZ with at least 12" of leaf and twig mulch. Such mulch can be obtained from chipping or grinding the limbs of any trees removed on the site. Acceptable mulches can be obtained from nurseries or other commercial sources. Fibrous or shredded redwood or cedar bark mulch shall not be used anywhere on site.

**Fence:** Fence around the Root Protection Zone and restrict activity therein to prevent soil compaction by vehicles, foot traffic or material storage. The fenced area shall be off limits to all construction equipment, unless there is express written notification provided by the Project Arborist, and impacts are discussed and mitigated prior to work commencing.



No storage or cleaning of equipment or materials, or parking of any equipment can take place within the fenced off area, known as the RPZ.

The fence should be highly visible, and stout enough to keep vehicles and other equipment out. I recommend the fence be made of orange plastic protective fencing, kept in place by t-posts set no farther apart than 6’.

In areas of intense impact, a 6’ chain link fence is preferred.

In areas with many trees, the RPZ can be fenced as one unit, rather than separately for each tree.

Where tree trunks are within 3’ of the construction area, place 2” by 4” boards vertically against the tree trunks, even if fenced off. Hold the boards in place with wire. Do not nail them directly to the tree. The purpose of the boards is to protect the trunk, should any equipment stray into the RPZ.

Elevate Foliage: Where indicated, remove lower foliage from a tree to prevent limb breakage by equipment. Low foliage can usually be removed without harming the tree, unless more than 25% of the foliage is removed. Branches need to be removed at the anatomically correct location in order to prevent decay organisms from entering the trunk. For this reason, a contractor who is an ISA Certified Arborist should perform all pruning on protected trees.<sup>1</sup>

Expose and Cut Roots: Breaking roots with a backhoe, or crushing them with a grader, causes significant injury, which may subject the roots to decay. Ripping roots may cause them to splinter toward the base of the tree, creating much more injury than a clean cut would make. At any location where the root zone of a tree will be impacted by a trench or a cut (including a cut required for a fill and compaction), the roots shall be exposed with either a backhoe digging radially to the trunk, by hand digging, or by a hydraulic air spade, and then cut cleanly with a sharp instrument, such as chainsaw with a carbide chain. Once the roots are severed, the area behind the cut should be moistened and mulched. A root protection fence should also be erected to protect the remaining roots, if it is not already in place. Further grading or backhoe work required outside the established RPZ can then continue without further protection measures.

Protect Roots in Deeper Trenches: The location of utilities on the site can be very detrimental to trees. Design the project to use as few trenches as possible, and to keep them away from the major trees to be protected. Wherever possible, in areas where trenches will be very deep, consider boring under the roots of the trees, rather than digging the trench through the roots. This technique can be quite useful for utility trenches and pipelines.

Protect Roots in Small Trenches: After all construction is complete on a site, it is not unusual for the landscape contractor to come in and sever a large number of “preserved” roots during the installation of irrigation systems. The Project Arborist must therefore approve the landscape and irrigation plans. The irrigation system needs to be designed so the main lines are located outside the root zone of major trees, and the secondary lines are either laid on the surface (drip systems), or carefully dug with a hydraulic or air spade, and the flexible pipe fed underneath the major roots.

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<sup>1</sup> International Society of Arboriculture (ISA), maintains a program of Certifying individuals. Each Certified Arborist has a number and must maintain continuing education credits to remain Certified.

Design the irrigation system so it can slowly apply water (no more than ¼” to ½” of water per hour) over a longer period of time. This allows deep soaking of root zones. The system also needs to accommodate infrequent irrigation settings of once or twice a month, rather than several times a week.

Monitoring Tree Health During and After Construction: The Project Arborist should visit the site at least twice a month during construction to be certain the tree protection measures are being followed, to monitor the health of impacted trees, and make recommendations as to irrigation or other needs. After construction is complete, the arborist should monitor the site monthly for one year and make recommendations for care where needed.

Chemical Treatments: The owner or developer shall be responsible to contact an arborist with a pesticide applicators license to arrange for an application of a root enhancing hormone, such as Paclobutrazol, to mitigate the stress produced by the development. Additionally, at the discretion of the project arborist, an insect infestation preventative for both boring insects and leaf feeding insects and/or fungal preventative for leaf surfaces may be required. Roots pruned during the course of performing a cut may be required to be treated with a biofungicide such as Bio-Tam.

## APPENDIX 4 – SITE PHOTOS



Trees off the site along the north boundary



Looking South. Cottonwood Trees on the right along the east property line.