APPENDIX E:
BIOLOGICAL RESOURCES DATA

Arborist Report

The Forum at Rancho San Antonio
Cupertino, CA

PREPARED FOR
Greenbrier Development, LLC
3232 McKinney Ave., Suite 1160
Dallas, TX 75204

PREPARED BY:
HortScience, Inc.
325 Ray St.
Pleasanton, CA 94566

April 20, 2017

Arborist Report
The Forum at Rancho San Antonio
Cupertino, CA

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Introduction and Overview

The Forum is planning renovations and new facility construction at The Forum at Rancho San Antonio in Cupertino. HortScience, Inc. was asked to prepare an **Arborist Report** for the site as part of the application to the City of Cupertino.

This report provides the following information:

1. An evaluation of the health and structural condition of the trees within the proposed project area based on a visual inspection from the ground.
2. An assessment of the development impacts to the trees based on the drawings provided by the client.
3. Guidelines for tree preservation during the design, construction, and maintenance phases of development.

Tree Assessment Methods

Trees were assessed on January 27 and 30, 2017. The assessment included all on-site trees 4 inches and greater in diameter within the limit of work as identified by the client. The assessment procedure consisted of the following steps:

1. Identifying the species of tree;
2. Tagging each tree with an metal tag and recording its location on a map;
3. Measuring the trunk diameter at a point 54" above grade;
4. Evaluating the health and structural condition using a scale of 1 – 5:
   - ***5*** - A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.
   - ***4*** - Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
   - ***3*** - Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
   - ***2*** - Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
   - ***1*** - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.
5. Rating the suitability for preservation as "high", "moderate" or "low". Suitability for preservation considers the health, age, and structural condition of the tree, and its potential to remain an asset to the site for years to come.

   High: Trees with good health and structural stability that have the potential for longevity at the site.

   Moderate: Trees with somewhat declining health and/or structural defects than can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in 'high' category.

   Low: Tree in poor health or with significant structural defects that cannot be mitigated. Tree is expected to continue to decline, regardless of treatment. The species or individual may have characteristics that are undesirable for landscapes, and generally are unsuited for use areas.

Description of Trees

Several thousand trees exist on the site totaling 51.5 acres. In accordance with direction from the City of Cupertino to The Forum, the survey of trees includes those trees in the areas proposed for development, as trees in the areas outside the development area will not be impacted. Two hundred seventy-nine (279) trees representing 23 species were evaluated (Table 1). A majority of the trees were in good (58%) and fair (34%) condition, with only 22 trees (8%) in poor condition (Table 1). Tree sizes ranged from 4 to 26 inches in diameter, with an average trunk diameter of 11 inches (of 241 single-trunk trees). Descriptions of each tree can be found in the ***Tree Assessment*** and tree locations are plotted on the ***Tree Inventory Map*** (see Exhibits).

Table 1. Condition ratings and frequency of occurrence of trees
The Forum at Rancho San Antonio, Cupertino CA

Common Name	Scientific Name	Condition			Total
		Poor (1-2)	Fair (3)	Good (4-5)	
Bailey acacia	*Acacia baileyana*	1	-	-	**1**
Horsechestnut	*Aesculus hippocastanum*	1	-	4	**5**
Strawberry tree	*Arbutus unedo*	-	1	-	**1**
Deodar cedar	*Cedrus deodara*	-	5	5	**10**
Camphor	*Cinnamomum camphora*	3	2	5	**10**
Italian cypress	*Cupressus sempervirens*	-	-	3	**3**
Red ironbark	*Eucalyptus sideroxylon*	6	8	-	**14**
Crape myrtle	*Lagerstroemia indica*	-	17	4	**21**
Australian tea tree	*Leptospermum laevigatum*	-	1	-	**1**
Brisbane box	*Lophostemon confertus*	-	1	3	**4**
Mayten	*Maytenus boaria*	-	2	1	**3**
Aleppo pine	*Pinus halepensis*	2	13	14	**29**
Ponderosa pine	*Pinus ponderosa*	-	3	-	**3**
Monterey pine	*Pinus radiata*	-	1	-	**1**
Chinese pistache	*Pistacia chinensis*	-	1	11	**12**
London plane	*Platanus* x *hispanica*	-	1	69	**70**
Purpleleaf plum	*Prunus cerasifera*	5	9	3	**17**
Hollyleaf cherry	*Prunus ilicifolia*	-	4	-	**4**
Callery pear	*Pyrus calleryana*	-	4	2	**6**
Coast live oak	*Quercus agrifolia*	2	12	24	**38**
Valley oak	*Quercus lobata*	-	-	1	**1**
Arroyo willow	*Salix lasiolepis*	-	1	-	**1**
Coast redwood	*Sequoia sempervirens*	2	10	12	**24**
Total		**22**	**96**	**161**	**279**
		8%	34%	58%	100%

The most common species evaluated was London plane, with 70 trees (25% of the population). Trees were concentrated around parking areas of the skilled nursing center, multi-purpose room, along Cristo Rey drive, and Via Splendor (Photo 1, next page). Trees were young to semi-mature,

with trunk diameters from 4 to 15 inches. Overall, London planes were in good and excellent condition, with only one tree (#172) in fair condition. Trees had good form and structure and no visible signs of pests or disease.

Photo 1 (left): London planes along Cristo Rey Dr. (#216-219, l-r) were in good condition with good form and structure.

Photo 2 (right): Coast live oak #74 was in good condition with good form and dense crown.

The second most common species was coast live oak, with 38 trees evaluated (14%). Trees were grouped in four locations across the site, generally growing in natural, open areas, with the largest group at the northwest end of the site forming a dense screen. These trees were in fair and good condition, with crowded form. Trees given more space to grow had good form and dense crowns (Photo 2). Half of the oaks had single trunks ranging from 5 to 21 inches in diameter, with an average trunk diameter of 10 inches. Oaks with multiple trunks were semi-mature to mature, with the largest trunk measuring 26 inches.

Twenty-nine (29) Aleppo pines were evaluated (10%). Most trees were located around the sloped grass field where the new memory care facility is proposed, with two trees (#271 and 275) on Sereno Way. Tree conditions ranged from poor (2 trees), to fair (13 trees) and good (14 trees). Many trees were growing in groups on the slope, contributing to crowded (one-sided) form and trunk leans. Trees in good condition had good form and dense crowns.

Twenty-four (24) coast redwoods were evaluated at the site (9%). Trees were semi-mature, with trunk diameters from 14 to 25 inches, with an average diameter of 19 inches. Trees were distributed in pairs throughout the site, with a circle of nine trees near the multi-purpose building, and a group of eight trees near the circular planter on Cristo Rey Drive. Tree conditions ranged from poor to good, and was determined by foliage color and density. Trees in good condition had dense or thinning crowns; trees in fair condition had thin crowns (Photo 3), and trees in poor conditions had very thin crowns with brown foliage and branch dieback. All but one tree (#113) had good form and structure. Tree #113 was a multi-stem tree in fair condition.

Photo 3: Coast redwoods #240-244 (l-r) were in fair condition with thinning crowns.

Twenty-one (21) crape myrtles were evaluated (8%). Trees were young, with trunk diameters from 3 to 9 inches. Most trees (17 trees) were in fair condition with fair structure and small crowns. All trees had been heavily pruned.
Seventeen (17) purpleleaf plums, with trunk diameters from 4 to 7 inches, were evaluated (6%). Trees were in poor (5 trees), fair (9 trees), and good (3 trees) condition. Many had been heavily pruned, and many had severe trunk sunburn.

Fourteen (14) red ironbarks were included in the assessment (5%). Trees were in fair and poor condition, with thin crowns, and many had been previously topped (Photo 4).

Photo 4: Red ironbarks #104-107 (l-r) were in poor condition with thin crowns and they had been previously topped.

The remaining species were represented by 12 or fewer trees and included the following.

- Twelve (12) Chinese pistache in good (11 trees) and fair (1 tree) condition;
- Ten (10) deodar cedars in good (5 trees) and fair (5 trees) condition;
- Ten (10) camphors in good, fair, and poor condition;
- Five horsechestnuts in good and poor condition;
- Four each of Brisbane box and hollyleaf cherry in good and fair condition;
- Three each of Italian cypress, mayten, and Ponderosa pine in good and fair condition;
- One valley oak in good condition;
- One each of strawberry tree, Australian tea tree, Monterey pine, and arroyo willow in fair condition;
- One Bailey acacia in poor condition.

The City of Cupertino defines *Specimen* tree as any from a list of 15 species with a trunk diameter of 10 inches for single-trunk trees and a cumulative 20 inches for multi-trunk trees. The following species evaluated at the site were on this list: Deodar cedar, coast live oak, and valley oak. Based on this definition, 37 trees were considered *Specimen* trees. *Specimen* trees are identified in the ***Tree Assessment*** (see Exhibits).

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to make sure that they may survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. When development encroaches into existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment. Where development will not occur, the normal life cycles of decline, structural failure, and death should be allowed to continue.

Evaluation of suitability for preservation considers several factors:

- **Tree health**
  Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than are non-vigorous trees.

- **Structural integrity**
  Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely. For example, red ironbarks that had been previously topped are not good candidates for preservation.

- **Species response**
  There is a wide variation in the response of individual species to construction impacts and changes in the environment. In general, London plane, coast redwood, and coast live oak are tolerant of construction impacts and site changes while Aleppo and Monterey pines are relatively intolerant of site changes and root loss.

- **Tree age and longevity**
  Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.

- **Species invasiveness**
  Species that spread across a site and displace desired vegetation are not always appropriate for retention. This is particularly true when indigenous species are displaced. The California Invasive Plant Inventory Database (http://www.cal-ipc.org/paf/) lists species identified as being invasive. This site is part of the Central West Floristic Province. Purpleleaf plum is listed as *limited* invasive.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (see ***Tree Assessment*** and Table 2, next page). We consider trees with high suitability for preservation to be the best candidates for preservation. We do not recommend retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Table 2: Tree suitability for preservation
The Forum at Rancho San Antonio, Cupertino CA

High	These are trees with good health and structural stability that have the potential for longevity at the site. One hundred one (101) trees had a high suitability for preservation.
Moderate	Trees in this category have fair health and/or structural defects that may be abated with treatment. These trees require more intense management and monitoring, and may have shorter life-spans than those in the "high" category. One hundred forty-seven (147) trees had a moderate suitability for preservation.
Low	Trees in this category are in poor health or have significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. Thirty-one (31) trees had low suitability for preservation.

Evaluation of Impacts and Recommendations for Preservation

Appropriate tree retention develops a practical match between the location and intensity of construction activities and the quality and health of trees. The ***Tree Assessment*** was the reference point for tree condition and quality. I referred to the plan set prepared by BKF for the Plan Review Submittal (12/14/16, updated 4/11/17), which included site, grading, and utility sheets. Surveyed tree locations were included for most trees.

The plans show improvements to various areas around the site: a new multi-purpose room and fitness addition; a new memory care center; a skilled nursing addition; and approximately two-dozen new villas. Impacts to trees would occur with demolition of existing features, building construction, and utility installation. The most significant impacts would occur as a result of grading for new buildings.

The limit of work was clearly delineated on all plans. Most trees located within the limit of work will be directly impacted by construction activities, and trees located within 5 feet if the LOW may be impacted. Based on my review of the plans and conversations with project engineers, we have identified 115 trees that will be directly impacted by development and require removal. Of these, 15 trees had low suitability for preservation, 63 were moderate, and 37 were high. Twenty-three (23) trees qualified as *Specimen* trees. A tree removal table with reasons for removal is provided in the *Exhibits*.

One hundred sixty-four (164) trees have been identified for preservation, most of which are outside the limit of work. Preservation of trees is predicated on establishing and maintaining tree protection zones and following established procedures to minimize root impacts and root loss.

Trees that are relatively tolerant of impacts – London planes, coast live oaks, and coast redwoods – should have a minimum clearance from construction of 7 feet. Tree protection zones for all other trees should be a minimum 10-foot radius or the edge of the dripline, whichever is greater. No grading, excavation, storage of materials, etc. is permitted within tree protection zones.

Trees identified for preservation with canopy extending over construction or access areas may need to be pruned for clearance.

Tree protection instructions are located in the **Tree Preservation Guidelines** (next section).

Tree Preservation Guidelines

The goal of tree preservation is not merely tree survival during development but maintenance of tree health and beauty for many years. Impacts can be minimized by coordinating any construction activities inside the **TREE PROTECTION ZONE**.

The following recommendations will help reduce impacts to trees from development and maintain and improve their health and vitality through the clearing, grading and construction phases.

Design recommendations

1. Any plan changes affecting trees should be reviewed by the Consulting Arborist with regard to tree impacts. These include, but are not limited to, site improvement plans, utility and drainage plans, grading plans, landscape and irrigation plans, and demolition plans.
2. A **TREE PROTECTION ZONE** (**TPZ**) shall be established around each tree to be preserved. No grading, excavation, construction, or storage of materials shall occur within that zone. For design purposes, the **TPZ** is located at the dripline of the tree or 10 feet, whichever is greater. If necessary, the **TPZ** for construction-tolerant species may be reduced to 7 feet.
3. **Tree Preservation Guidelines**, prepared by the Consulting Arborist, should be included on all plans.
4. Underground services including utilities, sub-drains, water or sewer shall be routed around the **TREE PROTECTION ZONE**. Where encroachment cannot be avoided, special construction techniques such as hand digging or tunneling under roots shall be employed where necessary to minimize root injury.
5. Irrigation systems must be designed so that no trenching will occur within the **TREE PROTECTION ZONE**.

Pre-construction treatments and recommendations

1. The demolition contractor shall meet with the Consulting Arborist before beginning work to discuss work procedures and tree protection.
2. Fence trees to completely enclose the **TREE PROTECTION ZONE** prior to demolition, grubbing, or grading. Fences shall be 6 ft. chain link or equivalent as approved by the City of Cupertino. Fences are to remain until all construction is completed.
3. Trees to be preserved may require pruning to provide construction clearance. All pruning shall be completed by a Certified Arborist or Tree Worker. Pruning shall adhere to the latest edition of the ANSI Z133 and A300 standards as well as the *Best Management Practices -- Tree Pruning* published by the International Society of Arboriculture.
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 construction contractors. The qualified arborist shall remove the tree in a manner that causes no damage to the tree(s) and understory to remain. Tree stumps shall be ground 12” below ground surface.
5. All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. To the extent feasible tree pruning and removal should be scheduled outside of the breeding season. Breeding bird surveys should be conducted prior to tree work. Qualified biologists should be involved in establishing work buffers for active nests.

Recommendations for tree protection during construction

1. Prior to beginning work, the contractors working in the vicinity of trees to be preserved are required to meet with the Consulting Arborist at the site to review all work procedures, access routes, storage areas, and tree protection measures.

2. All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved.
3. Any grading, construction, demolition or other work that is expected to encounter tree roots should be monitored by the Consulting Arborist.
4. Fences are to remain until all site work has been completed. Fences may not be relocated or removed without permission from/discussion with the Consulting Arborist.
5. Construction trailers, traffic and storage areas must remain outside fenced areas at all times.
6. Structures and underground features to be removed within the **TREE PROTECTION ZONE** shall use the smallest equipment, 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.
7. Any root pruning required for construction purposes shall receive the prior approval of and be supervised by the Consulting Arborist.
8. Any demolition or excavation within the dripline or other work that is expected to encounter tree roots should be approved and monitored by the Consulting Arborist. Roots shall be cut by manually digging a trench and cutting exposed roots with a sharp saw. The Consulting Arborist will identify where root pruning is required.
9. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
10. Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist or Certified Tree Worker and not by construction personnel.

Maintenance of impacted trees
Any trees preserved at the Forum site will experience a physical environment different from that pre-development. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority. As trees age, the likelihood of branches or entire trees failing will increase. Therefore, annual inspection for hazard potential is recommended.

If you have any questions regarding my observations or recommendations, please contact me.

HortScience, Inc.

Deanne Ecklund

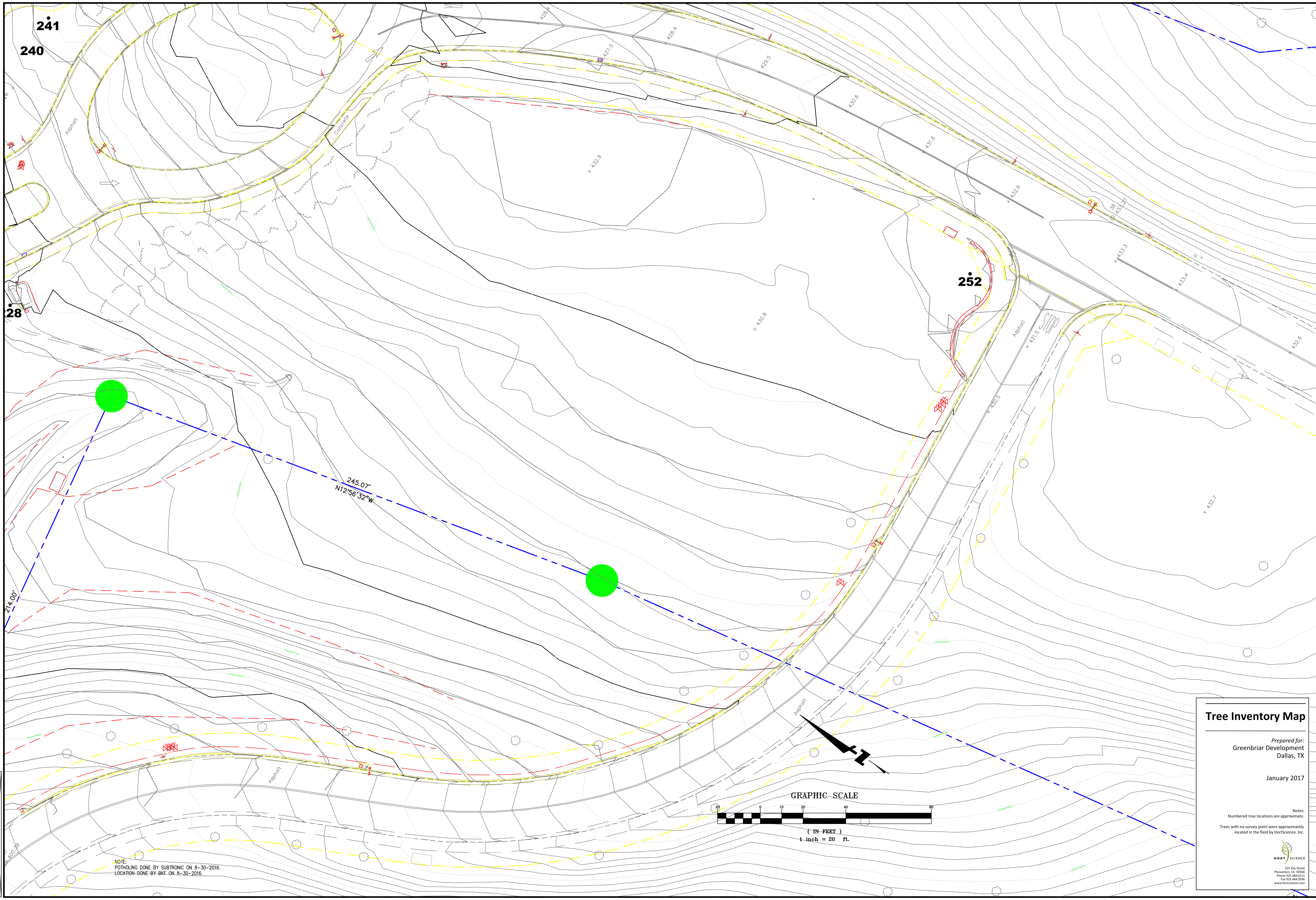
Deanne Ecklund
Certified Arborist #WE-9067A

Exhibits

Tree Inventory Map

Tree Assessment

Tree Removals



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SUITE 200
WALNUT CREEK, CA 94596
925-940-2200
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THE FORUM AT RANCHO SAN ANTONIO
TOPOGRAPHIC SURVEY

CUPERTINO SANTA CLARA CALIFORNIA

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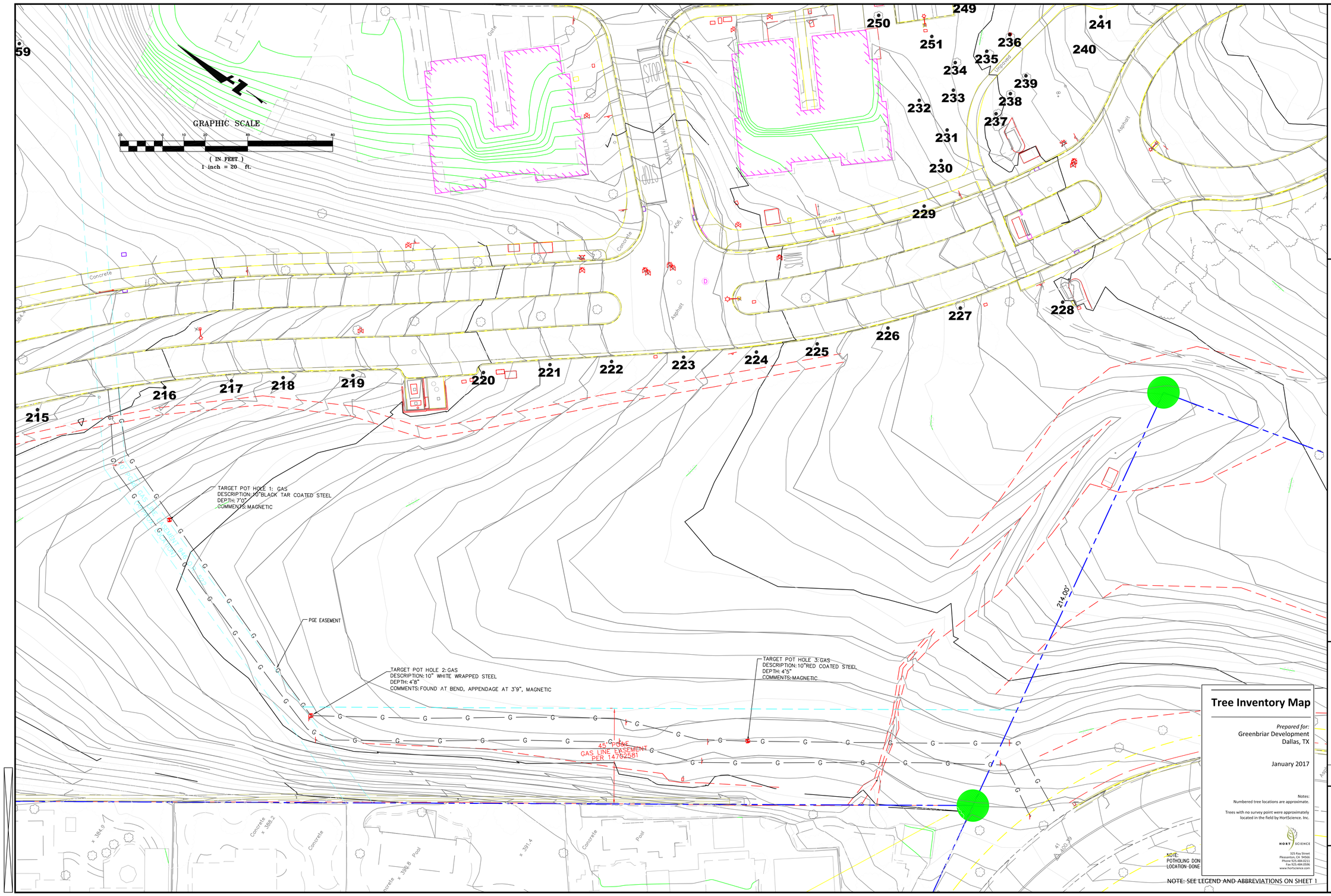

Tree Inventory Map

Prepared for:
Greenbriar Development
Dallas, TX

January 2017

Notes:
Numbered tree locations are approximate.

Trees with no survey point were approximately located in the field by HortScience, Inc.

HORT SCIENCE
325 Ray Street
Pleasanton, CA. 94566
Phone 925.484.0211
Fax 925.484.0596
www.hortscience.com

2737 NORTH MAIN STREET
SUITE 200
WALNUT CREEK, CA 94596
925-940-2200
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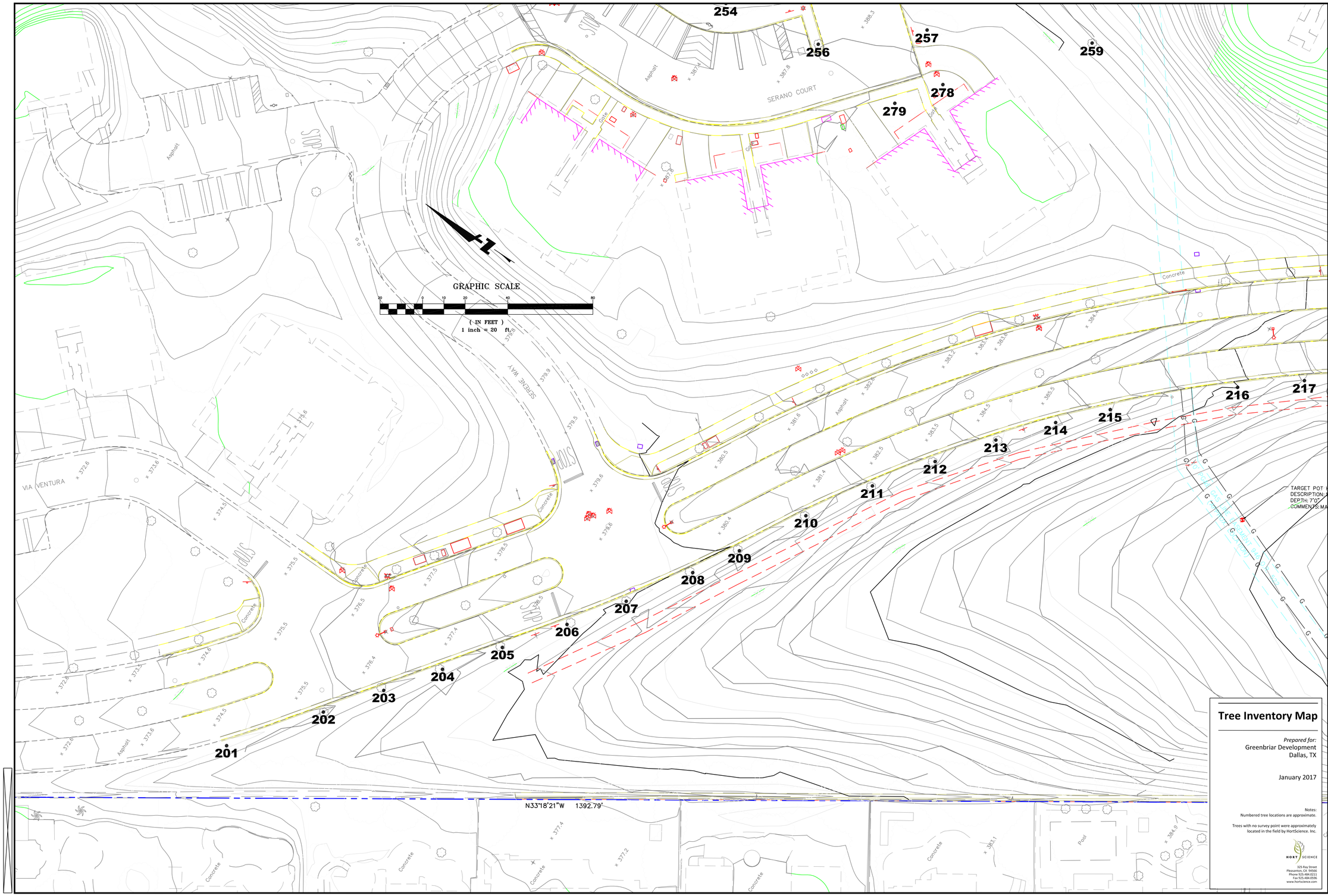

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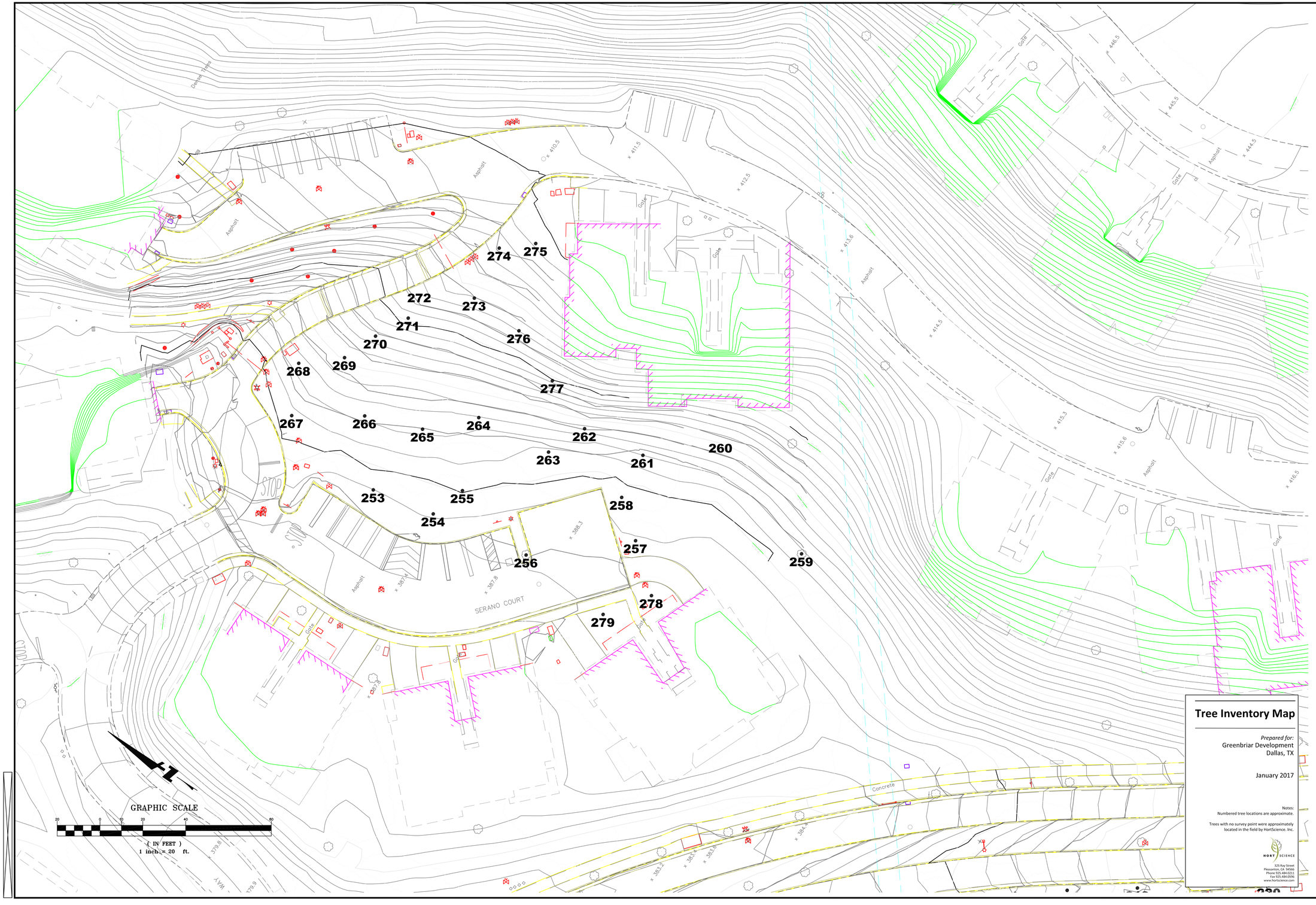

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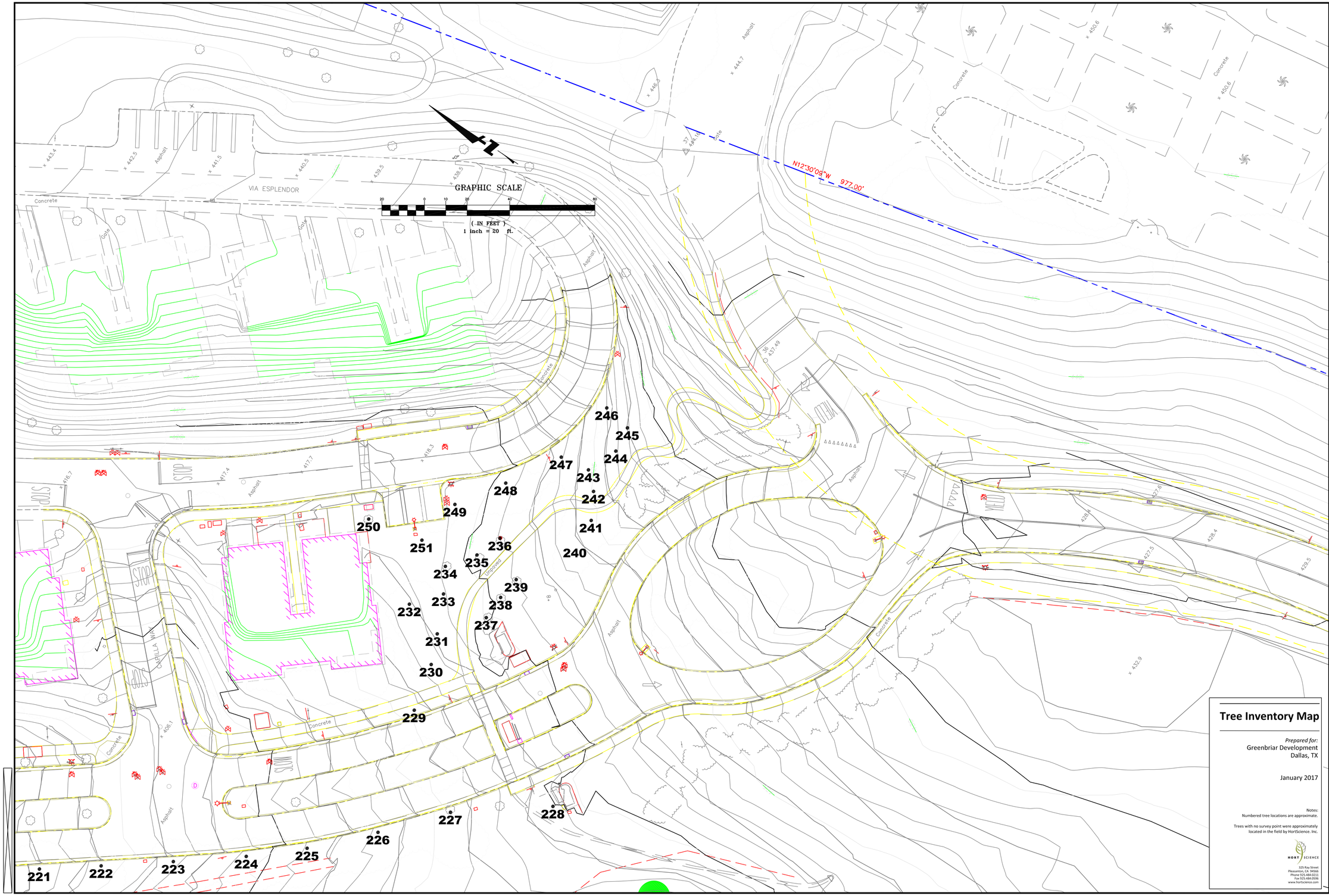

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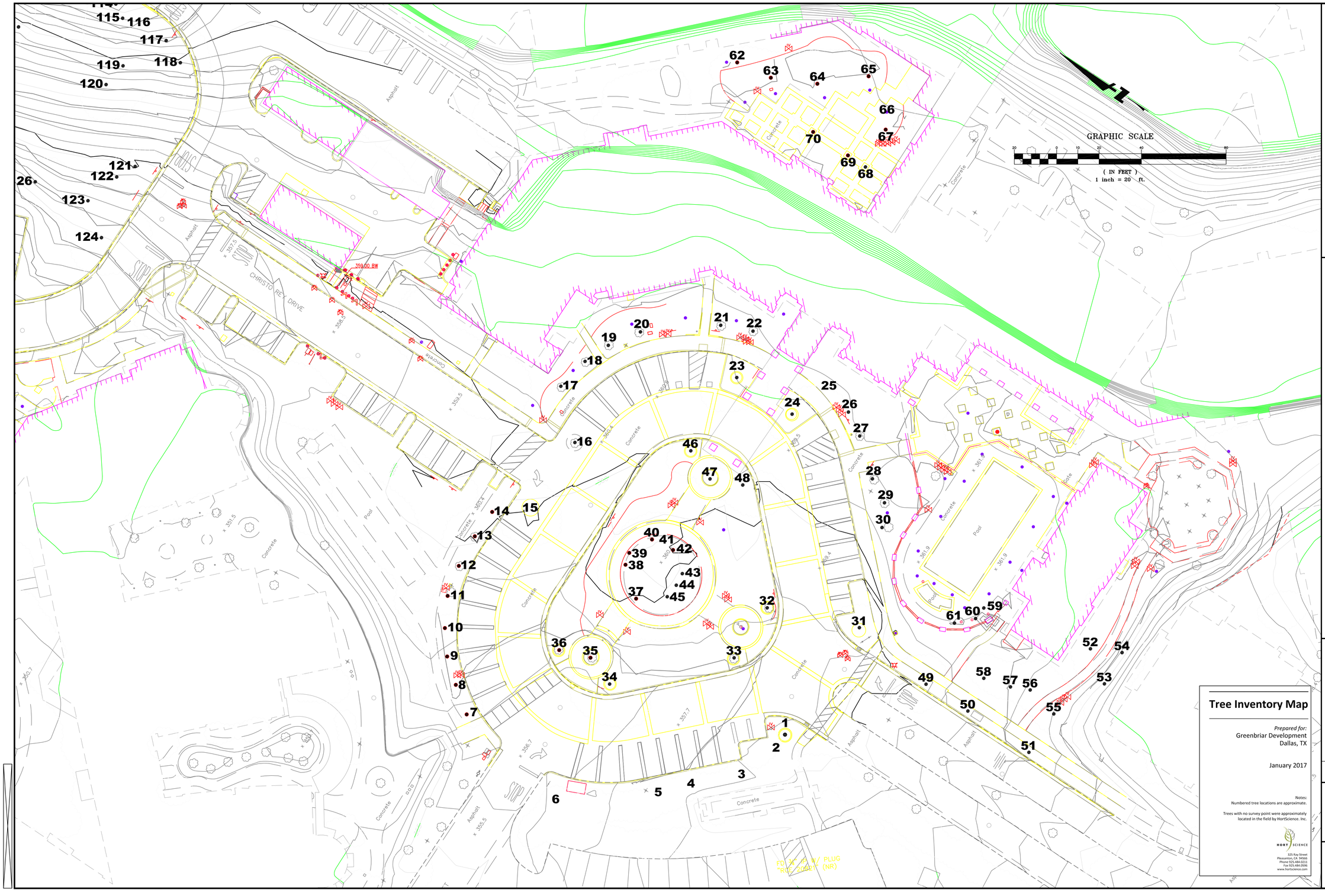

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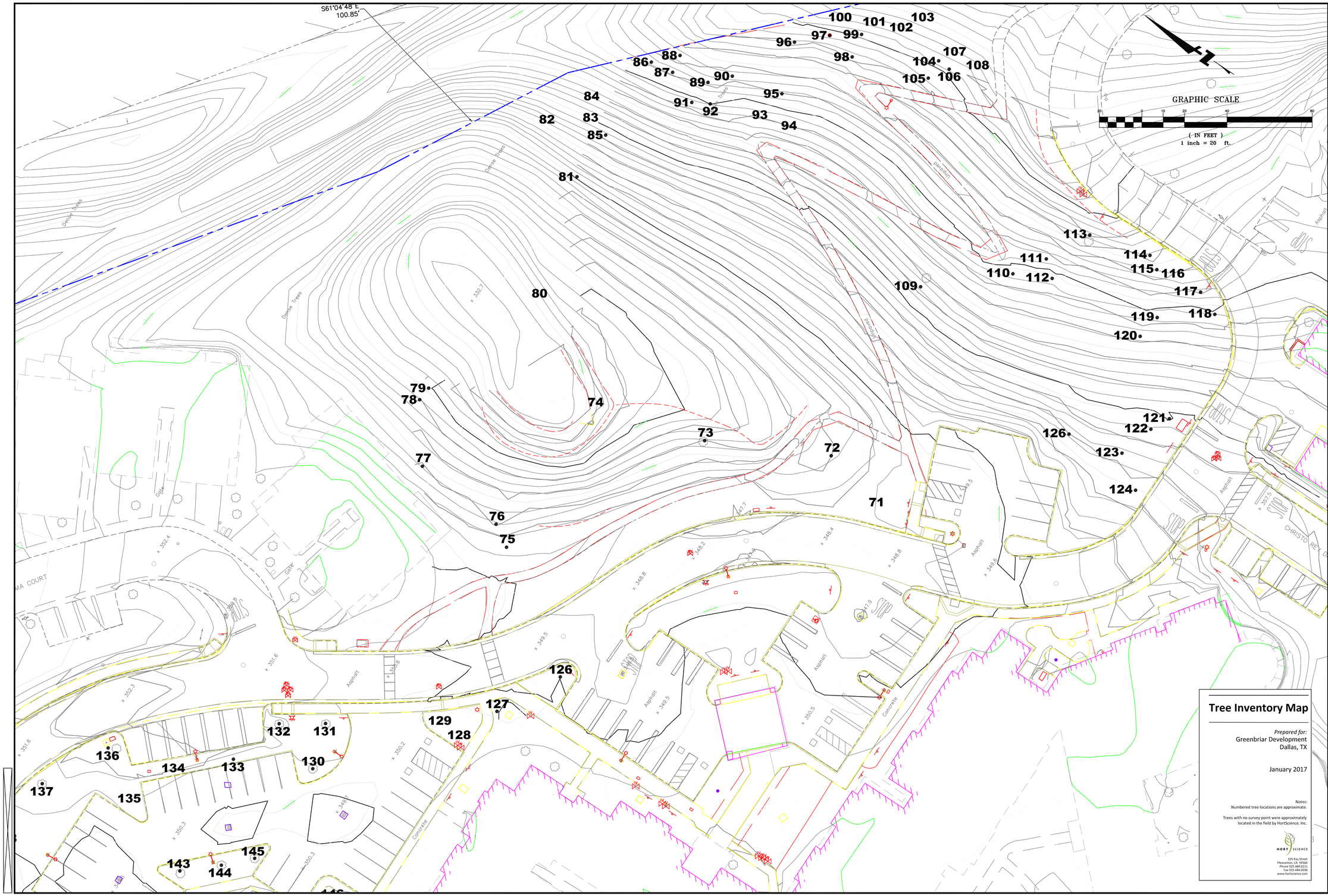

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TOPO
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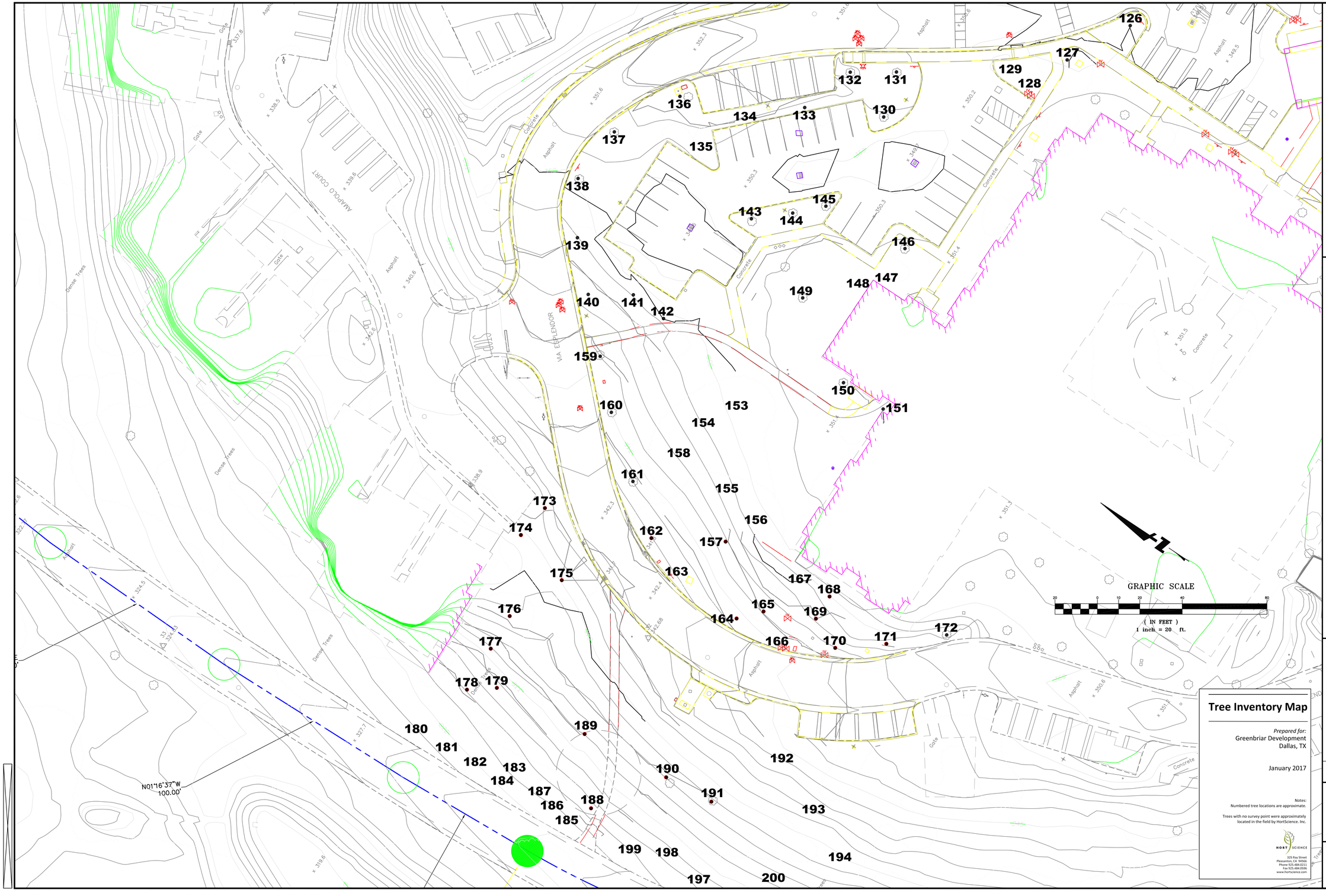

BKF
ENGINEERS / SURVEYORS / PLANNERS
2737 NORTH MAIN STREET
SUITE 200
WALNUT CREEK, CA 94596
925-940-2200
925-940-2299 (FAX)

THE FORUM AT RANCHO SAN ANTONIO
TOPOGRAPHIC SURVEY

CUPERTINO
SANTA CLARA
CALIFORNIA

Tree Inventory Map

Prepared for:
Greenbriar Development
Dallas, TX

January 2017

Notes:
Numbered tree locations are approximate.

Trees with no survey point were approximately located in the field by HortScience. Inc.

HORT SCIENCE
325 Ray Street
Pleasanton, CA 94566
Phone 925.484.0211
Fax 925.484.0596
www.hortscience.com

No.	Revisions

Date: 09-06-2016
Scale: 1" = 20'
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Drawn: DHS
Approved: KS
Job No: 201656292

Drawing Number:
TOPO
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Tree Assessment

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Cupertino, CA
January 2017

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Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
1	London plane	9	No	5	High	Multiple attachments at 6'; good form and structure.
2	Purpleleaf plum	4,4,4,4	No	3	Moderate	Multiple attachments at 3'; good form, fair structure.
3	Purpleleaf plum	5,4	No	3	Moderate	Codominant trunks at 3'; fair form and structure; stub cuts.
4	Purpleleaf plum	6,5,4,4	No	3	Moderate	Multiple attachments at 3'; good form, fair structure; stub cuts.
5	Purpleleaf plum	5,4,4,3,2	No	3	Moderate	Multiple attachments at 3'; fair form and structure; stub cuts.
6	Purpleleaf plum	4,3,2	No	3	Moderate	Multiple attachments at 3'; fair form and structure; stub cuts.
7	Purpleleaf plum	4	No	4	Moderate	Multiple attachments at 6'; good form, fair structure.
8	Purpleleaf plum	4	No	4	Moderate	Multiple attachments at 5'; good form, fair structure; slight trunk lean over parking lot.
9	Purpleleaf plum	5	No	4	High	Multiple attachments at 5'; good form, fair structure.
10	Purpleleaf plum	5	No	3	Moderate	Multiple attachments at 5'; fair form and structure; trunk sunburn.
11	Purpleleaf plum	5	No	2	Low	Multiple attachments at 6'; fair form and structure; severe trunk sunburn.
12	Purpleleaf plum	5	No	3	Moderate	Multiple attachments at 5'; fair form and structure; trunk sunburn.
13	Purpleleaf plum	5	No	2	Low	Multiple attachments at 6'; fair form and structure; severe trunk sunburn; girdling root.
14	Purpleleaf plum	5	No	3	Moderate	Multiple attachments at 7'; fair form and structure; trunk sunburn.
15	London plane	12	No	4	High	In 7' diameter planter; codominant trunks at 15'; pruning cuts along trunk; good form and structure.
16	London plane	6	No	4	High	In 7' diameter planter; surface roots; codominant trunks at 8'; good form and structure.
17	Crape myrtle	5	No	3	Moderate	Fair form and structure; pollarded.
18	Crape myrtle	5	No	3	Moderate	Fair form and structure; pollarded.
19	Crape myrtle	5	No	3	Moderate	Fair form and structure; pollarded.
20	Crape myrtle	5	No	3	Moderate	Fair form and structure; pollarded.
21	Crape myrtle	4	No	3	Moderate	Fair form and structure; pollarded.
22	Crape myrtle	4	No	3	Moderate	Fair form and structure; sprinkler head engulfed by trunk; pollarded.
23	London plane	13	No	5	High	In 5' diameter planter; surface roots; codominant trunks at 9'; good form and structure.
24	London plane	15	No	4	High	In 5' diameter planter; significant surface roots; codominant trunks at 9'; stub cuts.
25	Crape myrtle	4	No	3	Moderate	Fair form and structure; pollarded.
26	Crape myrtle	4	No	3	Moderate	Fair form and structure; pollarded.

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Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
27	Crape myrtle	5	No	3	Moderate	Fair form and structure; pollarded.
28	Crape myrtle	4	No	3	Moderate	Fair form and structure; pollarded.
29	Crape myrtle	3	No	3	Moderate	Fair form and structure; pollarded.
30	Crape myrtle	4	No	3	Moderate	Fair form and structure; pollarded.
31	London plane	7	No	5	High	In 5' diameter planter; root flare buried; good form and structure.
32	London plane	12	No	4	High	In 5' diameter planter; ssco 3' from base; pruning cuts on trunk.
33	London plane	13	No	4	High	In 5' diameter planter; significant surface roots; codominant trunks at 9'.
34	London plane	14	No	5	High	In 5' diameter planter; surface roots; electric vault 3' from base; good form and
35	Crape myrtle	9	No	3	Moderate	Fair form and structure; pollarded.
36	London plane	10	No	5	High	In 5' diameter planter; good form and structure.
37	Coast redwood	23	No	4	Moderate	Good form and structure; slightly thin crown; thin top.
38	Coast redwood	21	No	4	Moderate	Good form and structure; slightly thin crown; thin top.
39	Coast redwood	23	No	4	Moderate	Good form and structure; slightly thin crown; thin top.
40	Coast redwood	25	No	4	Moderate	Good form and structure; slightly thin crown.
41	Coast redwood	20	No	4	Moderate	Good form and structure; slightly thin crown.
42	Coast redwood	16	No	3	Moderate	Good form and structure; thinning crown; browning needles.
43	Coast redwood	14	No	3	Moderate	Good form and structure; thinning crown; browning needles.
44	Coast redwood	15	No	2	Low	Crown almost completely brown.
45	Coast redwood	16	No	2	Low	Crown almost completely brown.
46	London plane	9	No	4	High	In 5' diameter planter; asymmetrical crown.
47	Crape myrtle	8	No	3	Moderate	Fair form and structure; pollarded.
48	London plane	12	No	4	High	In 5' diameter planter; surface roots; good form and structure; stub cuts.
49	London plane	11	No	5	High	In 5' planter; 18" from utility vault; good form and structure.
50	London plane	8	No	5	High	In 5' planter; 24" from utility vault; circling root; good form and structure.
51	London plane	5	No	4	High	In 5' planter; surface roots; codominant trunks at 7'; good form and structure.
52	Brisbane box	8	No	3	Moderate	Multiple attachments at 8'; narrow form; slightly thin crown.
53	Chinese pistache	7	No	4	High	Multiple attachments at 6'; on slope; good form and structure.

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Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
54	Brisbane box	12	No	4	Moderate	Codominant trunks at 7'; on slope; good form; slightly thin crown.
55	Camphor	9	No	3	Low	Multiple attachments at 6'; twig and branch dieback.
56	Camphor	11	No	3	Moderate	Codominant trunks at 5'; fair form and structure; chlorotic.
57	Brisbane box	9	No	4	High	Codominant trunks at 8'; good form and structure; slightly thin crown.
58	Brisbane box	8	No	4	High	Codominant trunks at 8'; fair form, good structure; slightly thin crown.
59	Italian cypress	15	No	5	High	No tag; good form and structure; dense crown.
60	Italian cypress	11	No	5	High	No tag; good form and structure; dense crown.
61	Italian cypress	10	No	5	High	No tag; good form and structure; dense crown.
62	Mayten	12	No	4	Moderate	Codominant trunks at 6'; good form; slightly thin crown.
63	Camphor	13	No	2	Low	Multiple attachments at 6'; poor structure; thin crown.
64	Camphor	15	No	4	Moderate	Codominant trunks at 5'; fair form and structure; twig dieback.
65	Camphor	18	No	4	Moderate	Multiple attachments at 6' and 8'; fair form and structure; stub cuts.
66	Mayten	11	No	3	Moderate	Codominant trunks at 7'; slightly thin crown.
67	Mayten	11	No	3	Moderate	Codominant trunks at 6'; slightly thin crown.
68	Callery pear	14	No	3	Moderate	Multiple attachments at 8'; in 3' cutout; fair form and structure; previously topped.
69	Callery pear	13	No	3	Moderate	Multiple attachments at 8'; in 3' cutout; fair form and structure; previously topped.
70	Callery pear	11	No	3	Moderate	Multiple attachments at 8'; in 3' cutout; grate girdling trunk; fair form and structure; previously topped.
71	Coast live oak	10,9,9,7	Yes	4	High	Multiple attachments at 2'; good form and structure; surface roots.
72	Coast live oak	11,11,10,7	Yes	4	Moderate	Codominant trunks at 1'; spreading crown; slightly thin upper crown.
73	Coast live oak	11,10,10	Yes	3	Moderate	Codominant trunks at 2'; previous stem failures below attachment; slightly thin crown.
74	Coast live oak	21	Yes	4	High	Multiple attachments at 6'; spreading crown; good form.
75	Coast live oak	12,10	Yes	4	High	Codominant trunks at 1'; good form; dense crown.
76	Deodar cedar	17	Yes	5	High	Good form and structure; dense crown; branches to ground.
77	Coast redwood	23	No	5	High	Good form and structure; dense crown; branches to ground.
78	Red ironbark	23	No	3	Moderate	Codominant trunks at 7'; previously topped; slightly thin crown.
79	Red ironbark	19	No	3	Moderate	Codominant trunks at 7'; previously topped; slightly thin crown.

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Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
80	Arroyo willow	11,11,10,6	No	3	Moderate	In swamp at drain inlet; poor structure; dense crown.
81	Coast live oak	15	Yes	4	High	On slope; multiple attachments at 6'; good form; dense crown.
82	Red ironbark	7,7,5	No	3	Moderate	On slope; multiple attachments at 1'; asymmetrical crown; slightly thin crown.
83	Aleppo pine	18	No	3	Moderate	On slope; trunk swoops up; codominant trunks at 12'; fair form.
84	Aleppo pine	14	No	4	Moderate	On slope; minor corrected lean; good form and structure; slightly thin crown.
85	Aleppo pine	12	No	4	Moderate	On slope; good form and structure; slightly thin crown.
86	Aleppo pine	18	No	4	Moderate	On slope; good form and structure; slightly thin crown.
87	Aleppo pine	16	No	4	Moderate	On slope; good form and structure; slightly thin crown.
88	Aleppo pine	18	No	3	Moderate	Sinuous trunk; slightly thin crown.
89	Red ironbark	15	No	3	Low	Codominant trunks at 13'; previously topped; thin crown.
90	Red ironbark	19	No	3	Low	Codominant trunks at 13'; previously topped; thin crown.
91	Red ironbark	16	No	3	Low	Sinuous trunk; codominant trunks at 13'; previously topped; thin crown.
92	Red ironbark	18	No	3	Low	Codominant trunks at 12'; previously topped; thin crown.
93	Aleppo pine	16	No	3	Low	Girdling roots; base outside of dripline; leans down slope.
94	Aleppo pine	11	No	2	Low	Codominant trunks at 7'; thin crown; leans down slope over path.
95	Aleppo pine	13,10	No	2	Low	Codominant trunks at 1'; thin crown.
96	Red ironbark	10,10,8	No	2	Low	Multiple attachments at 2'; thin crown.
97	Red ironbark	15	No	3	Low	Codominant trunks at 8'; fair form; previously topped.
98	Aleppo pine	13	No	3	Moderate	Slight lean west over bench; asymmetrical crown.
99	Aleppo pine	16	No	3	Moderate	Codominant trunks at 11'; narrow form; crowded.
100	Aleppo pine	16	No	4	Moderate	Good form and structure; crowded.
101	Aleppo pine	15	No	4	Moderate	Good form and structure; crowded.
102	Aleppo pine	14	No	3	Moderate	Asymmetrical crown; slight lean down slope.
103	Aleppo pine	16	No	4	Moderate	Good form and structure; slightly thin crown.
104	Red ironbark	15	No	2	Low	Codominant trunks at 12'; previously topped; thin crown.
105	Red ironbark	20	No	2	Low	Codominant trunks at 7'; previously topped; thin crown.
106	Red ironbark	16	No	2	Low	Codominant trunks at 14'; previously topped; thin crown.

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Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
107	Red ironbark	12	No	2	Low	Narrow form; previously topped; thin crown.
108	Red ironbark	17	No	2	Low	Codominant trunks at 10'; previously topped; thin crown.
109	Coast live oak	13,14	Yes	4	Moderate	Codominant trunks at 4'; good form.
110	Coast live oak	12,5,5	Yes	3	Moderate	Multiple attachments at 3'; trunk canker; good form.
111	Coast live oak	9,8,7,6,5	Yes	4	Moderate	Good form, fair structure; spreading crown.
112	Coast live oak	7,6	Yes	3	Moderate	Codominant trunks at 1'; small, slightly thin crown.
113	Coast redwood	8,6,3	No	3	Low	Multiple attachments at base; slightly thin crown.
114	Aleppo pine	13	No	4	High	Good form and structure; dense crown.
115	Aleppo pine	18	No	4	Moderate	Codominant trunks at 5'; dense crown.
116	Aleppo pine	17	No	3	Moderate	Codominant trunks at 7'; crowded form.
117	Aleppo pine	22	No	3	Moderate	Codominant trunks at 6' and 8' with narrow attachments; good form.
118	Aleppo pine	18	No	4	High	Good form and structure; dense crown.
119	Aleppo pine	14	No	4	High	Good form and structure; dense crown.
120	Aleppo pine	16	No	3	Moderate	Codominant trunks at 9'; good form.
121	Aleppo pine	17	No	4	High	Good form and structure; crowded form; dense crown.
122	Aleppo pine	15	No	3	Moderate	Codominant trunks at 9' with narrow attachment; crowded.
123	Aleppo pine	13	No	3	Moderate	Sinuous trunk; good form.
124	Aleppo pine	21,16	No	3	Moderate	Codominant trunks at 4'; fair form and structure; dense crown.
125	Aleppo pine	10,9,7,6	No	4	Moderate	Multiple attachments at 3' and 4'; spreading crown.
126	London plane	13	No	5	High	Multiple attachments at 6'; good form and structure.
127	London plane	11	No	5	High	Multiple attachments at 6'; good form and structure; 18" from walkway.
128	Crape myrtle	3	No	3	Moderate	Multiple attachments at 6'; pollarded.
129	London plane	4	No	4	Moderate	Codominant trunks at 7'; asymmetrical crown.
130	Crape myrtle	4	No	4	Moderate	Multiple attachments at 6'; pollarded.
131	London plane	6	No	4	High	Codominant trunks at 7'; good form and structure.
132	London plane	7	No	4	High	Multiple attachments at 8'; good form and structure.
133	London plane	7	No	4	High	Codominant trunks at 7'; good form and structure; 18" from curb.

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Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
134	London plane	6	No	4	High	Multiple attachments at 8'; good form and structure.
135	Crape myrtle	3	No	3	Moderate	Multiple attachments at 6'; pollarded.
136	London plane	7	No	4	High	Codominant trunks at 7'; good form and structure; circling root; 1' from concrete pad.
137	London plane	8	No	5	High	Multiple attachments at 6'; good form and structure.
138	London plane	8	No	4	High	Multiple attachments at 6'; good form and structure; heavy lateral limb.
139	London plane	7	No	4	High	Codominant trunks at 6' and 8'; good form and structure.
140	London plane	8	No	5	High	Codominant trunks at 9'; good form and structure.
141	Coast redwood	18	No	3	Moderate	Good form and structure; thinning crown.
142	Coast redwood	18	No	4	Moderate	Good form and structure; slightly thin crown.
143	Crape myrtle	6	No	4	Moderate	Good form, fair structure; previously pollarded.
144	Crape myrtle	4	No	3	Moderate	Good form, fair structure; trunk wound; previously pollarded.
145	Crape myrtle	4	No	4	Moderate	Good form, fair structure; previously pollarded.
146	Crape myrtle	4	No	4	Moderate	Good form, fair structure; previously pollarded.
147	Australian tea tree	6,4	No	3	Moderate	Codominant trunks at 1'; leans away from building; asymmetrical crown.
148	Hollyleaf cherry	3	No	3	Moderate	Asymmetrical crown; twig dieback.
149	Chinese pistache	7	No	4	High	Multiple attachments at 7'; good form, fair structure.
150	Hollyleaf cherry	5	No	3	Moderate	Asymmetrical crown; twig dieback.
151	Hollyleaf cherry	8	No	3	Moderate	Multiple attachments at 7'; narrow form; close to building.
152	Strawberry tree	7,7,5,5	No	3	Moderate	Multiple attachments at base 3' asymmetrical crown.
153	Coast live oak	10	Yes	3	Moderate	Multiple attachments at 4'; poor structure; slightly thin crown.
154	Coast live oak	10	Yes	2	Low	Trunk damage; poor structure; thin crown.
155	Coast live oak	12	Yes	4	Moderate	Good form, fair structure; slightly thin crown.
156	Camphor	6	No	2	Low	Poor form and structure; twig and branch dieback.
157	Coast live oak	26,19,18	Yes	3	Moderate	Multiple attachments at 1' and 3'; one stem horizontal; dense, spreading crown.
158	Bailey acacia	5,4,4,3,3,3,3	No	2	Low	Multiple attachments at 2'; failed north; dead twigs; bark separating from trunk.
159	London plane	6	No	5	High	Multiple attachments at 6'; good form and structure.

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Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
160	London plane	7	No	5	High	Multiple attachments at 8'; good form and structure.
161	London plane	8	No	5	High	Good form and structure.
162	London plane	11	No	5	High	Codominant trunks at 10'; good form and structure.
163	London plane	7	No	4	High	Codominant trunks at 9'; crowded by adjacent oak.
164	London plane	5	No	4	Moderate	Codominant trunks at 11'; crowded by adjacent oak.
165	Camphor	5	No	2	Low	Poor form and structure; trunk wound; twig dieback; crowded.
166	London plane	5	No	4	Moderate	Good form, fair structure.
167	Ponderosa pine	19	No	3	Low	Asymmetrical, thin crown; good structure.
168	Ponderosa pine	23	No	3	Moderate	Group of 3 trees; asymmetrical crown; slightly thin crown.
169	Ponderosa pine	26	No	3	Moderate	Group of 3 trees; asymmetrical crown; slightly thin crown.
170	London plane	6	No	4	High	Good form and structure; slightly crowded.
171	London plane	9	No	4	High	Codominant trunks at 8' and 16'; good form.
172	London plane	11	No	3	Moderate	Large tearout wound on southwest; good form; surface roots.
173	Chinese pistache	6	No	4	High	Codominant trunks at 6'; good form.
174	Chinese pistache	7	No	4	High	Multiple attachments at 5'; good form.
175	Deodar cedar	14	Yes	4	High	Good form and structure; slightly thin crown.
176	Coast live oak	11	Yes	4	High	Codominant trunks at 6'; good form and structure; dense crown.
177	Coast live oak	8	Yes	4	High	Codominant trunks at 6'; slight lean north; dense crown.
178	Coast live oak	6	Yes	4	Moderate	Codominant trunks at 5'; fair form and structure; dense crown.
179	Monterey pine	26	No	3	Moderate	Fair form and structure; codominant trunks hic; slightly thin crown.
180	Valley oak	14,12	Yes	4	Moderate	Codominant trunks at 4'; heavy lateral limb; crowded.
181	Coast live oak	10	Yes	4	Moderate	Codominant trunks at 13' and 15'; growing through valley oak; dense crown.
182	Hollyleaf cherry	6,5,3,2	No	3	Moderate	Multiple attachments at 4'; twig dieback; crowded.
183	Coast live oak	5	No	3	Moderate	Codominant trunks at 7'; slightly thin crown; crowded.
184	Coast live oak	6,4,3,3	No	3	Moderate	Multiple attachments at 1'; crowded.
185	Coast live oak	5	No	3	Moderate	Crowded form; dense crown
186	Coast live oak	5	No	3	Moderate	Crowded form; dense crown

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Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
187	Coast live oak	7	No	4	Moderate	Codominant trunks at 6' and 8'; dense crown; crowded.
188	Horsechestnut	9	No	4	Moderate	Good form, fair structure.
189	Coast live oak	10	Yes	5	High	Multiple attachments at 8'; slight lean north; dense crown.
190	Horsechestnut	10	No	4	Moderate	Good form, fair structure.
191	Horsechestnut	10	No	4	Moderate	Good form, fair structure.
192	Coast live oak	23,18	Yes	3	Moderate	Codominant trunks at 3'; large tearout wound on west; asymmetrical crown.
193	Horsechestnut	9	No	1	Low	Mostly dead
194	Coast live oak	11,11,10,9	Yes	4	Moderate	Multiple attachments at 2'; spreading, dense crown.
195	Coast live oak	12	Yes	4	Moderate	Codominant trunks at 10'; dense crown; crowded.
196	Coast live oak	10,5	Yes	4	Moderate	Codominant trunks at 4' and 7'; dense crown; crowded.
197	Coast live oak	7	No	4	Moderate	Codominant trunks at 7'; dense crown; crowded.
198	Horsechestnut	11	No	4	High	Codominant trunks at 15'; good form.
199	Coast live oak	12	Yes	4	High	Codominant trunks at 6' and 14'; dense crown; crowded.
200	Coast live oak	6	No	3	Moderate	Codominant trunks at 6'; narrow form; crowded.
201	London plane	5	No	5	High	Good form and structure; 24" from curb.
202	London plane	8	No	5	High	Codominant trunks at 8'; good form and structure; 24" from curb.
203	London plane	7	No	5	High	Good form and structure; 24" from curb.
204	London plane	6	No	5	High	Good form and structure; 24" from curb.
205	London plane	8	No	5	High	Codominant trunks at 8'; good form and structure; 24" from curb.
206	London plane	8	No	5	High	Good form and structure; 24" from curb.
207	London plane	9	No	5	High	Codominant trunks at 9'; good form and structure; 24" from curb.
208	London plane	7	No	5	High	Good form and structure; 24" from curb.
209	London plane	6	No	5	High	Codominant trunks at 7'; good form and structure; 24" from curb.
210	London plane	6	No	5	High	Codominant trunks at 7'; good form and structure; 24" from curb.
211	London plane	7	No	5	High	Codominant trunks at 8'; good form and structure; 24" from curb.
212	London plane	8	No	5	High	Codominant trunks at 7'; good form and structure; 24" from curb.
213	London plane	9	No	5	High	Codominant trunks at 7'; good form and structure; 24" from curb.

Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
214	London plane	10	No	5	High	Codominant trunks at 9'; good form and structure; 24" from curb.
215	London plane	11	No	5	High	Codominant trunks at 8'; good form and structure; 24" from curb.
216	London plane	10	No	5	High	Good form and structure; 24" from curb.
217	London plane	10	No	5	High	Good form and structure; 24" from curb.
218	London plane	11	No	5	High	Codominant trunks at 7'; good form and structure; 24" from curb.
219	London plane	14	No	5	High	Codominant trunks at 7'; good form and structure; 24" from curb.
220	London plane	15	No	5	High	Codominant trunks at 8'; good form and structure; 24" from curb; 5' from utility vault.
221	London plane	11	No	5	High	Good form and structure; 24" from curb.
222	London plane	10	No	5	High	Codominant trunks at 7'; good form and structure; 24" from curb.
223	London plane	12	No	5	High	Codominant trunks at 8'; good form and structure; 24" from curb.
224	London plane	11	No	5	High	Codominant trunks at 7'; good form and structure; 24" from curb.
225	London plane	11	No	5	High	Codominant trunks at 7'; good form and structure; 24" from curb.
226	London plane	11	No	5	High	Codominant trunks at 6'; good form and structure; 24" from curb.
227	London plane	14	No	5	High	Codominant trunks at 7'; good form and structure; 24" from curb.
228	Purpleleaf plum	7	No	2	Low	Fair form and structure; significant trunk sunburn along entire trunk.
229	London plane	11	No	5	High	In 5' planter; good form and structure.
230	Coast redwood	25	No	4	Moderate	Good form and structure; thinning crown.
231	Coast redwood	15	No	4	Moderate	Good form and structure; thinning crown.
232	Callery pear	10	No	3	Moderate	Typical form and structure; codominant trunks at 7'; mistletoe.
233	Deodar cedar	7	No	3	Moderate	Good form and structure; thinning crown.
234	Deodar cedar	5	No	3	Moderate	Good form and structure; thinning crown.
235	Deodar cedar	4	No	3	Moderate	Good form and structure; thinning crown.
236	Deodar cedar	4	No	3	Moderate	Good form and structure; thinning crown.
237	Purpleleaf plum	6	No	3	Moderate	Codominant trunks at 6'; fair form and structure.
238	Purpleleaf plum	6,5	No	2	Low	Codominant trunks at 3'; severe trunk sunburn.
239	Purpleleaf plum	7,4	No	1	Low	Codominant trunks at 3'; leans east; broken roots; severe trunk sunburn.
240	Coast redwood	16	No	3	Moderate	Good form and structure; thin crown.

Tree Assessment

The Forum at Rancho San Antonio
Cupertino, CA
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HORT SCIENCE

Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
241	Coast redwood	15	No	3	Moderate	Good form and structure; thin crown.
242	Coast redwood	19	No	3	Moderate	Good form and structure; thin crown.
243	Coast redwood	15	No	3	Moderate	Good form and structure; thin crown.
244	Coast redwood	15	No	3	Moderate	Good form and structure; thin crown.
245	Coast redwood	16	No	3	Moderate	Good form and structure; thin crown.
246	London plane	6	No	4	High	Multiple attachments at 6'; slightly suppressed.
247	London plane	8	No	5	High	Good form and structure; 6' from curb.
248	London plane	10	No	5	High	Good form and structure; 6' from curb.
249	London plane	9	No	5	High	Good form and structure; irrigation vault near base; 5' from curb.
250	London plane	12	No	5	High	Good form and structure; 4' from monument.
251	Chinese pistache	7	No	4	High	Typical form and structure; electrical vault 3' from base.
252	Coast live oak	17,13,11	Yes	4	Moderate	Multiple attachments at 3'; good form; spreading crown; small trunk cavity.
253	Camphor	10	No	4	Moderate	Multiple attachments at 6'; good form; slightly thin crown.
254	Camphor	9	No	4	Moderate	Fair form and structure; slightly thin crown.
255	Camphor	9	No	4	Moderate	Multiple attachments at 6'; good form; slightly thin crown.
256	Chinese pistache	7	No	4	High	Codominant trunks at 6'; good form.
257	Chinese pistache	8	No	5	High	Good form and structure; spreading crown.
258	Chinese pistache	6	No	4	High	Multiple attachments at 5'; crowded on east by coast live oak.
259	Callery pear	13	No	4	Moderate	Typical form and structure; multiple attachments at 6'.
260	Chinese pistache	9	No	5	High	Multiple attachments at 6'; good form; spreading crown.
261	Coast live oak	15,11	Yes	4	High	Codominant trunks at 3'; dense, spreading crown.
262	Coast live oak	16	Yes	5	High	Good form and structure; dense crown.
263	Coast live oak	13,12,11,9	Yes	3	Moderate	Codominant trunks at 2' and 3'; spreading crown; slightly thin crown.
264	Coast live oak	12,9,7	Yes	4	Moderate	Codominant trunks at 1' with narrow attachment;/spreading crown.
265	Coast live oak	7,7,5,5,5,5 ,5,4,4,4	Yes	2	Low	Multiple attachments at 2'; tearout wound at attachment; girdling root; thin crown.

Tree Assessment

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Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
266	Coast live oak	14,10,9	Yes	4	Moderate	Codominant trunks at 2' and 3'; spreading crown; trunk canker.
267	Deodar cedar	8	No	4	Moderate	Good form and structure; slightly thin crown.
268	Deodar cedar	10	Yes	4	Moderate	Good form and structure; slightly thin crown.
269	Deodar cedar	10	Yes	3	Moderate	Good form and structure; thin crown.
270	Deodar cedar	13	Yes	4	Moderate	Corrected lean; slightly thin crown.
271	Aleppo pine	21	No	3	Moderate	Codominant trunks at 8' and 11' with narrow attachments; slightly thin crown.
272	Chinese pistache	9	No	4	High	Multiple attachments at 6'; good form; crowded by 271.
273	Coast redwood	18	No	4	Moderate	Good form and structure; thinning crown.
274	Coast redwood	20	No	4	Moderate	Good form and structure; thinning crown.
275	Aleppo pine	16	No	4	Moderate	Codominant trunks at 5'; good form.
276	Coast redwood	25	No	4	Moderate	Good form and structure; thinning crown.
277	Callery pear	12	No	4	Moderate	Typical form and structure; multiple attachments at 6'; good form.
278	Chinese pistache	10	No	3	Moderate	Swelling and sap excretion around lower trunk; multiple attachments at 6'; good form.
279	Chinese pistache	9	No	5	High	Multiple attachments at 6'; good form.

Tree Removals

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Tree No.	Species	Trunk Diam. (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservatio	Reason for removal
16	London plane	6	No	4	High	within new parking lot
17	Crape myrtle	5	No	3	Moderate	within new walkway
18	Crape myrtle	5	No	3	Moderate	8' from walkway
19	Crape myrtle	5	No	3	Moderate	within new bioretention area
20	Crape myrtle	5	No	3	Moderate	within new bld. footprint
21	Crape myrtle	4	No	3	Moderate	within new bld. footprint
22	Crape myrtle	4	No	3	Moderate	within new bld. footprint
23	London plane	13	No	5	High	within new bld. footprint
24	London plane	15	No	4	High	within new bld. footprint
25	Crape myrtle	4	No	3	Moderate	within new bld. footprint
26	Crape myrtle	4	No	3	Moderate	within new bld. footprint
27	Crape myrtle	5	No	3	Moderate	within new bld. footprint
34	London plane	14	No	5	High	within new parking lot
40	Coast redwood	25	No	4	Moderate	within new bld. footprint
41	Coast redwood	20	No	4	Moderate	within new bld. footprint
42	Coast redwood	16	No	3	Moderate	within new bld. footprint
46	London plane	9	No	4	High	within new bld. footprint
47	Crape myrtle	8	No	3	Moderate	within new bld. footprint
48	London plane	12	No	4	High	within new bld. footprint
55	Camphor	9	No	3	Low	within 5' of construction; low suit.
56	Camphor	11	No	3	Moderate	within new bld. footprint
57	Brisbane box	9	No	4	High	within new bld. footprint
58	Brisbane box	8	No	4	High	within new bld. footprint
59	Italian cypress	15	No	5	High	within 5' of construction
60	Italian cypress	11	No	5	High	within 5' of construction
69	Callery pear	13	No	3	Moderate	within new patio
70	Callery pear	11	No	3	Moderate	within new patio
71	Coast live oak	10,9,9,7	Yes	4	High	within new walkway
72	Coast live oak	11,11,10,7	Yes	4	Moderate	within new bld. footprint
73	Coast live oak	11,10,10	Yes	3	Moderate	within new parking lot
81	Coast live oak	15	Yes	4	High	grading impacts
91	Red ironbark	16	No	3	Low	grading impacts; low suit.
92	Red ironbark	18	No	3	Low	grading impacts; low suit.
93	Aleppo pine	16	No	3	Low	grading impacts; low suit.
94	Aleppo pine	11	No	2	Low	grading impacts; low suit.
95	Aleppo pine	13,10	No	2	Low	grading impacts; low suit.
109	Coast live oak	13,14	Yes	4	Moderate	grading impacts
125	Aleppo pine	10,9,7,6	No	4	Moderate	within new bld. footprint
128	Crape myrtle	3	No	3	Moderate	within new bld. footprint

Tree Removals

The Forum at Rancho San Antonio
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Tree No.	Species	Trunk Diam. (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservatio	Reason for removal
129	London plane	4	No	4	Moderate	within 5' of construction
130	Crape myrtle	4	No	4	Moderate	within new bld. footprint
131	London plane	6	No	4	High	within new bld. footprint
132	London plane	7	No	4	High	within new bld. footprint
133	London plane	7	No	4	High	within new bld. footprint
134	London plane	6	No	4	High	within new bioretention area
135	Crape myrtle	3	No	3	Moderate	within new bld. footprint
139	London plane	7	No	4	High	grading impacts
140	London plane	8	No	5	High	within new parking lot
141	Coast redwood	18	No	3	Moderate	grading impacts
142	Coast redwood	18	No	4	Moderate	within new bld. footprint
143	Crape myrtle	6	No	4	Moderate	within new bld. footprint
144	Crape myrtle	4	No	3	Moderate	within new bld. footprint
145	Crape myrtle	4	No	4	Moderate	within new bld. footprint
146	Crape myrtle	4	No	4	Moderate	within new bld. footprint
147	Australian tea	6,4	No	3	Moderate	within new bld. footprint
148	Hollyleaf cherry	3	No	3	Moderate	within new bld. footprint
149	Chinese pistache	7	No	4	High	within new bld. footprint
150	Hollyleaf cherry	5	No	3	Moderate	within new bld. footprint
151	Hollyleaf cherry	8	No	3	Moderate	within new bld. footprint
152	Strawberry tree	7,7,5,5	No	3	Moderate	within new bld. footprint
153	Coast live oak	10	Yes	3	Moderate	within new bld. footprint
154	Coast live oak	10	Yes	2	Low	within new bld. footprint; low suit.
155	Coast live oak	12	Yes	4	Moderate	within new bld. footprint
156	Camphor	6	No	2	Low	within new bld. footprint
157	Coast live oak	26,19,18	Yes	3	Moderate	within new bld. footprint
158	Bailey acacia	5,4,4,3,3,3,3	No	2	Low	within new bld. footprint; low suit.
161	London plane	8	No	5	High	grading impacts
167	Ponderosa pine	19	No	3	Low	within new bld. footprint; low suit.
168	Ponderosa pine	23	No	3	Moderate	within new bld. footprint
169	Ponderosa pine	26	No	3	Moderate	within new bld. footprint
171	London plane	9	No	4	High	within new bld. footprint
175	Deodar cedar	14	Yes	4	High	within new bioretention area
176	Coast live oak	11	Yes	4	High	within new bld. footprint
177	Coast live oak	8	Yes	4	High	within new bld. footprint
178	Coast live oak	6	Yes	4	Moderate	within new bld. footprint
179	Monterey pine	26	No	3	Moderate	within new bld. footprint
190	Horsechestnut	10	No	4	Moderate	within new bld. footprint

Tree Removals

The Forum at Rancho San Antonio
Cupertino, CA
January 2017

Tree No.	Species	Trunk Diam. (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservatio	Reason for removal
191	Horsechestnut	10	No	4	Moderate	within new bld. footprint
192	Coast live oak	23,18	Yes	3	Moderate	within new bld. footprint
193	Horsechestnut	9	No	1	Low	within new bld. footprint; low suit.
195	Coast live oak	12	Yes	4	Moderate	within 5' of ret. wall
196	Coast live oak	10,5	Yes	4	Moderate	within 5' of ret. wall
205	London plane	8	No	5	High	within new road/driveway
206	London plane	8	No	5	High	within new road/driveway
210	London plane	6	No	5	High	within new road/driveway
211	London plane	7	No	5	High	within new road/driveway
222	London plane	10	No	5	High	within new road/driveway
223	London plane	12	No	5	High	within new road/driveway
228	Purpleleaf plum	7	No	2	Low	within new road/driveway; low suit.
233	Deodar cedar	7	No	3	Moderate	within new bld. footprint
234	Deodar cedar	5	No	3	Moderate	within new bld. footprint
235	Deodar cedar	4	No	3	Moderate	within new bld. footprint
236	Deodar cedar	4	No	3	Moderate	within new bld. footprint
237	Purpleleaf plum	6	No	3	Moderate	grading impacts
238	Purpleleaf plum	6,5	No	2	Low	within new bld. footprint; low suit.
239	Purpleleaf plum	7,4	No	1	Low	within new bld. footprint; low suit.
240	Coast redwood	16	No	3	Moderate	grading impacts
241	Coast redwood	15	No	3	Moderate	grading impacts
242	Coast redwood	19	No	3	Moderate	grading impacts
243	Coast redwood	15	No	3	Moderate	grading impacts
247	London plane	8	No	5	High	grading impacts
249	London plane	9	No	5	High	within new bld. footprint
251	Chinese pistache	7	No	4	High	within new bld. footprint
253	Camphor	10	No	4	Moderate	within new road/driveway
254	Camphor	9	No	4	Moderate	within new road/driveway
255	Camphor	9	No	4	Moderate	within new road/driveway
257	Chinese pistache	8	No	5	High	within new road/driveway
258	Chinese pistache	6	No	4	High	within new road/driveway
260	Chinese pistache	9	No	5	High	grading impacts; retaining wall
261	Coast live oak	15,11	Yes	4	High	grading impacts
264	Coast live oak	12,9,7	Yes	4	Moderate	within new bld. footprint
265	Coast live oak	7,7,5,5,5,5, 5,4,4,4	Yes	2	Low	within new bld. footprint; low suit.
266	Coast live oak	14,10,9	Yes	4	Moderate	within new bld. footprint
269	Deodar cedar	10	Yes	3	Moderate	grading impacts
270	Deodar cedar	13	Yes	4	Moderate	grading impacts

June 30, 2017

Peter Lin
Vice President
Greenbrier Development
3232 McKinney, Suite 1160
Dallas, TX 75204

Subject: **EIR Alternative Tree Impact Assessment**
The Forum, Cupertino CA

Dear Mr. Lin:

Greenbrier Development is in the planning stage for the proposed expansion of the Forum, in Cupertino. HortScience, Inc. prepared an **Arborist Report** for the site in April of 2017. As part of the Environmental Impact Report (EIR) process, two development alternatives have been proposed, one of which included construction of homes in an area not previously assessed. Greenbrier Development requested that HortScience, Inc. visit the site to assess the additional trees and evaluate the impacts to trees from the EIR Alternatives. This letter responds to that request.

The EIR alternatives are as follows:

- Alternative 1 – Reduced Density. This alternative eliminates 4 villas from the 'berm' area near the site entrance, including villas #69, 70, 78 and 83.

- Alternative 2 – Reduced Density and Relocation. This alternative would eliminate the same 4 villas as described for Alternative 1, and would also: remove one proposed villa between Via Esplendor and Stonehaven Dr. (V62); remove one proposed villa at the western portion of the property (V65); and remove one of the two-story duplex villas at Sereno Ct. and replace it with a single-story villa (V64).

Description of Trees

The 3 villas proposed for relocation in Alt. 2 would be moved to an area not included in the April 2017 **Arborist Report**. As such, I visited the site on June 15, 2017 to assess the additional trees potentially impacted by the relocated villas.

All trees 6" and larger in diameter, measured at 54" above grade were included in the assessment. Descriptions of the trees are provided in the ***Tree Assessment Form*** and locations are shown on the ***EIR Alternative Tree Inventory Map*** (see Attachments).

Nineteen (19) trees were located in and adjacent to that portion of the ridge where the 3 villas proposed for relocation in Alt. 2. This included the following:

- Six (6) young to semi-mature London planes (#293-298). Trees #293 and 294 were located on the west side of Via Esplendor where existing parking stalls are proposed to be removed. London planes #295-298 were along the east side of Via Esplendor, where the bioswale will be located. Trunk diameters ranged from 6" to 12" and condition was fair for trees #294-298, all of which had sparse canopies. London plane #293 was in poor condition with a dead top.

- Four (4) young to semi-mature coast live oaks growing in a cluster (#286-289). All of these had multiple stems arising below the 54" measurement point and trunk diameters ranged from 3" to 13". Coast live oak #286 was in good condition, #287 and 288 were in fair condition and #289 was in poor.
- Three (3) young deodar cedars (#283, 285 and 291). They ranged in trunk diameter from 10" to 12" and all were in good to excellent condition.
- Three (3) semi-mature coast redwoods (#280-282) measuring 12" to 14" in trunk diameter. These were located on the eastern side of the pedestrian trail running along the top of the ridge. Coast redwood #282 was in good condition and #280 and 281 were in fair. All three had varying amounts of twig and branch dieback associated with water stress.
- One Aleppo pine (#284), 1 tulip poplar (#290) and 1 Calif. pepper (#292) were assessed. The tulip poplar was young (7" in diameter) and in fair condition. The Aleppo pine was semi-mature (10" trunk diameters) and in poor condition due to a stem failure. Calif. pepper #292 was mature and a multi-stemmed, with trunks ranging from 9" to 20" in diameter. It was in fair condition and was located at the top of a small knoll adjacent to the pedestrian path.

The City of Cupertino defines *Specimen* tree as any from a list of 15 species with a trunk diameter of 10 inches for single-trunk trees and a cumulative 20 inches for multi-trunk trees. The following species evaluated at the site were on this list: Deodar cedar, coast live oak, and valley oak. Based on this definition, 6 of the new trees qualified as *Specimen* trees. *Specimen* trees are identified in the ***Tree Assessment*** (see Exhibits).

When combined with the 279 trees assessed as part of the April 2017 **Arborist Report**, there was a total of 298 trees assessed across the site. A total of 43 of the 298 trees qualified as *Specimen* trees.

Evaluation of Impacts
I used the Site Plans and Grading Plans for Alternatives #1 and #2 (Sheets C3.7.2, C3.8.2, C4.7.2 and C4.8.2), prepared by BKF Engineers (dated 6/20/2017), to assess impacts to trees. Based on my review of the plans, impacts would be as follows:

- Alternative 1 – Reduced Density: No additional trees would be removed and all 19 of the new trees assessed on the ridge would be preserved. This alternative would preserve 183 trees, including 22 *Specimen* trees, and remove 115 trees, 21 of which qualified as *Specimen* trees. This would be similar to the proposed project.
- Alternative 2 – Reduced Density and Relocation: I estimated that 9 of the 19 new trees assessed on the ridge would be removed to accommodate the 3 relocated villas and the bioswale, 3 of which qualified as *Specimen* trees. Although 10 trees would be preserved on Lot 64, the new alignment of the single-story villa would remove 6 additional trees, for a net of 4. Alternative 2 would preserve a total of 198 trees, including 25 *Specimen* trees, and remove 100 trees, 18 of which qualified as *Specimen* trees. As described in our April 2017 **Arborist Report**, the proposed project would remove 115 trees (23 *Specimen* trees) and preserve 164 trees (14 *Specimen* trees). When compared to the proposed project, Alternative 2 would preserve an additional 34 trees (10 on the ridge, 6 on Lot 62, 4 on Lot 64 and 14 on Lot 65), including 11 *Specimen* trees.

In summary, no additional trees would be removed under Alt. 1 and the 19 new trees on the ridge would be preserved. Alternative 2 would remove 9 of the new ridge trees and preserve 34 additional trees across the site. Table 1, following page, provides recommendations for action for each tree under Alternatives #1 and 2.

The **Tree Preservation Guidelines** provided in the April 2017 **Arborist Report** apply to the preservation of the new ridge trees. Successful preservation of any of the trees is predicated on adhering to those guidelines.

If you have any questions regarding my observations or recommendations, please feel free to contact me.

Sincerely,

John Leffingwell
Board Certified Master Arborist #3966B
Registered Consulting Arborist #442

Attached: ***Tree Assessment Form***

EIR Alternative Tree Inventory Map

Table 1: Recommendations for Action.
The Forum, Cupertino CA

Lot #	Tree No.	Species	Trunk Diameter (in.)	*Specimen*	Alt. 1	Alt. 2
62	190	Horsechestnut	10	No	Remove	Preserve
62	191	Horsechestnut	10	No	Remove	Preserve
62	192	Coast live oak	23,18	Yes	Remove	Preserve
62	193	Horsechestnut	9	No	Remove	Preserve
62	194	Coast live oak	11,11,10,9	Yes	Preserve	Preserve
62	195	Coast live oak	12	Yes	Remove	Preserve
62	196	Coast live oak	10,5	Yes	Remove	Preserve
62	200	Coast live oak	6	No	Preserve	Preserve
65	233	Deodar cedar	7	No	Remove	Preserve
65	234	Deodar cedar	5	No	Remove	Preserve
65	235	Deodar cedar	4	No	Remove	Preserve
65	236	Deodar cedar	4	No	Remove	Preserve
65	237	Purpleleaf plum	6	No	Remove	Preserve
65	238	Purpleleaf plum	6,5	No	Remove	Preserve
65	239	Purpleleaf plum	7,4	No	Remove	Preserve
65	240	Coast redwood	16	No	Remove	Preserve
65	241	Coast redwood	15	No	Remove	Preserve
65	242	Coast redwood	19	No	Remove	Preserve
65	243	Coast redwood	15	No	Remove	Preserve
65	247	London plane	8	No	Remove	Preserve
65	249	London plane	9	No	Remove	Preserve
65	251	Chinese pistache	7	No	Remove	Preserve
64	253	Camphor	10	No	Remove	Preserve
64	254	Camphor	9	No	Remove	Preserve
64	255	Camphor	9	No	Remove	Preserve
64	257	Chinese pistache	8	No	Remove	Preserve
64	258	Chinese pistache	6	No	Remove	Preserve
64	260	Chinese pistache	9	No	Remove	Preserve
64	261	Coast live oak	15,11	Yes	Remove	Preserve
64	264	Coast live oak	12,9,7	Yes	Remove	Preserve
64	265	Coast live oak	7,7,5,5,5,5,5,	Yes	Remove	Preserve
64	266	Coast live oak	14,10,9	Yes	Remove	Preserve
64	271	Aleppo pine	21	No	Preserve	Remove
64	272	Chinese pistache	9	No	Preserve	Remove
64	273	Coast redwood	18	No	Preserve	Remove
64	274	Coast redwood	20	No	Preserve	Remove
64	275	Aleppo pine	16	No	Preserve	Remove
64	276	Coast redwood	25	No	Preserve	Remove

(**Continued, following page**)

Table 1: Recommendations for Action, continued.
The Forum, Cupertino CA

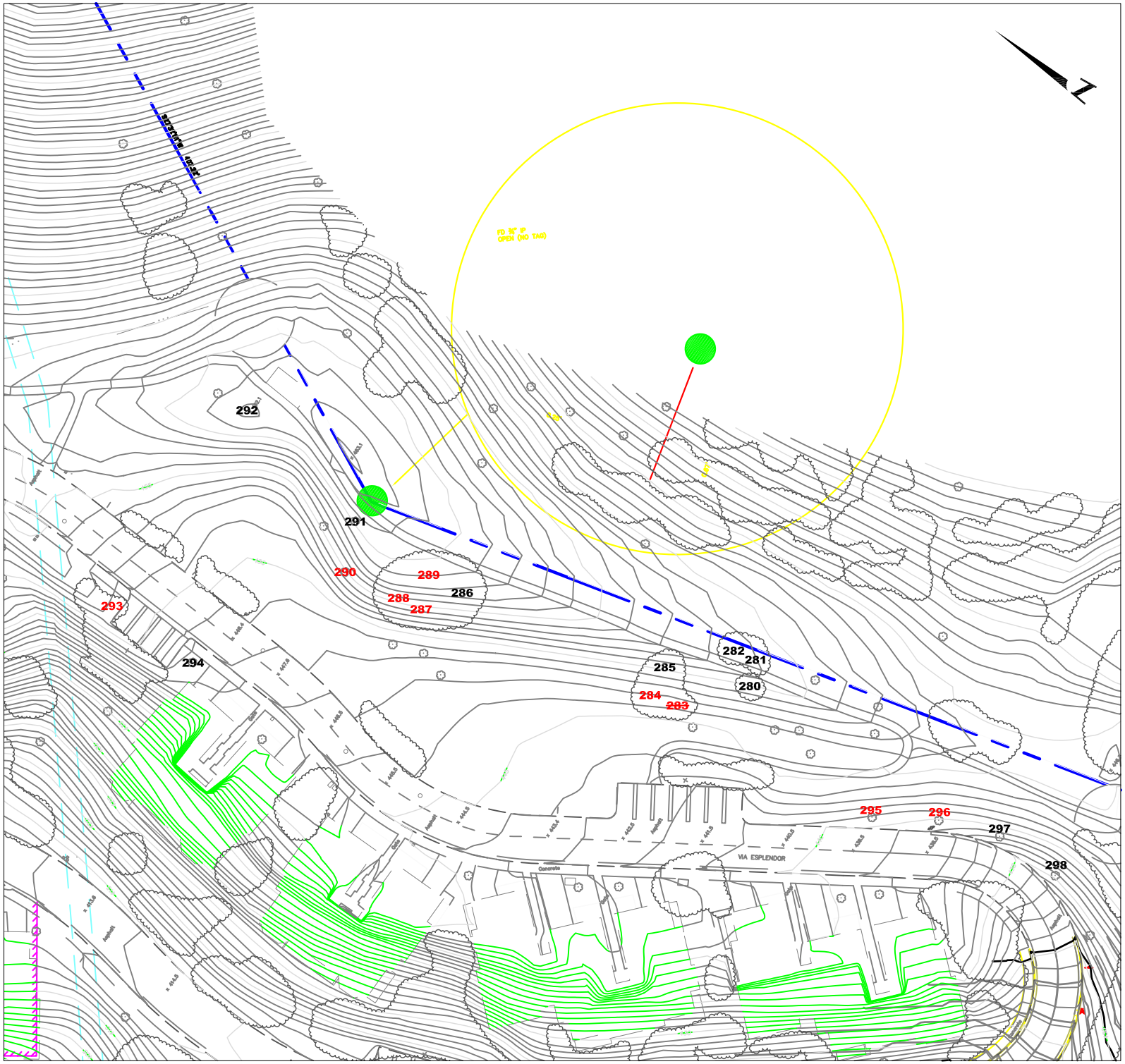
Lot #	Tree No.	Species	Trunk Diameter (in.)	*Specimen*	Alt. 1	Alt. 2
Ridge	280	Coast redwood	14	No	Preserve	Preserve
Ridge	281	Coast redwood	12	No	Preserve	Preserve
Ridge	282	Coast redwood	14	No	Preserve	Preserve
Ridge	283	Deodar cedar	10	Yes	Preserve	Remove
Ridge	284	Aleppo pine	10,10	No	Preserve	Remove
Ridge	285	Deodar cedar	10	Yes	Preserve	Preserve
Ridge	286	Coast live oak	13,13,11,6,6	Yes	Preserve	Preserve
Ridge	287	Coast live oak	6,4,3,3	No	Preserve	Remove
Ridge	288	Coast live oak	11,9,7	Yes	Preserve	Remove
Ridge	289	Coast live oak	7,6,6,5,3	Yes	Preserve	Remove
Ridge	290	Tulip poplar	7	No	Preserve	Remove
Ridge	291	Deodar cedar	12	Yes	Preserve	Preserve
Ridge	292	Calif. pepper	20,16,12,10, 9	No	Preserve	Preserve
Ridge	293	London plane	9	No	Preserve	Remove
Ridge	294	London plane	12	No	Preserve	Preserve
Ridge	295	London plane	8	No	Preserve	Remove
Ridge	296	London plane	7	No	Preserve	Remove
Ridge	297	London plane	6	No	Preserve	Preserve
Ridge	298	London plane	6	No	Preserve	Preserve

Tree Assessment

The Forum at Rancho San Antonio
Cupertino, CA
January and June 2017

HORT SCIENCE

Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
280	Coast redwood	14	No	3	Moderate	Good form and structure; thin canopy; small new growth.
281	Coast redwood	12	No	3	Moderate	Good form and structure; thin, es. In upper canopy; small new growth.
282	Coast redwood	14	No	4	Moderate	Good form and structure; thinning canopy; small new growth.
283	Deodar cedar	10	Yes	4	Moderate	Good, upright form; one sided S.
284	Aleppo pine	10,10	No	2	Low	Codominant trunks at 1'; stem failed on E. side; remaining stems sweep from base; dead tops.
285	Deodar cedar	10	Yes	5	High	Good form and structure; low branching.
286	Coast live oak	13,13,11,6,6	Yes	4	Moderate	Multiple attachments at 2'; one sided w/ low laterals S.
287	Coast live oak	6,4,3,3	No	3	Moderate	Suppressed; one sided W.; poor form.
288	Coast live oak	11,9,7	Yes	3	Low	Codominant trunks at 2'; one sided NW.; 7" stem w/ dead top.
289	Coast live oak	7,6,6,5,3	Yes	1	Low	Mostly dead.
290	Tulip poplar	7	No	3	Low	No central leader; poor structure; moderate tulip scale & dieback.
291	Deodar cedar	12	Yes	5	High	Good form and structure; crown raised E. over trail; asphalt trail displaced 2".
292	Calif. pepper	10,16,12,10,	No	3	Moderate	Multiple attachments at 2'; sparse upper canopy; moderate internal decay; crown raised E. over seating.
293	London plane	9	No	1	Low	Dead top; epicormics in lower crown.
294	London plane	12	No	3	Moderate	Multiple attachments at 8'; good form and structure; sparse canopy.
295	London plane	8	No	3	Moderate	Slight lean S.; anthracnose; twig dieback/sparse canopy; epicormics.
296	London plane	7	No	3	Moderate	Multiple attachments at 7'; anthracnose; twig dieback/sparse canopy; epicormics.
297	London plane	6	No	3	Moderate	Multiple attachments at 7'; anthracnose; twig dieback/sparse canopy; epicormics.
298	London plane	6	No	3	Moderate	Multiple attachments at 7'; anthracnose; twig dieback/sparse canopy; epicormics.



Tree Inventory Map

EIR Alternative
The Forum at
Rancho San Antonio
Cupertino, CA

Prepared for:
Greenbriar Development
Dallas, TX

June 2017

284 = Trees to be removed under Alt. 2

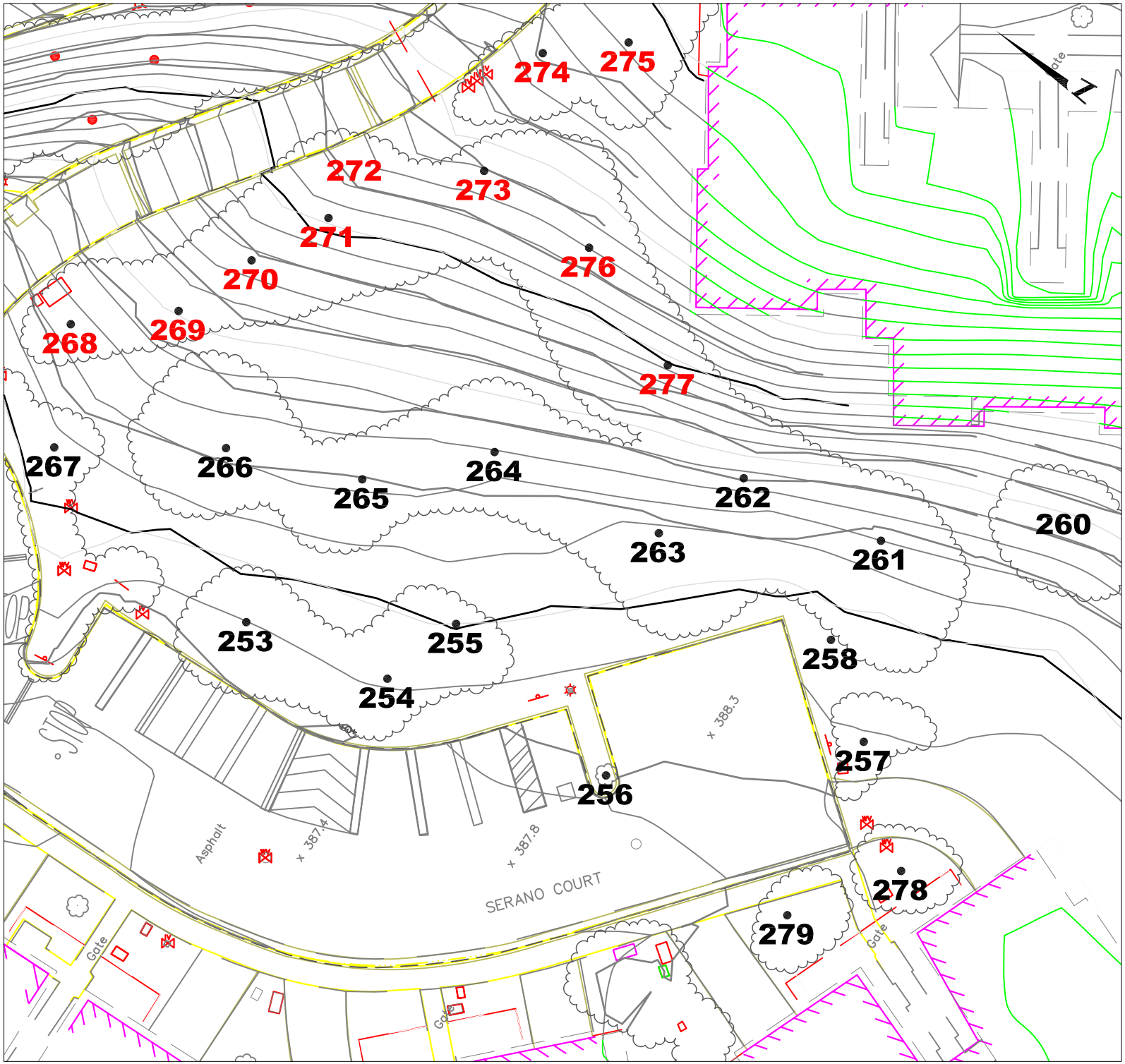
No Scale

Notes:
Base map provided by:
BKF
Walnut Creek, CA

Numbered tree locations
are approximate.

HORT SCIENCE

325 Ray Street
Pleasanton, CA 94566
Phone 925.484.0211
Fax 925.484.0596
www.hortscience.com



Tree Inventory Map

EIR Alternative 2
The Forum at
Rancho San Antonio
Cupertino, CA

Prepared for:
Greenbriar Development
Dallas, TX

June 2017

No Scale

Notes:
Base map provided by:
BKF
Walnut Creek, CA

Numbered tree locations
are approximate.

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325 Ray Street
Pleasanton, CA 94566
Phone 925.484.0211
Fax 925.484.0596
www.hortscience.com

August 16, 2017

Peter Lin
Vice President
Greenbrier Development
3232 McKinney, Suite 1160
Dallas, TX 75204

Subject: **Arborist Report Addendum**
The Forum, Cupertino CA

Dear Mr. Lin:

Greenbrier Development is in the planning stage for the proposed expansion of the Forum, in Cupertino. HortScience, Inc. prepared an **Arborist Report** for the site in April of 2017. As the development plans have been refined, additional trees in areas not previously impacted by the proposed development have been identified due to the following:

- As part of the review process, the City of Cupertino has requested Greenbrier Development to explore the potential to expand an existing detention basin to accommodate additional volume associated with impervious surface proposed as part of the project.
- New parking has been added across from the detention basin.
- A trash enclosure and fuel tank have been added next to the skilled nursing.
- A trail is proposed in the vicinity of the dog park.

Greenbrier Development requested that HortScience, Inc. visit the site to assess the additional trees potentially impacted by the detention basin expansion, parking, trash enclosure and trail. This letter responds to that request.

Description of Trees
I visited the site on July 20, and August 7 2017 to assess the additional trees. All trees 6" and larger in diameter, measured at 54" above grade were included in the assessment. Descriptions of the trees are provided in the ***Tree Assessment Form*** and locations are shown on the ***Tree Inventory Map*** (see Attachments).

A total of 48 additional trees were assessed and are described below.

The existing detention basin is located north of the proposed memory care facility, in the area of trees #75-85. Thirty-two (32) additional trees were assessed around the detention basin. These were tagged as #299-330 and included the following:

- Eleven (11) Aleppo pines. Four (4) of these were young, with diameters of less than 6" to 7". The remaining 7 were semi-mature, with trunk diameters between 14" and 18". The Aleppo pines in this area had not performed well, with 4 trees in poor condition, 5 in fair and 2 in good. In general, where they had been planted on steep slopes they had developed leans and several were failing at the base.

- Six (6) red ironbark eucalyptus. These were young to semi-mature, with trunk diameters between 10" and 19". Four (4) were in poor condition and 2 were in fair. Most had been topped, producing trees with poor form and structure.

- Six (6) coast redwoods measuring 19" to 21" in trunk diameter (#310-314,322 and 328). These were in a row in the rear yard of the adjacent Via Esplendor residence to the north. Four (4) of the Coast redwoods were in good condition and 2 were in fair. All had varying amounts of twig and branch dieback associated with water stress.

- Two (2) young coast live oaks (#316 and 317). Coast live oak #316 was in good condition and #317 was in fair condition.

- Two (2) arroyo willows (#324 and 325). These were located at the bottom of the detention basin surrounding the existing drain inlet. As is typical of the species, both trees had experienced branch failures but were vigorous and in fair condition.

- One (1) Bailey acacia (#300), 1 Canary Island date palm (#321), 1 Lombardy poplar (#322), 1 deodar cedar (#329) and 1 callery pear (#330) were assessed. The bailey acacia was young (6" in diameter) and in fair condition. The Canary Island date palm was semi-mature (12") and in excellent condition. The Lombardy poplar was also young (8") and in poor condition. The deodar cedar was young (10") and in good condition and the callery pear was young (6") and in fair condition.

Four (4) trees were assessed in the area of the new parking proposed across from the detention basin. These were tagged as #331-334 and included the following:

- Four (4) semi-mature London planes measuring 12" to 17" in trunk diameter. All were in good condition and all had slight thinning of their canopies.

Three (3) trees were assessed in the area of the new trash enclosure and fuel tank proposed west of the existing skilled nursing facility. These were tagged as #335-337 and included the following:

- Three (3) young to semi-mature London planes measuring 7" to 12" in trunk diameter. London planes #335 and 336 were in fair condition and #337 was in good condition. All had thinning of their canopies and twig dieback.

Nine (9) trees were assessed in the area of the new trail and dog park. These were tagged as #338-346 and included the following:

- Four (4) young to semi-mature horse chestnuts measuring 9" to 14" in trunk diameter. Condition varied from poor (#343) to good (340), with 2 trees (#338 and 341) in fair condition.

- Four (4) young to semi-mature coast live oaks measuring 7" to 20" in trunk diameter. Trees #344-346 were in good condition and #342 was in excellent.

- Blue gum #339 was still a sapling, with two stems measuring 3" and 4" in trunk diameter. It was in fair condition, with good vigor.

The City of Cupertino defines *Specimen* tree as any from a list of 15 species with a trunk diameter of 10 inches for single-trunk trees and a cumulative 20 inches for multi-trunk trees. The following species evaluated at the site were on this list: Deodar cedar, coast live oak, and valley oak. Based on this definition, 4 of the additional trees assessed, including tree #329 adjacent to the detention basin and coast live oaks #342, 345 and 346 adjacent to the trail/dog park qualified as *Specimen* trees. *Specimen* trees are identified in the ***Tree Assessment*** (see Exhibits).

When combined with the 279 trees assessed as part of the April 2017 **Arborist Report**, there was a total of 327 trees assessed across the site. A total of 41 of the 327 trees qualified as *Specimen* trees.

A total of 346 trees were tagged on the site. However, trees #280-298 were tagged as part of an analysis of alternative designs and are not included in the totals discussed above. This is why only 327 trees are discussed as part of this report but tag numbers go up to #346.

Evaluation of Impacts
The July 20 and August 7, 2017 ***Tree Assessment*** was the reference point for tree health and condition. I used the Memory Care Grading Plan (Sheet C4.2) and the Villas Grading Plan (Sheet C4.7) prepared by BKF Engineers (dated July 19, 2017), to assess impacts to trees.

In addition to the 32 new trees assessed around the detention basin, 6 of the trees from our April 2017 **Arborist Report** will be directly impacted by the expanded detention basin grading, including #74-79. Similarly, tree #189 trees from our April 2017 **Arborist Report** is located in the area of the dog park/path and will also be directly impacted.

Based on my review of the plans, 30 of the trees would be removed to accommodate the proposed improvements, 4 of which qualified as *Specimen* trees (#74, 189, 342 and 345). Trees identified for removal included 21 impacted by the detention basin grading, 1 within the new parking, 2 within the new trash enclosure/fuel tank and 6 within the trail. Table 1 (following page) provides the recommended action for each tree.

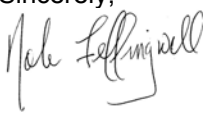
Twenty-five (25) of the trees can be preserved, including 17 around the detention basin, 3 adjacent to the new parking, 1 adjacent to the new trash enclosure/fuel tank and 4 in the area of the trail. I would recommend supplemental irrigation be applied to coast redwoods #76, 77 312, 313 and 314 prior to and following grading to help them prepare for and recover from the root loss associated with the detention basin grading.

As described in our April 2017 **Arborist Report**, the proposed project would remove 115 trees (23 *Specimen* trees) and preserve 164 trees (14 *Specimen* trees). When combined with the trees identified for removal for expansion of the detention basin; new parking, trash/fuel tank enclosure and the trail, a total of 142 trees would be removed, including 25 *Specimen* trees. A total of 185 trees can be preserved, including 16 *Specimen* trees.

The **Tree Preservation Guidelines** provided in the April 2017 **Arborist Report** apply to the preservation of the new trees assessed around the detention basin. Successful preservation of any of the trees is predicated on adhering to those guidelines.

If you have any questions regarding my observations or recommendations, please feel free to contact me.

Sincerely,



John Leffingwell
Board Certified Master Arborist #3966B
Registered Consulting Arborist #442

Attached: ***Tree Assessment Form***
Addendum Tree Inventory Map

Table 1: Recommendations for Action.
The Forum, Cupertino CA

Tree No.	Species	Trunk Diameter (in.)	*Specimen*	Recommendation for Action
74	Coast live oak	21	Yes	Remove, within detention basin grading
75	Coast live oak	12,10	Yes	Preserve, 8' NE. of Det. basin grading
76	Deodar cedar	17	Yes	Preserve, provide 10' min. from Det. basin grading
77	Coast redwood	23	No	Preserve, provide 10' min. from Det. basin grading
78	Red ironbark	23	No	Remove, within detention basin grading
79	Red ironbark	19	No	Remove, within detention basin grading
189	Coast live oak	10	Yes	Remove, impacted by path grading
299	Aleppo pine	6	No	Remove, within detention pond grading
300	Bailey acacia	6	No	Remove, within detention pond grading
301	Aleppo pine	16	No	Remove, within detention pond grading
302	Aleppo pine	16	No	Remove, within detention pond grading
303	Aleppo pine	14	No	Remove, within detention pond grading
304	Aleppo pine	18	No	**Preserve**, 8' NE. of Det. Pond grading
305	Aleppo pine	18	No	**Preserve**, 12' NE. of Det. Pond grading
306	Red iron bark	10	No	**Preserve,** 7' NE. of Det. Pond grading
307	Aleppo pine	6	No	Remove, impacted by det. pond grading
308	Red iron bark	14	No	Remove, impacted by det. pond grading
309	Red iron bark	13	No	**Preserve**, 15' NE. of Det. Pond grading
310	Coast redwood	19	No	**Preserve**, 20' N. of Det. Pond grading
311	Coast redwood	21	No	**Preserve**, 15' N. of Det. Pond grading

(**Continued, following page**)

Table 1: Recommendations for Action, continued.
The Forum, Cupertino CA

Tree No.	Species	Trunk Diameter (in.)	*Specimen*	Recommendation for Action
312	Coast redwood	21	No	**Preserve**, provide 10' min. from Det. Pond grading
313	Coast redwood	19	No	**Preserve**, provide 10' min. from Det. Pond grading
314	Coast redwood	20	No	**Preserve**, provide 10' min. from Det. Pond grading
315	Aleppo pine	18,14	No	Remove, failing at base
316	Coast live oak	6	No	Remove, within detention pond grading
317	Coast live oak	6	No	Remove, within detention pond grading
318	Red iron bark	19	No	Remove, within detention pond grading
319	Red iron bark	19	No	Remove, within detention pond grading
320	Red iron bark	17	No	Remove, within detention pond grading
321	Canary Island palm	12	No	Remove, within detention pond grading
322	Lombardy poplar	8	No	Remove, within detention pond grading
323	Aleppo pine	16	No	Remove, within detention pond grading
324	Arroyo willow	10,7,6	No	Remove, within detention pond grading
325	Arroyo willow	8,5	No	Remove, within detention pond grading
326	Aleppo pine	6,5	No	Remove, within detention pond grading
327	Aleppo pine	7	No	Remove, within detention pond grading
328	Coast redwood	19	No	**Preserve**, 20' N. of Det. Pond grading
329	Deodar cedar	10	Yes	**Preserve**, 7' N. of parking grading
330	Callery pear	6	No	**Preserve**, 7' E. of path grading
331	London plane	16	No	**Preserve**, outside impacts
332	London plane	12	No	Remove, within new parking
333	London plane	17	No	**Preserve**, 5' N. & S. of new parking
334	London plane	17	No	**Preserve**, 5' SE. of new parking
335	London plane	10	No	**Preserve**, 10' N. of trash encl.
336	London plane	7	No	Remove, within trash encl.
337	London plane	12	No	Remove, within fuel tank
338	Horsechestnut	11	No	Remove, within path grading
339	Blue gum	4,3	No	Remove, within path grading
340	Horsechestnut	14	No	**Preserve**, 8' N. of path grading
341	Horsechestnut	11	No	**Preserve**, 8' N. of path grading
342	Coast live oak	16	Yes	Remove, within path grading
343	Horsechestnut	9	No	Remove, within path grading
344	Coast live oak	7	No	Remove, impacted by path grading
345	Coast live oak	16	Yes	Remove, impacted by path grading
346	Coast live oak	20	Yes	**Preserve**, 10' S. of path grading

Tree Assessment

The Forum at Rancho San Antonio
Cupertino, CA
January, June and August 2017

HORT SCIENCE

Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
74	Coast live oak	21	Yes	4	High	Multiple attachments at 6'; spreading crown; good form.
75	Coast live oak	12,10	Yes	4	High	Codominant trunks at 1'; good form; dense crown.
76	Deodar cedar	17	Yes	5	High	Good form and structure; dense crown; branches to ground.
77	Coast redwood	23	No	5	High	Good form and structure; dense crown; branches to ground.
78	Red ironbark	23	No	3	Moderate	Codominant trunks at 7'; previously topped; slightly thin crown.
79	Red ironbark	19	No	3	Moderate	Codominant trunks at 7'; previously topped; slightly thin crown.
189	Coast live oak	10	Yes	5	High	Multiple attachments at 8'; slight lean north; dense crown.
299	Aleppo pine	6	No	3	Low	Crowded by #79; one sided NW.; trunk wounds.
300	Bailey acacia	6	No	3	Low	Crowded by #79; leans N.
301	Aleppo pine	16	No	3	Moderate	Corrected lean W.; whole tree failures in area.
302	Aleppo pine	16	No	1	Low	Failed at base; laying on ground.
303	Aleppo pine	14	No	3	Moderate	Leans W.; crook in upper canopy; whole tree failures in area.
304	Aleppo pine	18	No	4	Moderate	Upright form; one sided W.
305	Aleppo pine	18	No	4	High	Upright form.
306	Red iron bark	10	No	2	Low	Suppressed; upper crown bowed S.
307	Aleppo pine	6	No	3	Low	Crowded by #308; one sided S.; poor form.
308	Red iron bark	14	No	3	Low	Small, sparse crown.
309	Red iron bark	13	No	3	Moderate	Leans N.; sparse crown.
310	Coast redwood	19	No	4	Moderate	Upright form; sparse crown.
311	Coast redwood	21	No	4	Moderate	Upright form; sparse crown.
312	Coast redwood	21	No	3	Moderate	Upright form; very sparse crown.
313	Coast redwood	19	No	3	Moderate	Upright form; very sparse crown.
314	Coast redwood	20	No	4	Moderate	Upright form; sparse crown.
315	Aleppo pine	18,14	No	2	Low	Failing at base to S.; crown bowed heavily NW.
316	Coast live oak	6	No	5	High	Good young tree; upright, narrow form.
317	Coast live oak	6	No	3	Moderate	Crowded; leans NE.
318	Red iron bark	19	No	2	Low	Multiple attachments at 10'; topped at 25'.
319	Red iron bark	19	No	2	Low	Multiple attachments at 15'; topped at 25'.
320	Red iron bark	17	No	2	Low	Topped at 25'.
321	Canary Island palm	12	No	5	High	Crowded but trying to emerge through canopies.
322	Lombardy poplar	8	No	2	Low	Upright form; dead top; many root sprouts.

Tree Assessment

The Forum at Rancho San Antonio
Cupertino, CA
January, June and August 2017

HORT SCIENCE

Tree No.	Species	Trunk Diameter (in.)	Specimen Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
323	Aleppo pine	16	No	2	Low	Upright; sparse canopy.
324	Arroyo willow	10,7,6	No	3	Low	Poor form and structure; many root sprouts.
325	Arroyo willow	8,5	No	3	Low	Crowded; crown bowed NE.
326	Aleppo pine	6,5	No	2	Low	Suppressed; leans E. to horizontal.
327	Aleppo pine	7	No	3	Moderate	Leans S.; a little sparse.
328	Coast redwood	19	No	4	Moderate	Upright form; lost top; sparse crown.
329	Deodar cedar	10	Yes	4	High	Good form and structure; slightly thin crown.
330	Callery pear	6	No	3	Moderate	Good form and structure; sparse crown; minor fireblight.
331	London plane	16	No	4	High	Good form and structure; slightly sparse crown; girdling roots.
332	London plane	12	No	4	Moderate	Codominant at 7' with wide attachment; slightly thin crown.
333	London plane	17	No	4	High	Multiple attachments at 10'; slightly thin.
334	London plane	17	No	4	High	Good form and structure; slightly thin crown.
335	London plane	10	No	3	Moderate	Good form; thin crown; branch tearout on west.
336	London plane	7	No	3	Moderate	Twig dieback; good form.
337	London plane	12	No	4	Moderate	Good form and structure; sparse upper crown; twig dieback.
338	Horsechestnut	11	No	3	Low	Crack in trunk seam from base to 6'; full crown; multiple attachments at 7'.
339	Blue gum	4,3	No	3	Moderate	Codominant at base; good vigor.
340	Horsechestnut	14	No	4	High	Excellent health and structure; full, dense crown; small trunk wound.
341	Horsechestnut	11	No	3	Low	Trunk wound; thin crown with twig and branch dieback.
342	Coast live oak	16	Yes	5	High	Excellent health and structure; full, dense crown.
343	Horsechestnut	9	No	2	Low	Extremely thin crown with extensive dieback.
344	Coast live oak	7	No	4	High	Good form and structure; slight lean to west.
345	Coast live oak	16	Yes	4	High	Good form and structure; slightly thin.
346	Coast live oak	20	Yes	4	Moderate	Corrected form; full, dense crown.

Tree Inventory Map

Addendum
(Tree #s added 299-346)
The Forum at
Rancho San Antonio
Cupertino, CA

Prepared for:
Greenbriar Development
Dallas, TX

July 2017

No Scale

Notes:
Base map provided by:
BKF
Walnut Creek, CA

Numbered tree locations
are approximate.

HORT SCIENCE

325 Ray Street
Pleasanton, CA 94566
Phone 925.484.0211
Fax 925.484.0596
www.hortscience.com

Biological Resources Assessment

The Forum at Rancho San Antonio
Cupertino, Santa Clara County, California

Prepared For:

Peter Lin

Vice President – Development

Greenbrier

3232 McKinney, Suite 1160

Dallas, TX 75204

WRA Contact:

Justin Semion

semion@wra-ca.com

Date:

July 2017

wra

ENVIRONMENTAL CONSULTANTS

2169-G East Francisco Blvd., San Rafael, CA 94901 (415) 454-8868 tel (415) 454-0129 fax info@wra-ca.com www.wra-ca.com

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1.0 INTRODUCTION

The purpose of this report is to assess potential impacts and mitigation for biological resources within the footprint of proposed improvements for The Forum at Rancho San Antonio, an assisted senior living complex in Cupertino, California (Project Area, Figure 1). The Forum has been an establishment for 25 years and now requires renovation and expansion to continue to provide retirement and care services to aging seniors in Cupertino. For the purpose of this report, the Project Area includes the areas proposed to be renovated and developed as well as surrounding areas potentially affected by grading, staging and construction access.

The Project Area is located on the northwestern edge of the City of Cupertino (City) immediately south of Interstate 280 (I-280), two miles northwest of the I-280 and SR-85 interchange in the Cupertino 7.5-minute United States Geological Survey (USGS) quadrangle. Rancho San Antonio County Park is located immediately north and south of the Project Area, residential development is located immediately to the west, and to the east and northeast is Interstate 280 and adjacent developed areas. WRA biologists visited the Project Area and surrounding accessible areas on January 26, 2017. This report describes the results of the site visit, which assessed the Project Area for the (1) potential to support special-status species; and (2) presence of other sensitive biological resources protected by local, state, and federal laws and regulations. A biological resources assessment provides general information on the potential presence of sensitive species and habitats. The biological assessment is not an official protocol-level survey for jurisdictional wetlands/non-wetland waters or listed species that may be required for project approval by local, state, or federal agencies. This assessment is based on information available at the time of the study and on site conditions that were observed on the date of the site visit.

Figure 1. Project Area Location Map

The Forum at Rancho San Antonio
Renovation Project
San Jose, California

wra
ENVIRONMENTAL CONSULTANTS

Map Prepared Date: 2/9/2017
Map Prepared By: mrochelle
Base Source: ESRI World Topo Map
Data Source(s): WRA

Path: L:\Acad 2000 Files\26000\26363\GIS\ArcMap\Fig 1 Location.mxd

2.0 PROJECT DESCRIPTION

The Forum at Rancho San Antonio is a private, resident owned, retirement community located on a 54-acre site in Cupertino, CA. Residents consist of Cupertino seniors who have come together to provide long term care and community for each other including independent and assisted living, memory care, skilled nursing care, rehabilitation and other services. The Forum is cooperatively owned and operated by its members who live at the Forum. Opened in 1991, the Forum has been in Cupertino for 25 years.

As a full service retirement community, the Forum includes 319 independent living units (60 villas and 259 units) located in five buildings, and a healthcare building supporting 40 rooms for assisted living, 18 rooms for memory care, and a 48-bed skilled nursing facility. The Forum also includes associated common areas and buildings that support dining, recreational, community and administrative space. A wide range of senior health and wellness programs, service and amenities for members are provided. The property is leased from the Roman Catholic Bishop of San Jose. The Forum is a non-profit mutual benefit corporation and is a cooperative owned by the residents of The Forum.

The Forum requires expansion of infrastructure to continue providing residents with retirement and care services to aging seniors. A Master Plan has been developed to identify goals for continued growth. Part of the Master Plan includes renovation to existing buildings and expansion of services and residences, including:

- Improve the existing Skilled Nursing Facility by creating more private and semi-private rooms with showers, centralized dining and other interior renovations to improve the resident care experience with more privacy, and dignity and to provide other amenities and services.
- Expand the current rehabilitation space to meet resident needs and comply with pending healthcare requirements and regulations.
- Improve the current Assisted Living building through interior renovations, ensuring optimal care, experience and enjoyment by residents and seamless transition through continuums of care.
- Include a new Memory Care building to deliver state of the art cognitive care and memory support environment.
- Add space to the Commons Building with a new and more functional multi-purpose room, additional and more flexible dining venues & fitness center space.
- Create a financial engine for the Master Plan by constructing additional villas.

Details of each improvement are described below:

The Skilled Nursing Facility (SNF) will be upgraded and expanded. The Master Plan includes new single story construction and renovation of existing SNF and Rehabilitation Center. The resident rooms in the existing facility are currently all semi-private rooms which will be converted to private rooms with larger bathrooms in each room accommodating new, in-room showers. Other remodeling in the existing SNF will include renovations of the administration spaces, dining and other support areas. The new addition will include 13 semiprivate rooms, two private rooms, a new SNF Kitchen and requisite support spaces, a multipurpose area/second casual dining area, as well as a new Rehabilitation Center.

The Assisted Living (AL) renovation will include the repurposing of selected existing spaces into new dedicated spaces providing functions such as exercise, multipurpose, social gathering and alternative food service venues. The renovation plan also includes a modified existing kitchen, currently serving the SNF, which will now be solely dedicated to AL residents as the new expanded SNF facility will have its own program and state licensed based kitchen.

The New Memory Care Facility includes one new two-story building with parking and some support areas on Level 1 set into a hillside, with the Memory Care program itself on Level 2. The Memory Care facility will be two neighborhoods of 13 residents each. Each neighborhood will have 11 private resident rooms and one semiprivate room, along with a common living room/activity area and dining areas.

The Master Plan includes the construction 23 single story villas and two two-story villas (on the interior of the campus) ranging from 1,630–1,890 square feet. The architectural style and character of the new villas are in keeping with single story existing villas currently in the community.

Renovations include dining and kitchen upgrades at the upper level of the existing Community/Commons building – a new café addition and patio renovation. A new emergency generator will be added at the rear of the Commons Building and emergency services will be added along with administrative office renovations in the lower level of this building.

Construction access will be from Cristo Rey Drive and restricted to existing roads and areas within Project work areas. Figure 2 shows an overview of these proposed improvements, and Figure 3 shows construction access, staging areas, and proposed fencing surrounding work areas.

3.0 EXISTING BIOLOGICAL CONDITIONS

The evaluation of biological resources presented in this report is based on site visits conducted by WRA biologists on January 27, 2017, review of background literature, and professional scientific judgment of WRA biologists with expertise in the characteristics of the Project Area as well as regional vegetation, plant, and wildlife species. Background literature sources utilized for the review included, but were not limited to:

- California Native Plant Society (CNPS) Electronic Inventory records (CNPS 2017a)
- California Natural Diversity Database records (CNDDB; CDFW 2017a)
- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) Species List (USFWS 2017a)
- The Western Bat Working Group (WBWG) online species accounts (WBWG 2017)
- CDFG publication “California Bird Species of Special Concern” (Shuford and Gardali 2008)
- CDFG publication “California’s Wildlife, Volumes I-III” (Zeiner et al. 1990)
- CDFW publication “California Amphibians and Reptile Species of Special Concern” (Thomson et al. 2016)
- A Field Guide to Western Reptiles and Amphibians (Stebbins 2003)
- USFWS National Wetland Inventory (USFWS 2017b)
- Natural Resources Conservation Service Web Soil Survey (NRCS 2017)
- Jepson eFlora (Jepson Herbarium 2017)
- Breeding Bird Atlas of Santa Clara County, California (Bouseman 2007)

Figure 2. Overview of Proposed Project Improvements

1 CAMPUS PLAN
SCALE: 1" = 160'-0"

The Forum at Rancho San Antonio

Site Logistics Plan

Construction Areas

Figure 3. Project Area Access, Staging, and Fencing

- Existing Structures
- New Construction
- Areas of Renovation
- Material Staging Areas
- Temporary Fire & Construction Access Road
- Tire Wash
- Temporary Construction Fence w/ Screen

3.1 Methods for Evaluating Existing Vegetation and Aquatic Communities

Mapping of vegetation in the Project Area utilized both aerial imagery and ground surveys. During the site assessment, areas within the vicinity of proposed new development were traversed, and vegetation was characterized according to species assemblages and cover. Vegetated areas were characterized and mapped according to applicable vegetation classifications in *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), the CDFG *List of Vegetation Alliances* (CDFG 2009), and *A Manual of California Vegetation, Online Edition* (CNPS 2017b). These vegetation manuals cannot anticipate every component of every potential vegetation assemblage in California, and so where needed, appropriate vegetative classifications have been made based on best professional judgment of WRA biologists with extensive experience on the site and application of vegetation classification methodology.

Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations. Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other state, federal, and local laws, regulations and ordinances. A determination that a vegetation community is not sensitive is different from a determination that the community may support a special-status plant or wildlife species. Habitat for special-status species is evaluated separately according to methods for special-status species described below. Sensitive biological communities are vegetation and aquatic communities that are given special protection under CEQA and other applicable federal, state, and local laws, regulations and ordinances. Examples include wetlands, riparian communities, and vegetation alliances with a California Rarity rank of 1, 2, or 3 in A Manual of California Vegetation, Online Edition (CNPS 2015a).

The Project Area was surveyed to determine if any wetlands and waters potentially subject to jurisdiction by the Corps, RWQCB, or CDFW were present. The assessment was based primarily on the presence of wetland plant indicators, but also included observed indicators of wetland hydrology and wetland soils. Any potential wetland areas were identified as areas dominated by plant species with a wetland indicator status[1] of OBL, FACW, or FAC as given on the U.S. Army Corps of Engineers National Wetlands Plant List (Lichvar et al. 2014). Evidence of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, algal mats, and oxidized root channels, or indirect (secondary) indicators, such as a water table within two feet of the soil surface during the dry season. Some indicators of wetland soils include dark colored soils, soils with a sulfidic odor, and soils that contain redoximorphic features as defined by the Corps Manual (Environmental Laboratory 1987) and Field Indicators of Hydric Soils in the United States (NRCS 2017). The preliminary waters assessment was based primarily on the presence of unvegetated, ponded areas, or flowing water, or evidence indicating their presence such as a high water mark or a defined drainage course. Collection of additional data will be necessary to prepare a delineation report suitable for submission to the Corps.

Evaluation of the presence of riparian vegetation was based on vegetation classifications in *A Manual of California Vegetation* (Sawyer et al. 2009) in combination with field evaluation of the origin and function of woody vegetation communities.

[1] OBL = Obligate, always found in wetlands (> 99% frequency of occurrence); FACW = Facultative wetland, usually found in wetlands (67-99% frequency of occurrence); FAC = Facultative, equal occurrence in wetland or non-wetlands (34-66% frequency of occurrence).

3. 2 Methods for Special-status Plant and Wildlife Species

Potential occurrence of special-status species in the Project Area was evaluated by first determining which special-status species occur in the vicinity of the Project Area through a literature and database search. Database searches for known occurrences of special-status species focused on the Palo Alto, Mountain View, Milpitas, San Jose West, Cupertino, Mindego Hill, Big Basin, Castle Rock Ridge, and Los Gatos 7.5 minute USGS quadrangles. While the site visit did not constitute a protocol level survey for special-status plant or wildlife species, the potential for the Project Area to support special-status species was evaluated based on literature resources described above and the professional expertise of the investigating biologists. If any special-status species was observed during the site visit, the presence was recorded and the species is discussed in the Results section of this report. In addition, species that were determined to have the potential to be present are discussed and evaluated below in the Results section.

4.0 EXISTING CONDITIONS

A general description of the biological communities present within the Project Area is provided below. Figure 3 depicts location and extent of each biological community. Acreages of biological communities are provided in Table 1.

Table 1. Summary of Biological Communities within the Project Area

Biological Community	Acreage
Developed/Landscaped	38.02
Non-native Annual Grassland	8.16
Stormwater retention basin	0.07
Total	**46.25**

4.1 Biological Communities within the Project Area

Developed/Landscaped

Most of the Project Area is characterized by developed urban land with associated landscaped vegetation. Developed lands in the Project Area consist of healthcare and residential buildings and structures, and hardscape, such as roads and parking lots. Landscaped vegetation in these communities consists of many native and non-native, ornamental trees and shrubs, including eucalyptus (*Eucalyptus sp.)*, coast redwood (*Sequoia sempervirens*), Atlas cedar (*Cedrus atlantica*), privet (*Ligustrum sp.),* bottlebrush tree (*Callistemon citrinus),* manzanita (*Arctostaphylos* spp.), and oleander (*Nerium oleander*). The understory consist of landscaped shrubs, lawn, and wood chips, and in some areas, non-native weedy species including rip gut brome (*Bromus diandrus*), Italian fescue (*Festuca perennis*), Bermuda buttercup *(Oxalix pes-carpe)*, hoary mustard (*Hirschfeldia incana*), Carolina geranium (*Geranium carolinianum*), and yellow star thistle (*Centaurea solstitialis*). Developed and landscaped areas are not sensitive biological communities.

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San Jose, California

Figure 4.

Biological Communties within the Project Area

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0 125 250 500
Feet

Map Prepared Date: 2/9/2017
Map Prepared By: mrochelle
Base Source: Esri Streaming Imagery
Data Source(s): WRA, USGS

Path: L:\Acad 2000 Files\26000\26363\GIS\ArcMap\Fig 5 BioComms.mxd

Non-native Annual Grassland

Non-native annual grasslands are areas of dense to sparse cover of non-native annual grasses, often associated with native annual forb species. Non-native annual grasslands in the Project Area are dominated by a variety of non-native and invasive grasses and forbs including Italian fescue, wild oat (*Avena fatua)*, ripgut brome, hoary mustard, spring vetch (*Vicia sativa*), broad leaf filaree (*Erodium botrys*), red stemmed filaree (*Erodium cicutarium*), common fiddleneck *(Amsinckia intermedia*), yellow star-thistle, and clover (*Trifolium* spp.). Non-native annual grasslands are not sensitive biological communities.

Stormwater Retention Basin

The stormwater retention basin in the Project Area is located just north of the proposed Memory Care Center. Water flows over land for a short distance between storm drains, creating a vegetation community that is best described as Cattail Marsh (*Typha angustifolia, domingensis, latifolia*) Herbaceous Alliance (CNPS 2017b). Cattail marshes have a California Rarity rating of S5, which does not meet the CDFW criteria for a sensitive community. Stormwater management features that were created in dry land are typically considered to be exempt from regulation under Section 404 of the Clean Water Act based on the definition of "waters of the U.S." in 33 CFR 328.3, which states:

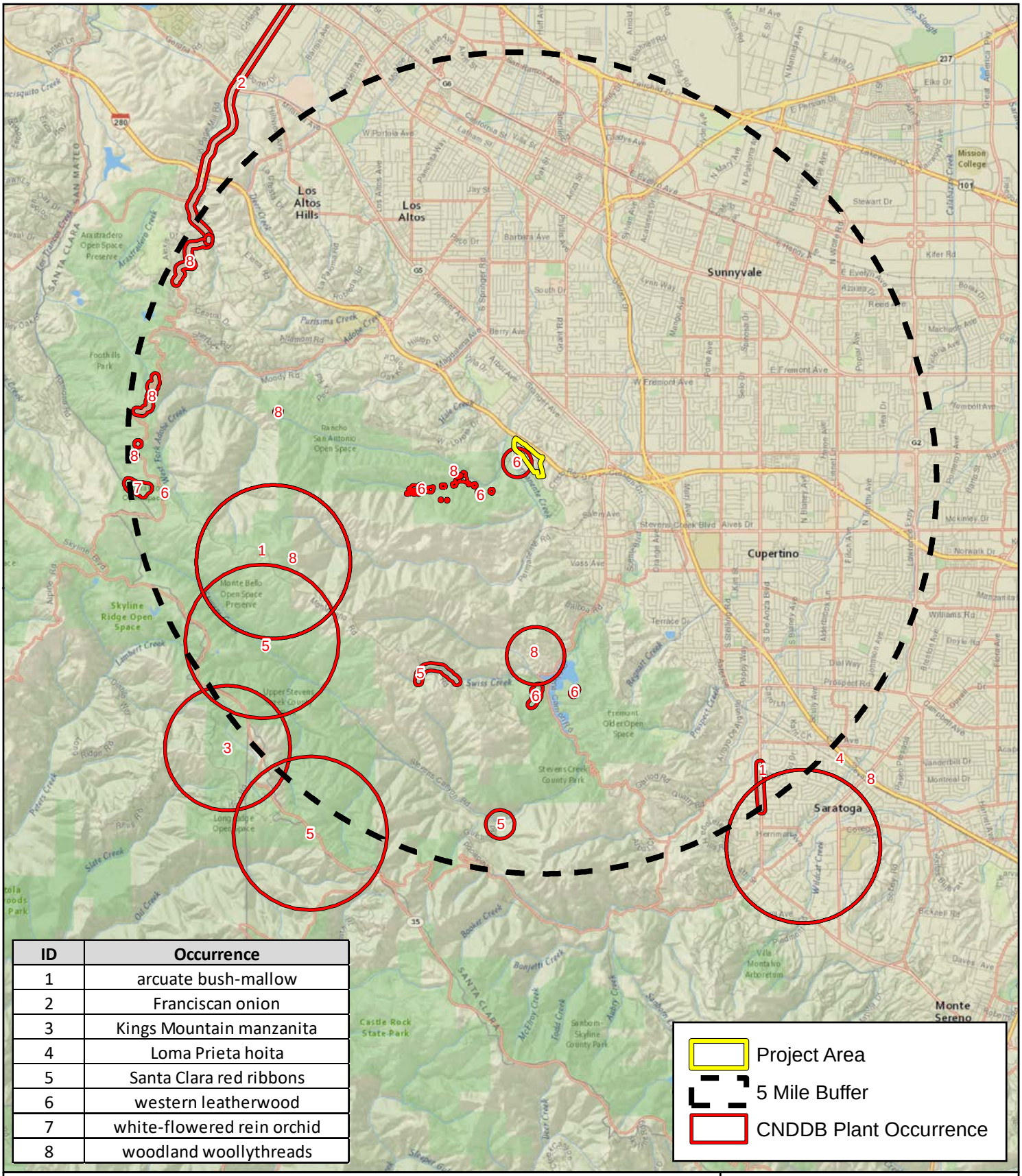
> *"Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA…are not water of the U.S." (33 CFR 328)*

Based on a review of available aerial photography, it appears that the stormwater retention feature was created on otherwise dry land when the Forum was originally constructed. Stormwater management features are areas constructed to collect water to comply with stormwater management provisions of the Clean Water Act, and are within the scope of this exemption. Based on this exclusion, the stormwater retention basin in the Project Area should be considered exempt from the Clean Water Act. However, to be conservative for the purposes of this CEQA-based analysis, the stormwater retention basin is considered a potentially sensitive vegetation community. The stormwater retention basin on site is too small, and does not pond a sufficient depth or duration of water to support any special-status species, especially given the developed context of the site.

4.2 Special-status Plant Species

Several of the most prevalent, common plant species observed in the Project Area are listed in the vegetation communities section above. Appendix C provides a list of observed plant species within the Project Area. Appendix B contains lists of special-status plant species occurring within the vicinity of the Project Area. Figure 4 shows the documented occurrences of special-status plant species within 5 miles of the Project Area (CDFW 2017a).

Based on a review of background literature sources referenced above, it was determined that the site is unsuitable for all special-status plant species documented in the literature. Of the 81 documented special-status plant species occurrences in the vicinity, all were considered unlikely



ID	Occurrence
1	arcuate bush-mallow
2	Franciscan onion
3	Kings Mountain manzanita
4	Loma Prieta hoita
5	Santa Clara red ribbons
6	western leatherwood
7	white-flowered rein orchid
8	woodland woollythreads

Figure 5. CNDDB Plant Occurrences within 5 miles of the Project Area

The Forum at Rancho San Antonio
Renovation Project
Sonoma County, California

0 0.5 1 2
Miles

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Map Prepared Date: 2/9/2017
Map Prepared By: mrochelle
Base Source: Esri - National Geographic
Data Source(s): WRA, CNDDB (May 2016)

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to be present in the Project Area based on one or more of the following reasons:

- Common plants which are nearly always associated with the special-status species, and which indicate the presence of suitable, intact habitat, are absent from the Project Area.
- Specific soil and other habitat characteristics are absent from the Project Area.
- Management/maintenance of the Project Area (e.g., mowing, landscaping) precludes the species.
- Hydrologic conditions necessary to support the species are absent.

Existing conditions in and near the Project Area are developed and primarily dominated by landscaped and non-native vegetation. Based on a review of historical aerial photographs, as well as the observed species present in non-native annual grassland areas, all of the areas of proposed improvements have been subject to historic disturbance, including mass grading. These conditions do not lend themselves to presence of rare plant populations, and rare plant species are not anticipated to be present prior to or during Project construction.

4.3 Special-status Wildlife Species

The following sections address wildlife species within the Project Area, including both special-status species and non-special-status species. Appendix B contains lists of special-status wildlife species occurring within the vicinity of the Project Area. Appendix C lists wildlife species observed within the Project Area. Much of the Project Area lies within developed and disturbed areas, limiting the diversity and abundance of wildlife species that are likely to inhabit the site. Figure 5 shows the documented occurrences of special-status wildlife species within 5 miles of the Project Area (CDFW 2017a).

4.3.1 General Wildlife

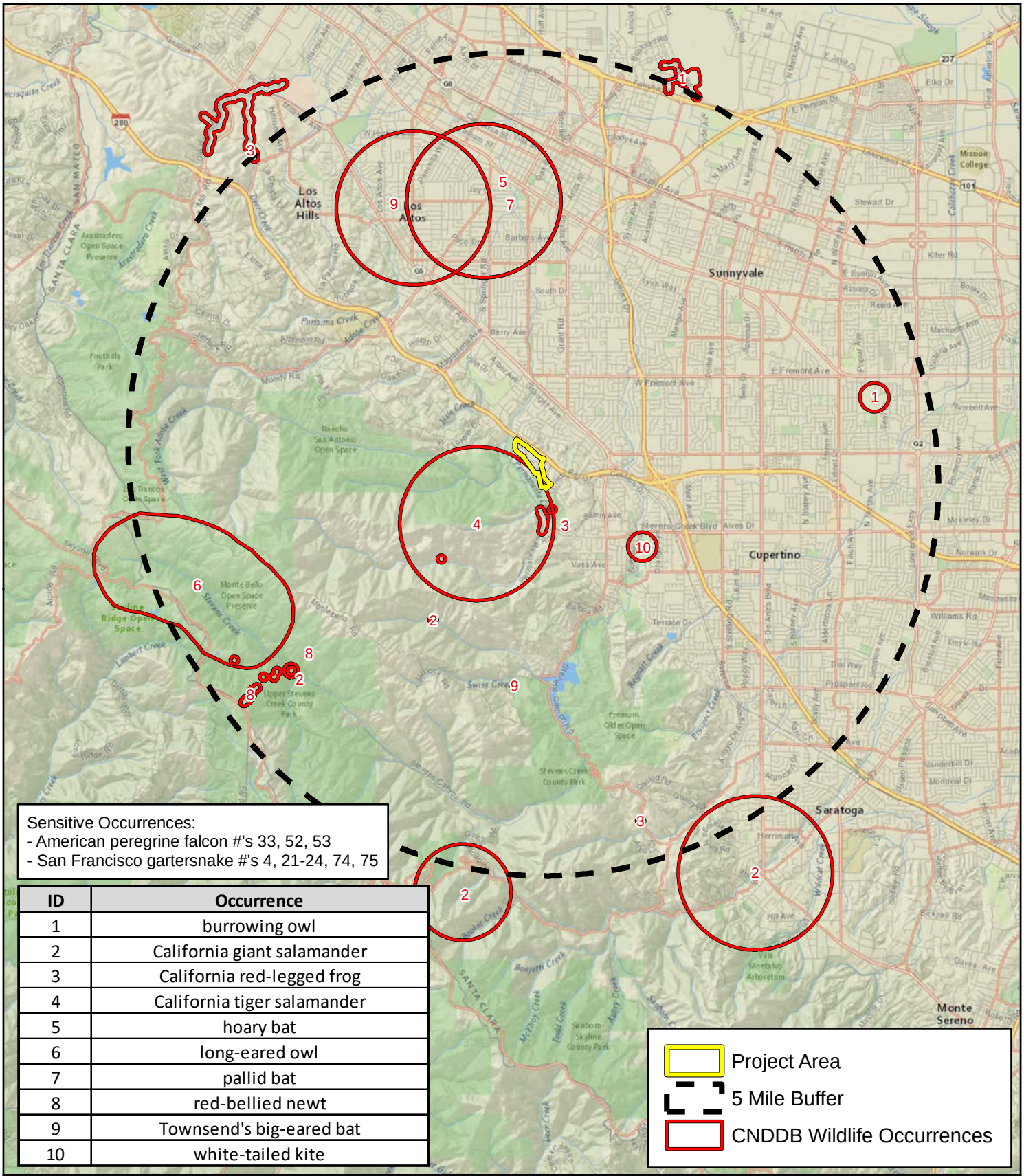
Fishes

The Project Area does not contain aquatic habitat to support fish and none were observed during the January site visit. The stormwater retention basin within the Project Area is disconnected from stream corridors by anthropogenic barriers such as artificial drainages and culverts. In addition, the stormwater retention basin ponds only intermittently and does not have potential to support a population of fish. No other aquatic habitat is present within the Project Area.

Herptiles

The urban development and lack of suitable freshwater environments within and adjacent to the Project Area make it unlikely to support special-status amphibian or reptile species. The stormwater retention basin within the Project Area is choked with cattails, is intermittent with insufficient ponding duration, and not connected to other potential special-status amphibian and reptile habitat or occurrences. Though it may provide limited habitat for common species such as the Sierran tree frog (*Pseudacris sierra*), no amphibians or aquatic reptiles such as western pond turtle (*Actinemys marmorata*) were observed at the time of the January site visit. No substantial ponding was observed in the stormwater retention basin during the site visit, despite a month of heavy rainfall. Water depth in the pond during the site visit was less than 2 inches.

A California tiger salamander (CTS, *Ambystoma californiense*) occurrence dated 1893 is documented adjacent to the Project Area (CDFW 2017a); however, the validity of this occurrence is questioned based upon date of the occurrence and lack of additional occurrences. Based on



Sensitive Occurrences:
- American peregrine falcon #'s 33, 52, 53
- San Francisco gartersnake #'s 4, 21-24, 74, 75

ID	Occurrence
1	burrowing owl
2	California giant salamander
3	California red-legged frog
4	California tiger salamander
5	hoary bat
6	long-eared owl
7	pallid bat
8	red-bellied newt
9	Townsend's big-eared bat
10	white-tailed kite

Figure 6. CNDDB Wildlife Occurrences within 5 miles of the Project Area

The Forum at Rancho San Antonio
Renovation Project
Sonoma County, California

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Miles

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Map Prepared Date: 2/9/2017
Map Prepared By: mrochelle
Base Source: Esri - National Geographic
Data Source(s): WRA, CNDDB (January 2017)

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personal correspondence with Dr. Mark Jennings, an expert on rare amphibians, this occurrence is most likely a misidentification, and wetlands or vernal pools suitable for breeding are not present in the vicinity of the Project Area to support CTS (Jennings, personal communication). The next closest documented occurrence is 6.5 miles north of the Project Area (CDFW 2017a). Therefore this species is unlikely to occur in the Project Area.

California red-legged frog (CRLF; *Rana draytonii*) prefer deep, quiet pools in creeks, rivers, or lakes below 1500 meters in elevation. Habitat requirements include fresh emergent or dense riparian vegetation, especially willows adjacent to shorelines. This species is documented in Permanente Creek south of the Project Area; however, there is no suitable aquatic habitat within or near the Project Area to support breeding. The stormwater retention basin does not pond for sufficient period or depth to support CRLF. Additionally, there are significant barriers to dispersal between occupied CRLF occurrences and the Project Area such as developed roads subject to heavy vehicle traffic and housing developments. Therefore it is determined that CRLF is unlikely to occur within the Project Area.

Common reptile species adapted to disturbed or urban environments, such as the western fence lizard (*Sceloporus occidentalis*) and the gopher snake (*Pituophis catenifer*), may be found in ruderal, landscaped, or disturbed habitats within the Project Area; however the Project Area is not likely to support special-status species such as western pond turtle or CRLF.

Birds

The Project Area provides some suitable habitat for passerines and non-waterbird species, including raptors. Common and generalist raptors such as red-shouldered hawk (*Buteo lineatus*) have been observed by WRA foraging within the Project Area. Developed and landscaped portions of the Project Area that may support nesting of observed urban-adapted passerine species including Anna's hummingbird (*Calypte anna*), California towhee (*Melozone crissalis*), dark-eyed junco (*Junco hyemalis*), cedar waxwing (*Bombycilla cedrorum*), acorn woodpecker (*Melanerpes formicivorus*), and American crow (*Corvus brachyrhynchos*), as well as the non-native European starling (*Sturnus vulgaris*). Woody vegetative cover (e.g., trees, shrubs), which occurs throughout the Project Area and in the immediate adjacent areas, may support nesting of species that are more typically observed in woodlands including Nuttall's woodpecker (*Picoides nuttallii*), a special-status bird species. Passerine species associated with open grassland habitats, such as western bluebird (*Sialia mexicana*) and song sparrow (*Melospiza melodia*), were observed onsite and the Project Area does contain habitat that may support nesting of these species to the south of existing buildings. The stormwater retention basin within the Project Area southeast of Paloma Court contains emergent vegetation that may provide foraging and nesting for wren species observed during the January site visit. The stormwater retention basin is not large enough to support colonial nesting birds such as tricolored blackbird (*Agelaius tricolor*). Some special-status bird species have potential to nest within the Project Area and are discussed below.

Mammals

The Project Area provides habitat for a variety of common mammalian species. Common species observed onsite include California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), and black-tailed deer (*Odocoileus hemionus*). Habitat where these mammals were observed included landscaped, disturbed, urban, and ruderal areas within the Project Area. Additional common and widespread species such as western harvest mouse (*Reithrodontomys megalotis*), raccoon (*Procyon lotor*) and striped skunk (*Mephitis mephitis*) may

also occur. Although the Project Area does provide suitable habitat for some medium to small sized mammals, other mammals that have large home ranges are unlikely to occur within the Project Area, because of development and a lack of open, suitable habitat for species such as ringtail (*Bassariscus astutus*) and badger (*Taxidea taxus*). Bat species that have been documented to occur within 5 miles of the Project Area, such as Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Corynorhinus townsendii*), and hoary bat (*Lasiurus cinereus*) are determined to have an unlikely potential to occur within the Project Area, because buildings within the Project Area are well maintained and trees present within the Project Area do not provide suitable roost habitat for these species. One special-status species, San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), was observed on the periphery of the Project Area and is discussed below.

4.3.2 Special-status Wildlife Species with Potential to Occur in the Project Area

Fifty-eight special-status wildlife species have been recorded in the vicinity of the Project Area. Of these, 49 were determined to be unlikely or have no potential to occur within the Project Area. For the species determined to have no potential to occur or those determined to be unlikely to occur at the site, habitat features may be entirely absent, or some elements of suitable habitat may be present (e.g., trees potentially suitable for nesting). However, the land-use on or surrounding the site, the distance from known ranges or documented occurrences, and/or the lack of other required habitat elements within the Project Area preclude these species. Elements which are required to support special-status species, but are not found within the Project Area include; vernal pools, soils to support host plants, sandy beaches or alkaline flats, vegetation communities (e.g. marshes, or old growth fir forests), and downed trees or unmaintained buildings.

Two special-status species were observed, and seven additional special-status wildlife species were determined to have a potential to occur within the Project Area. The special-status species that have been observed and have a moderate to high potential to occur within the Project Area include: white-tailed kite (*Elanus leucurus*), Nuttall's woodpecker (*Picoides buttallii*), oak titmouse (*Baeolophus inornatus*), burrowing owl (*Athene cunicularia*), , Allen's hummingbird (*Selasphorus sasin*), Lawrence's goldfinch (*Spinus lawrencei*), and San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*). These species are discussed below.

White-tailed kite (*Elanus leucurus*); CDFW Fully Protected; Moderate Potential. White-tailed kite is a resident in agricultural areas, grasslands, scrub habitats, wet meadows, and emergent wetlands throughout the lower elevations of California. Nests are constructed mostly of twigs and placed in small to large trees, often at habitat edges (Dunk 1995). This species preys upon a variety of small mammals and other vertebrates. This species has been documented to nest within 2 miles of the Project Area (CDFW 2017a). Grasslands and ruderal communities within and adjacent to the Project Area provide foraging habitat, and large trees or shrubs adjacent to these areas provide nesting habitat. Landscape trees throughout portions of the Project Area are disturbed and provide poor nesting habitat, although nesting is possible. No nest structures were observed in the Project Area during the site visit. However, it is possible that nesting may occur within or adjacent to the Project Area.

Nuttall's woodpecker (*Picoides nuttallii*); USFWS Bird of Conservation Concern; Present. Nuttall's woodpecker, common in much of its range, is a year-round resident throughout most of California west of the Sierra Nevada. Typical habitat is oak or mixed woodland, and riparian areas (Lowther 2000). Nesting occurs in tree cavities, principally those of oaks and larger riparian trees. This species forages on a variety of arboreal invertebrates. This species was observed by a WRA

Biologist at the time of the January site visit. Additionally, this species can be common in urban forest environments, and trees around the buildings may contain cavities suitable for nesting.

Oak titmouse (*Baeolophus inornatus*); USFWS Bird of Conservation Concern; High Potential. This relatively common species is a year-round resident throughout much of California including most of the coastal slope, the Central Valley and the western Sierra Nevada foothills. Its primary habitat is woodland dominated by oaks. Local populations have adapted to woodlands of pines and/or junipers in some areas (Cicero 2000). The oak titmouse nests in tree cavities, usually natural cavities or those excavated by woodpeckers, though they may partially excavate their own (Cicero 2000). Seeds and arboreal invertebrates make up the birds' diet. This species has been documented to occur throughout Cupertino and west Santa Clara County (Bousman 2007). Additionally, this species can be found in urban forest environments, and trees within the Project Area could support nesting of this species.

Burrowing owl (*Athene cunicularia*); CDFW Species of Special Concern, USFWS Bird of Conservation Concern; Moderate Potential. Western burrowing owl inhabits open areas with sparse or non-existent tree or shrub canopies; typical habitat is annual or perennial grassland, although human-modified areas such as agricultural land and airports are also used (Poulin et al. 2011). Burrowing owl is dependent on burrowing mammals to provide the burrows that are characteristically used for shelter and nesting. In northern California, this species is typically found in close association with California ground squirrel. Anthropogenic substrates such as pipes or debris piles may also be occupied in place of burrows. In the San Francisco Bay Area, the species is generally resident year-round, and shows strong site fidelity. The nearest documented occurrence is less than 5 miles east of the Project Area (CDFW 2017a). This species is unlikely to occupy most of the developed and landscaped areas of the site, however there is a portion of the Project Area and immediately adjacent areas to the south that contain open grassland and small mammal burrows that could potentially support this species. However, there is no evidence of current use of the site by this species, the species is not well known in western Santa Clara County, and areas of suitable habitat are regularly disturbed by maintenance activities.

Allen's hummingbird (*Selasphorus sasin*), USFWS Bird of Conservation Concern; High Potential. Allen's hummingbird, common in many portions of its range, is a summer resident along the majority of California's coast and a year-round resident in portions of coastal southern California and the Channel Islands. Breeding occurs in association with the coastal fog belt, and typical habitats used include coastal scrub, riparian, woodland and forest edges, and eucalyptus and cypress groves (Mitchell 2000). It feeds on nectar, as well as insects and spiders. Although the Project Area does not contain coastal scrub, riparian habitat or cypress groves, the trees onsite could potentially support this species and this species is often observed in suburban environments. Allen's hummingbird has been documented to occur within the Cupertino and West Santa Clara County area (Bousman 2007).

Lawrence's goldfinch (*Spinus lawrencei*), USFWS Bird of Conservation Concern.; Moderate Potential. This generally uncommon species is endemic as a breeder to arid woodland habitats in the Central Valley and coastal foothills of California, as well as northern Baja California. Annual distribution within the breeding range can be highly erratic. Wintering occurs in the greater southwest region, including southern California. Suitable woodland habitat is frequently dominated by oaks, and annual native plants are an important food resource (Davis 1999). The Project Area contains trees that could simulate a woodland habitat to support foraging and potential nesting of this species. The Project Area is also east of suitable habitat that may support this species, therefore this species may be observed onsite. Occurrences have been documented around the Project Area (Bousman 2007).

San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), CDFW Species of Special Concern; Present. This subspecies of the dusky-footed woodrat occurs in the Coast Ranges between San Francisco Bay and the Salinas River (Matocq 2003). Occupied habitats are variable and include forest, woodland, riparian areas, and chaparral. Woodrats feed on woody plants, but will also consume fungi, grasses, flowers and acorns. Foraging occurs on the ground and in bushes and trees. This species constructs robust stick houses/structures in areas with moderate cover and a well-developed understory containing woody debris. Breeding takes place from December to September. Individuals are active year-round, and generally nocturnal. Within the Project Area, San Francisco dusky-footed woodrat houses were observed by WRA biologists in oleander and holly-leaved cherry (*Prunus ilicifolia*) along the extreme western edge of the Project Area (Figure 6).

4.3.3 Potential Wildlife Corridors

Wildlife corridors are landscape features that provide connectivity on larger scales between areas of suitable habitat or on smaller scales between habitats and resources such as cover or food that may otherwise be isolated. Corridors must be unobstructed and contain the proper biological communities such that transient and local animals may access them. A sufficient lack of stressors or disturbances within the corridor is also necessary in order for the corridor to be successful. Corridors vary by species due to species' unique habitat requirements, life histories, size, tolerance of disturbance, and movement patterns. Some species, particularly flying species, can use "stepping stone" dispersal habitats, or closely spaced pockets of habitat can be used by certain species during dispersal between larger core habitat areas (Forman 1995, Bennett 2003). Above all, wildlife corridors must link two areas of core habitat and should not direct wildlife to developed areas or areas that are otherwise void of core habitat (Hilty et al. 2006).

The Project Area is dominated by developed areas interspersed with naturalized vegetation communities unsuitable for most non-urban-adapted wildlife species. In addition, the Project Area does not contain a riparian or stream corridor for aquatic species. The Project Area is part of a larger region of urban development in western Santa Clara County and prevents direct land connection to large, continuous, undeveloped habitat areas. The Project Area is located at the margins of this developed area, adjacent to large areas of open space which may be utilized as both core habitat and for wildlife movement. However, the Project Area does not provide a corridor providing a link between two areas of core habitat, and is therefore not considered to support or contribute to a movement corridor. No viable corridor exists for mammalian, reptile, or amphibian species.

Migratory Birds

The Project Area contains various mature native and non-native trees species that have the potential to support foraging and nesting of a wide variety of native and non-native birds. Although the Project Area is predominantly developed, and trees are landscaped and maintained regularly, foraging habitat is present for many wintering and migratory birds such as the yellow-rumped warbler (*Setophaga coronata*). Trees and shrubs within the Project Area provide foraging habitat and may act as a movement corridor for overwintering and other migratory birds. However, the value of the project area in supporting the movement and migration of bird species does not differ from the value provided by any other developed area.

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Figure 7.

Dusky-footed Woodrat
Nests Observed within
the Project Area

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Feet

Map Prepared Date: 2/9/2017
Map Prepared By: mrochelle
Base Source: Esri Streaming Imagery
Data Source(s): WRA, USGS

Path: L:\Acad 2000 Files\26000\26363\GIS\ArcMap\Wildlife.mxd

5.0 REGULATORY FRAMEWORK

Federal, State, and local laws, regulations and plans applicable to biological resources at the Project Site include:

- Federal Endangered Species Act
- Fish and Wildlife Coordination Act
- Migratory Bird Treaty Act
- Clean Water Act
- California Endangered Species Act California Fish and Game Code
- California Environmental Quality Act
- State of California Porter-Cologne Water Quality Control Act
- Cupertino City Code

5.1 Pertinent Federal Laws, Regulations and Plans

(a) Federal Endangered Species Act. The Endangered Species Act of 1973, as amended, known as the Federal Endangered Species Act (FESA) (16 USC 1531 *et seq*.) was enacted to provide a means to identify and protect endangered and threatened species. FESA is implemented by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS).

Pursuant to Section 4 of FESA, the USFWS and NMFS maintain lists of "endangered" and "threatened" plant and animal species (referred to as "listed species"). Listed species are identified in 50 CFR Sections 17.11 and 17.12. FESA defines an endangered species as “any species that is in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as “any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Under FESA Section 9, it is unlawful to take any listed species, and take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Harass is defined in regulation as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. (50 CFR 17.3) Harm is defined in regulation as an act which actually kills or injures fish or wildlife, and may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering (50 CFR 17.3; 50 CFR 222.102). Actions that may result in a “take” of a FESA-listed species are subject to USFWS permit issuance and monitoring. "Proposed" or "Candidate" species are not protected until listed as threatened or endangered. Federally listed plant species are only protected when a take occurs on federal land or by federal action.

FESA also provides for designation of critical habitat, defined in FESA Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features “essential to the conservation of the species” are found and “which may require special management considerations or protection.” Critical habitat may also include areas outside the current geographical area occupied by the species that are nonetheless “essential for the conservation of the species.” Section 7 of FESA requires federal agencies to ensure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse

modification of critical habitat of such species. Finally, FESA allows for the issuance of incidental take permits for listed species either through the Section 7 consultation process (which results in a Biological Opinion), or under the Section 10 habitat conservation planning process, which is applicable to private property, where the proposed action has no federal involvement (which results in a Habitat Conservation Plan (HCP)). The USFWS and NMFS regulations pertaining to the Section 7 and Section 10 permitting processes are set forth at 50 CFR Part 402, Sections 402.01 *et seq*. (joint consultation), 50 CFR 17.22 and 17.32 (USFWS criteria specific to Section 10 permits), and 50 CFR 222 (NMFS criteria specific to Section 10 permits). There are no existing HCPs that cover the Project Site.

(b) Fish and Wildlife Coordination Act. The Fish and Wildlife Coordination Act (16 USC 661 *et seq*.) promotes conservation and rehabilitation of wildlife, which includes birds, fishes, mammals, and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent. (16 USC 666b) Whenever the waters of any stream or body of water are proposed to be impounded, diverted, the channel deepened or otherwise controlled or modified, the U.S. Army Corps of Engineers (Corps) is required to consult with USFWS, NMFS as appropriate, and the state wildlife resource administration agency - the California Department of Fish and Wildlife (CDFW) (16 USC 662).

(c) Migratory Bird Treaty Act. The Migratory Bird Treaty Act (MBTA) (16 USC 703 *et seq*.) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The MBTA establishes a federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird." (16 USC 703) Thus, under the MBTA activities such as hunting, taking, capturing, killing, and selling migratory birds, their nests, or their eggs, are unlawful unless authorized by a permit issued by a USFWS Migratory Bird Permit Office. (16 USC 703) Migratory bird species protected by the MBTA are listed in 50 CFR 10.13. The MBTA is enforced by USFWS regulations (50 CFR 10) and in California through California Fish and Game Code Section 3513, discussed below.

(g) Clean Water Act. The federal Water Pollution Control Act Amendments of 1972, commonly referred to as the Clean Water Act (CWA), is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. (33 USC 1251 *et seq*.) The CWA regulates fill and water quality.

(1) CWA Section 404/401 Related to Fill. Section 404 of the CWA requires a permit for activities that would result in the fill of waters of the United States. Both the U.S. Environmental Protection Agency (USEPA) and the Corps regulations address the CWA Section 404 process (33 CFR 323.1 *et seq.* (Corps); 40 CFR 230.1 *et seq.* (USEPA)). “Waters of the United States” are defined broadly as waters susceptible to use in commerce, interstate waters and wetlands, and all other waters (including intrastate water bodies and wetlands) and their tributaries (33 CFR 328.3 (Corps); 40 CFR 230.3(s) (USEPA)). Approved Jurisdictional Determinations (Approved JDs) and Preliminary Jurisdictional Determinations (Preliminary JDs) are tools used by the Corps to help implement the CWA Section 404/RHA Section 10 permitting process. Approved JDs provide an official determination that jurisdictional "waters of the United States" or "navigable waters of the United States" are present, or not, on a site. Preliminary JDs are "written indications that there may be waters of the United States" present on site. The Preliminary JD provides

identification and location information regarding the approximate location of waters or wetlands on a parcel, and it allows applicants to "waive or set aside questions regarding CWA/RHA jurisdiction over a particular site." The PJD provides documentation suitable for use in the CWA Section 404/RHA Section 10 permitting process. (Regulatory Guidance Letter No. 08-02)

(2) CWA Sections 401, 402, 303, 304 Related to Water Quality. Water quality is governed by Sections 303, 304, 401 and 402 of the CWA. Sections 303 and 304 of the CWA identify water quality standards, criteria, and guidelines. Section 303(d) of the CWA requires that each state regularly identify water bodies in which beneficial uses are impaired by pollutants (the 303d list) and adopt a total maximum daily load (TMDL) for each pollutant that impairs a beneficial use. A TMDL identifies the total amount of a constituent that can be discharged to an impaired water body without impairing the water body's designated beneficial uses. Where applicable, a TMDL is typically implemented in the form of a written plan that allocates constituent loads to each discharger to an impaired water body at a level consistent with the protection of beneficial uses.

Section 401 of the CWA requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the United States to obtain from the state a water quality certification for the project. Section 401 is administered in California by the State Water Resources Control Board through the Regional Water Quality Control Boards (RWQCBs). Section 402 of the CWA regulates stormwater discharges to surface waters through the NPDES program, which requires permits for point-source discharges to waters of the United States. The State Water Resources Control Board and the RWQCBs administer the NPDES program in California.

5.2 Pertinent State of California Laws, Regulations and Plans

(a) California Endangered Species Act. The California Endangered Species Act (CESA) (California Fish and Game Code 2050 *et seq*.) prohibits a "take" of any plant and animal species that the California Fish and Game Commission determines to be an endangered or threatened species in California. CESA regulations differ from the FESA because state regulations include threatened and endangered plants on non-federal lands within the definition of a "take," and the definition of take ("hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") omits "harm and harassment". In addition, CESA authorizes the take of endangered, threatened, or candidate species if take is incidental to otherwise lawful activity and if specific criteria are met. These provisions also require CDFW to coordinate consultations with the USFWS for actions involving federally listed species that are also state-listed species. In certain circumstances, CESA allows CDFW to adopt an FESA incidental take authorization as satisfactory for CEQA purposes based on findings that the federal permit adequately protects the species and is consistent with state law. A CESA permit may not authorize the take of fully protected species that are protected in other provisions of the Fish and Game Code, discussed further below.

Federal and state lists of threatened and endangered species are generally similar; however, a species present on one list may be absent from the other. CESA defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." (California Fish and Game Code 2062) CESA defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required

by this chapter. (California Fish and Game Code 2067) A candidate species is defined as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the Commission has published a notice of proposed regulation to add the species to either list.” (California Fish and Game Code 2068) CESA does not list invertebrate species.

(b) California Fish and Game Code. The California Fish and Game Code contains additional laws and requirements that relate to biological resources, including lake and streambeds, birds and fully protected species.

(1) Fish and Game Code Sections 1600-1616 Related to Lake and Streambed Alteration Agreements. Streams and lakes are subject to CDFW jurisdiction under sections 1600-1616 of the California Fish and Game Code. Alterations to or work within or adjacent to streambeds or lakes generally require Lake and Streambed Alteration Agreement, which may include reasonable measures necessary to protect fish and wildlife resources (California Fish and Game Code 1602). The term “stream,” which includes creeks and rivers, is defined as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). “Riparian” is defined as “on, or pertaining to, the banks of a stream”; therefore, riparian vegetation is defined as “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself.” (CDFG ESD 1994) Removal of riparian vegetation also requires a Lake and Streambed Alteration Agreement from CDFW.

(2) Fish and Game Code Sections 3503, 3503.5, 3513 and 3800 Related to Birds. The California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird (Section 3503), the take of "birds-of-prey" and take, possession, or destruction of their nest or eggs (Section 3503.5), and the take of "nongame birds", which are birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds (Section 3800), unless authorized by law or regulation. The California Fish and Game Code also prohibits taking or possessing any migratory nongame bird designated in the MBTA, except as provided by federal law (Section 3513).

(3) Fish and Game Code Sections 3511, 4700, 5050, and 5515 Related to Fully Protected Species. The California Fish and Game Code explicitly designates fully protected birds, mammals, reptiles, amphibians, and fish. Fully protected species may not be taken or possessed at any time. No licenses or permits may be issued for take of fully protected species, except for necessary scientific research and relocation of fully protected bird species for the protection of livestock. The definition of "take" is the same under the California Fish and Game Code and the CESA. Incidental takes of fully protected species are not authorized by law.

(c) California Environmental Quality Act. The California Environmental Quality Act (CEQA) (California Pub. Res. Code 21000 *et seq*.) requires analysis of a broader group of species than those specifically protected under FESA, CESA or the California Fish and Game Code, including endangered, threatened, rare and special species. CEQA Guideline 15380(b)(1) defines endangered animals or plants as species or subspecies whose “survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors.” Threatened or a "rare" animal or plant is defined in Guideline 15380(b)(2) as a species that, although not presently threatened with extinction, exists “in such small numbers throughout all or a significant portion of

its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, as set forth in CEQA Guideline 15380(c), an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing. With respect to special species, CDFW has developed a list of special species as "a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status." This list includes lists developed by other organizations, including for example, the Audubon Watch List Species, the Bureau of Land Management Sensitive Species, and USFWS Birds of Special Concern. Additionally, CDFW has concluded that plant species included on the CNPS Lists 1 and 2, and potentially some List 3 plants, are covered by CEQA Guidelines Section 15380. Evaluation of List 4 plant species is recommended by CNPS, but not all species on Lists 3 and 4 are required to be evaluated under CEQA.

(d) Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act (California Water Code 13000 *et seq*.) (Porter-Cologne Act) authorizes regulation of water quality in the state. The legislation defines "waters of the state" as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050). The State Water Resources Control Board and the RWQCBs administer the Porter-Cologne Act, including setting of water standards and permitting for placement of fill in wetlands, streams and riparian areas. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to affect "waters of the state," are required to comply with the terms of the CWA Section 401 Water Quality Certification determination. If a proposed project does not require a federal permit but involves dredge or fill activities that may result in a discharge to "waters of the state," the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements under the Porter-Cologne Act.

5.3 Pertinent Local Laws, Regulations and Plans

(a) Cupertino Tree Ordinance (Municipal Code Chapter 14.18 – Protected Trees). The Cupertino Protected Tree Ordinance provides that it is unlawful for any person to cut, move, or remove or cause to be cut, moved or removed any tree, unless such person first obtains a permit from the Parks and Recreation Director (Cupertino Code 14.18.030). The Ordinance defines a "protected tree" as:

A. Heritage Trees in all zoning districts;
B. All mature specimen trees of the following species on private property:
    1. Quercus (native oak tree species), including:
        a. *Quercus agrifolia*
        b. *Quercus lobata*
        c. *Quercus kelloggii*
        d. *Quercus douglasii*
        e. *Quercus wislizeni*
    2. *Aesculus californica* (California buckeye)
    3. *Acer macrophyllum* (big leaf maple)
    4. *Cedrus deodara* (deodar cedar)
    5. *Cedrus atlantica* (blue Atlas cedar)
    6. *Umbellularia californica* (California bay); and
    7. *Platanus racemosa* (western sycamore).

C. Approved Development Trees
D. Approved privacy protection planting in R-1 zoning districts

A tree permit from the City of Cupertino is required for the cutting, moving, or removal of any "protected tree" as described above. The City may require mitigation for the removal of trees as a condition of approval of a tree permit. The replanting of a minimum of one new tree for each tree removed is a normal condition of a tree removal permit.

A mature specimen tree is means any specimen tree with a minimum single trunk of 12-inch DBH or multi-trunk DBH of less than 24-inches (Cupertino Municipal Code 14.18.020).

A "Heritage" tree is any tree or grove of trees which, because of factors including, but not limited to, its historic value, unique quality, girth, height or species, has been found by the Planning Commission to have a special significance to the community (Cupertino Municipal Code 14.18.020).

6.0 ANALYTICAL METHODOLOGY AND SIGNIFICANCE THRESHOLD CRITERIA

Pursuant to Appendix G, Section IV of the State CEQA Guidelines, a project would have a significant impact on biological resources if it would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or,

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

These thresholds were utilized in completing the analysis of potential project impacts for CEQA purposes. For the purposes of this analysis, a "substantial adverse effect" is generally interpreted to mean that a potential impact could directly or indirectly affect the resiliency or presence of a local biological community or species population. Potential impacts to natural processes that support biological communities and special-status species populations that can produce similar effects are also considered potentially significant. Impacts to individuals of a species or small

areas of existing biological communities may not be considered significant if those impacts would not affect the resiliency of a local population.

7.0 IMPACTS AND MITIGATION EVALUATION

The purpose of this impact assessment is to evaluate the potential impacts of Project construction and operation on existing conditions for biological resources based on the significance thresholds and methodology discussed above in Section 5.0. This section is structured to specifically address each significance threshold for biological resources from CEQA Appendix G. Each section addresses a specific question posed by Appendix G.

Specific impacts and a discussion of avoidance, minimization and mitigation for the Project is discussed below. For example, Section 6.1 addresses special-status species, consistent with CEQA significance threshold (a) listed above in Section 5.0. For each subsection, potential significant impacts are first identified and discussed. Then, the approach for mitigation to compensate for those impacts is discussed. Finally, a significance conclusion is provided for each potential impact.

7.1 Impacts and Mitigation Evaluation for Special-status Species

This section analyzes the Project's potential impacts and mitigation for special-status species in reference to the significance threshold outlined in CEQA Appendix G, Part IV (a):

> *Does the project have the potential to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

Potential impacts and mitigation for potentially significant impacts for the Project is discussed below.

7.1.1 Special-status Plant Species

As discussed in Section 4.2, the level of historical and current disturbance throughout the Project Area significantly limits the value of the area as habitat for special-status plant species. Based on assessment of habitat conditions and the literature and database research results, no impacts to special-status species are anticipated.

7.1.2 Special-status Wildlife Species

The Forum at Rancho San Antonio work will have limited impacts to wildlife. Potential impacts to wildlife are related to construction and staging efforts within the Project construction footprint. Most of the Project footprint, including staging areas and construction access will be located in developed areas, and relatively little vegetation will be removed. As discussed in Section 4.3, a number of special-status species have been observed, or have the potential to occur within trees and open areas in the Project Area. San Francisco dusky-footed woodrat has been observed on the periphery of the Project Area in vegetation which will not be removed or altered by Project activities. Orange construction fencing will be installed to limit construction crews from entering habitats adjacent to the work area. Therefore, no temporary or permanent loss of San Francisco dusky-footed woodrat habitat is anticipated as a result of construction for the Forum at Ranch San

Antonio Project. Impacts to San Francisco dusky-footed woodrat from adjacent construction activities is less than significant. Although no impacts are anticipated to San Francisco dusky-footed woodrat, potential wildlife impacts may occur to burrowing owl and other special-status nesting birds. Based on the Proposed Project design and thresholds criteria discussed above, the Proposed Project has the potential to result in the following impacts:

Burrowing Owl

No temporary or permanent loss of burrowing owl habitat due to Project construction is anticipated. As discussed above, the grasslands in the southern portion of the Project Area is the only portion of the Project Area with grassland habitat which may support burrowing owls. The number of available burrows and the amount of available forage are limited, but owl could still potentially occur within this habitat. If owls are present during construction, individuals may be directly impacted by vehicle traffic, or they may be flushed from protective burrows by vehicle traffic or ground disturbance. Therefore, construction and staging for the Forum at Rancho San Antonio is considered a potentially significant impact for burrowing owl.

Potential Impact 1: Construction activities for the Forum at Rancho San Antonio may directly impact nesting or overwintering burrowing owl individuals through ground disturbance and vehicle traffic, which would be considered significant impacts.

Mitigation Measure 1: For Project activities occurring within the Forum at Rancho San Antonio Project footprint, one pre-construction survey no more than 14 days prior to initial ground disturbance shall be performed in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012). The pre-construction survey shall include suitable habitat and surrounding accessible areas up to 200 feet of proposed activities and be conducted prior to the start of initial ground disturbance, regardless of time of year. If burrowing owl is documented during the nesting period (March 1 through August 31), an appropriate no-disturbance buffer per the Staff Report shall be placed around active burrows until young have fledged the nest. If burrowing owl is detected during the non-nesting season or following the determination the nest is no longer active and the occupied burrow(s) cannot be avoided, a burrowing owl exclusion plan shall be prepared and implemented. A qualified biologist will determined if visual barriers or other measures are suitable for occupied burrows which can be avoided.

Implementation of this mitigation measure will reduce potential impacts to burrowing owl to a level that is **less than significant**.

Special-status and Other Nesting Birds

The following special-status avian species have potential to occur and nest within or adjacent to the Project Area for the Forum at Rancho San Antonio Project: white-tailed kite, Nuttall's woodpecker, oak titmouse, Allen's hummingbird, and Lawrence's goldfinch. However, not all have the potential to be harmed, harassed, or killed as a result of Project construction.

In addition, non-special-status nesting birds protected under the MTBA and California Fish and Game Code (CFGC) have the potential to nest in trees, shrubs, herbaceous vegetation, and on man-made structures within and adjacent to all areas of the Project Area footprint for the Forum at Rancho San Antonio Project. Special-status nesting birds listed above have the potential to nest in the trees and landscaped areas adjacent to the Project footprint. Project construction activities have the potential to impact nests in these areas if construction is initiated during the breeding bird season (February 15 through August 15). Potential impacts include direct destruction of nests as well as indirect visual and acoustic disturbance to nesting birds from construction in adjacent areas that has the potential to result in nest abandonment. Direct destruction of nests or indirect disturbance resulting in nest abandonment caused as a result of construction is a potentially significant impact.

Potential Impact 2: Project construction activities have the potential to result in direct impacts or indirect disturbance to special-status nesting birds and other native nesting birds protected by the MBTA and CFGC. Construction could directly destroy active nests or cause disturbance that results in nest abandonment.

Mitigation Measure 2: Potential significant impacts to nesting special-status and other native nesting birds will be mitigated through avoiding disturbance to active nests. Initiation of construction activities during the avian nesting season (February 15 through August 15) will be avoided to the extent feasible. For areas where direct impacts to vegetation will occur, vegetation removal will be conducted outside of the nesting season to avoid potential delays in construction schedule due to nesting activity, as is feasible. If construction initiation or vegetation removal during the nesting season cannot be avoided, pre-construction nesting bird surveys will be conducted within 14 days of initial ground disturbance or vegetation removal to avoid disturbance to active nests, eggs, and/or young of nesting birds. Surveys can be used to detect the nests of special-status as well as non-special-status birds. Surveys will encompass the entire construction area and the surrounding 500 feet. An exclusion zone where no construction would be allowed will be established around any active nests of any avian species found in the Project Area until a qualified biologist has determined that all young have fledged and are independent of the nest. Suggested exclusion zone distances differ depending on species, location, and placement of nest, and will be at the discretion of the biologist and, if necessary, CDFW. These surveys would remain valid as long as construction activity is consistently occurring in a given area and will be completed again if there is a lapse in construction activities of more than 14 consecutive days during the nesting bird season.

Implementation of this mitigation measure will reduce potential impacts to nesting birds to a level that is **less than significant**.

7.2 Impacts and Mitigation Evaluation for Sensitive Natural Communities

This section addresses the question:

> *b) Does the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;*

The stormwater retention basin on-site was created in areas that were previously uplands during project construction. The stormwater retention basin supports wetland vegetation classified as a cattail marsh, which, with a State Rarity ranking of S5, does not meet the criteria set forth by CDFW. However, it is considered potentially sensitive in this analysis to be conservative, because it is a wetland-type feature.

The Memory Care facility is located upslope of the man-made stormwater retention basin. Grading for the new Memory Care facility would require recontouring of the area within and surrounding the stormwater retention basin, resulting in temporary impacts to the area. Following construction, the area of stormwater retention is anticipated to be larger than under current conditions. The function of the stormwater retention basin would remain the same – to temporarily retain stormwater from surrounding developed areas. This would allow for the re-establishment of wetland vegetation within the newly expanded stormwater retention basin. Replanting of similar wetland vegetation within the newly enlarged area following construction would minimize temporal impacts from the loss of wetland vegetation. The stormwater retention basin is a man-made feature created in areas that were previously upland, does not meet the rarity criteria established by CDFW for sensitive vegetation communities, would be larger following construction, and would continue to function as a receiving area for stormwater from surrounding developed areas. Based on these factors, the impacts to the stormwater retention basin resulting from grading for the new Memory Care facility are considered less than significant under CEQA.

7.3 Impacts and Mitigation Evaluation for Wetlands and Other Areas Regulated by Section 404 of the Clean Water Act

This section analyzes the Project's potential impacts and mitigation for wetlands and other areas presumed or determined to be within the jurisdiction of the Corps in reference to the significance threshold outlined in CEQA Appendix G, Part IV (c):

> *c) Does the Project have the potential to have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;*

Based on the site visit and review of existing information, the stormwater retention basin present in the Project Area is a man-made feature created in dry land for the purpose of complying with the Clean Water Act. Such areas fall within the scope of the exemption from Section 404 jurisdiction found in federal regulations at 33 CFR 328.3. This conclusion is based on information available from historic aerial photographs, and from the presence of a stormwater retention easement over the area. Even if the area were to be considered to be a *potentially* jurisdictional wetland, Project impacts to the stormwater retention basin would be considered less than significant for the same reasons as those listed above for the evaluation of this potentially sensitive natural community. The stormwater retention basin would be larger following construction, and would continue to function as a receiving area for stormwater from surrounding developed areas. This does not represent a substantial change compared to existing conditions and would therefore be considered a less than significant impact under CEQA.

7.4 Impacts and Mitigation Evaluation for Habitat Corridors and Linkages

This section analyzes the Project's potential impacts and mitigation for habitat corridors and linkages in reference to the significance threshold outlined in CEQA Appendix G, Part IV (d):

> *d) Does the Project have the potential to interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;*

As noted in Section 3.4.1, no portions of the Project Area provide connectivity between areas of suitable habitat. For terrestrial species, all portions of the Project Area are within a greater context of urban development, and for aquatic species, there is no connectivity between the Project Area and upstream freshwater habitats. No change will occur to foraging or wintering habitat for migratory birds as a result of the Proposed Project. No impacts will occur to migratory corridors for terrestrial, aquatic, or avian species.

7.5 Impacts and Mitigation Evaluation for Local Policies and Ordinances

This section analyzes the Project's potential impacts and mitigation based on conflicts with local policies and ordinances in reference to the significance threshold outlined in CEQA Appendix G, Part IV (e):

> *e) Does the Project have the potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;*

Local plans and policies related to biological resources examined in this analysis are:

- Cupertino Tree Ordinance (Municipal Code Chapter 14.18 – Protected Trees

Some tree removal may be required for the Proposed Project, as needed for construction and access. Some of the trees removed may be classified as heritage trees or otherwise protected by local ordinances. Compliance with local tree ordinances will be addressed in a separate arborists report.

7.6 Habitat Conservation Plans

This section analyzes the Project's potential impacts and mitigation based on conflicts with any adopted local, regional, and state habitat conservation plans in reference to the significance threshold outlined in CEQA Appendix G, Part IV (f):

> *f) Does the Project have the potential to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

The Project Area lies outside of the Santa Clara Valley Habitat Plan (HCP), therefore, there are no adopted local, regional or state habitat conservation plans that are applicable to the Project. Therefore, the Project **does not have the potential to conflict** with an adopted local, regional, or state habitat conservation plan.

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APPENDIX A

Representative Photographs of the Project Area

Photo 1. Photo showing stormwater retention basin, dominated by cattail.

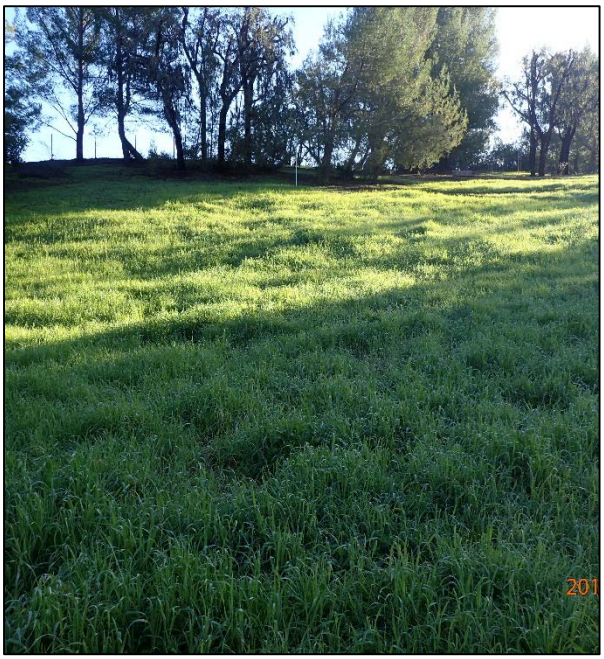

Photo 2. Photo showing future location of the new Memory Care facility, upslope of the stormwater retention basin.

Photo 3. Photo showing future location of new villas in northwest portion of Project Area. Photo looking northwest.

Photo 4. Photo showing future location of new villas in northwest portion of Project Area. Photo looking southwest.

Photo 5. Photo showing one of several dusky-footed wood rat nests observed adjacent to proposed development.

Photo 6. Photo showing existing, planted coast redwoods where future Multi-Purpose building will be located.

Photo 7. Photo showing non-native annual grassland at southwest portion of Project Area where eleven new villas will be located.

Photo 8. Photo showing landscaped/developed area where proposed villa will be located.

Appendix B

Special-Status Plant and Wildlife Species within the Vicinity of the Project Area

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects)
 AND Quad IS (Big Basin (3712222) OR Castle Rock Ridge (3712221) OR Cupertino (3712231) OR Los Gatos (3712128) OR Milpitas (3712148) OR Mindego Hill (3712232) OR Mountain View (3712241) OR Palo Alto (3712242) OR San Jose West (3712138))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Aneides niger Santa Cruz black salamander	AAAAD01070	None	None	G3	S3	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Asio otus long-eared owl	ABNSB13010	None	None	G5	S3?	SSC
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	None	G2G3	S1	
Brachyramphus marmoratus marbled murrelet	ABNNN06010	Threatened	Endangered	G3G4	S1	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Calasellus californicus An isopod	ICMAL34010	None	None	G2	S2	
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
Circus cyaneus northern harrier	ABNKC11010	None	None	G5	S3	SSC
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Dicamptodon ensatus California giant salamander	AAAAH01020	None	None	G3	S2S3	SSC
Dipodomys venustus venustus Santa Cruz kangaroo rat	AMAFD03042	None	None	G4T1	S1	
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Melospiza melodia pusillula Alameda song sparrow	ABPBXA301S	None	None	G5T2?	S2S3	SSC
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
Oncorhynchus kisutch coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G4	S2?	
Oncorhynchus mykiss irideus steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Rallus longirostris obsoletus California clapper rail	ABNME05016	Endangered	Endangered	G5T1	S1	FP
Rana boylii foothill yellow-legged frog	AAABH01050	None	None	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
Rynchops niger black skimmer	ABNNM14010	None	None	G5	S2	SSC
Sorex vagrans halicoetes salt-marsh wandering shrew	AMABA01071	None	None	G5T1	S1	SSC
Speyeria adiaste adiaste unsilvered fritillary	IILEPJ6143	None	None	G1G2T1	S1	
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	SSC
Sternula antillarum browni California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
Taricha rivularis red-bellied newt	AAAAF02020	None	None	G4	S2	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis sirtalis tetrataenia San Francisco gartersnake	ARADB3613B	Endangered	Endangered	G5T2Q	S2	FP
Trimerotropis infantilis Zayante band-winged grasshopper	IIORT36030	Endangered	None	G1	S1	
Tryonia imitator mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	

Record Count: 50

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Taxonomic Group IS (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)
 AND Quad IS (Big Basin (3712222) OR Calaveras Reservoir (3712147) OR Castle Rock Ridge (3712221) OR Cupertino (3712231) OR Los Gatos (3712128) OR Mindego Hill (3712232) OR Mountain View (3712241) OR Palo Alto (3712242) OR San Jose East (3712137))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Acanthomintha duttonii San Mateo thorn-mint	PDLAM01040	Endangered	Endangered	G1	S1	1B.1
Allium peninsulare var. franciscanum Franciscan onion	PMLIL021R1	None	None	G5T1	S1	1B.2
Anomobryum julaceum slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
Arctostaphylos andersonii Anderson's manzanita	PDERI04030	None	None	G2	S2	1B.2
Arctostaphylos glutinosa Schreiber's manzanita	PDERI040G0	None	None	G1	S1	1B.2
Arctostaphylos ohloneana Ohlone manzanita	PDERI042Y0	None	None	G1	S1	1B.1
Arctostaphylos regismontana Kings Mountain manzanita	PDERI041C0	None	None	G2	S2	1B.2
Arctostaphylos silvicola Bonny Doon manzanita	PDERI041F0	None	None	G1	S1	1B.2
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T2	S2	1B.2
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
California macrophylla round-leaved filaree	PDGER01070	None	None	G3?	S3?	1B.2
Calyptridium parryi var. hesseae Santa Cruz Mountains pussypaws	PDPOR09052	None	None	G3G4T2	S2	1B.1
Campanula exigua chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
Chloropyron maritimum ssp. palustre Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
Chorizanthe pungens var. hartwegiana Ben Lomond spineflower	PDPGN040M1	Endangered	None	G2T1	S1	1B.1
Chorizanthe robusta var. robusta robust spineflower	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
Cirsium fontinale var. campylon Mt. Hamilton fountain thistle	PDAST2E163	None	None	G2T2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Cirsium fontinale var. fontinale Crystal Springs fountain thistle	PDAST2E161	Endangered	Endangered	G2T1	S1	1B.1
Cirsium praeteriens lost thistle	PDAST2E2B0	None	None	GX	SX	1A
Clarkia concinna ssp. automixa Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
Collinsia corymbosa round-headed Chinese-houses	PDSCR0H060	None	None	G1	S1	1B.2
Collinsia multicolor San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2	1B.2
Dirca occidentalis western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
Dudleya abramsii ssp. setchellii Santa Clara Valley dudleya	PDCRA040Z0	Endangered	None	G4T2	S2	1B.1
Eriophyllum latilobum San Mateo woolly sunflower	PDAST3N060	Endangered	Endangered	G1	S1	1B.1
Eryngium aristulatum var. hooveri Hoover's button-celery	PDAPI0Z043	None	None	G5T1	S1	1B.1
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Fissidens pauperculus minute pocket moss	NBMUS2W0U0	None	None	G3?	S2	1B.2
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Grimmia torenii Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3
Grimmia vaginulata vaginulate grimmia	NBMUS32340	None	None	G2G3	S1	1B.1
Hesperevax sparsiflora var. brevifolia short-leaved evax	PDASTE5011	None	None	G4T3	S2	1B.2
Hesperocyparis abramsiana var. abramsiana Santa Cruz cypress	PGCUP04081	Threatened	Endangered	G1T1	S1	1B.2
Hesperocyparis abramsiana var. butanoensis Butano Ridge cypress	PGCUP04082	Threatened	Endangered	G1T1	S1	1B.2
Hesperolinon congestum Marin western flax	PDLIN01060	Threatened	Threatened	G1	S1	1B.1
Hoita strobilina Loma Prieta hoita	PDFAB5Z030	None	None	G2	S2	1B.1
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Lessingia micradenia var. glabrata smooth lessingia	PDAST5S062	None	None	G2T2	S2	1B.2
Malacothamnus arcuatus arcuate bush-mallow	PDMAL0Q0E0	None	None	G2Q	S2	1B.2
Malacothamnus hallii Hall's bush-mallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
Orthotrichum kellmanii Kellman's bristle moss	NBMUS56190	None	None	G2	S2	1B.2
Pedicularis dudleyi Dudley's lousewort	PDSCR1K0D0	None	Rare	G2	S2	1B.2
Penstemon rattanii var. kleei Santa Cruz Mountains beardtongue	PDSCR1L5B1	None	None	G4T2	S2	1B.2
Pentachaeta bellidiflora white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
Piperia candida white-flowered rein orchid	PMORC1X050	None	None	G3	S3	1B.2
Plagiobothrys chorisianus var. chorisianus Choris' popcornflower	PDBOR0V061	None	None	G3T2Q	S2	1B.2
Plagiobothrys glaber hairless popcornflower	PDBOR0V0B0	None	None	GH	SH	1A
Sidalcea malachroides maple-leaved checkerbloom	PDMAL110E0	None	None	G3	S3	4.2
Stebbinsoseris decipiens Santa Cruz microseris	PDAST6E050	None	None	G2	S2	1B.2
Streptanthus albidus ssp. albidus Metcalf Canyon jewelflower	PDBRA2G011	Endangered	None	G2T1	S1	1B.1
Streptanthus albidus ssp. peramoenus most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
Stuckenia filiformis ssp. alpina slender-leaved pondweed	PMPOT03091	None	None	G5T5	S3	2B.2
Suaeda californica California seablite	PDCHE0P020	Endangered	None	G1	S1	1B.1
Trifolium amoenum two-fork clover	PDFAB40040	Endangered	None	G1	S1	1B.1
Usnea longissima Methuselah's beard lichen	NLLEC5P420	None	None	G4	S4	4.2

Record Count: 58

IPaC resource list

Location

Santa Clara County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and should not be used for planning or analyzing project level impacts.

Section 7 of the Endangered Species Act **requires** Federal agencies to *"request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action"* for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Review section in IPaC or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by creating a project and making a request from the Regulatory Review section.

Listed species

[1] are managed by the Endangered Species Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

The following species are potentially affected by activities in this location:

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. http://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. http://ecos.fws.gov/ecp/species/2076	Threatened

Birds

NAME	STATUS
California Clapper Rail Rallus longirostris obsoletus **No critical habitat** has been designated for this species. http://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern Sterna antillarum browni **No critical habitat** has been designated for this species. http://ecos.fws.gov/ecp/species/8104	Endangered
Marbled Murrelet Brachyramphus marmoratus There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. http://ecos.fws.gov/ecp/species/4467	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. http://ecos.fws.gov/ecp/species/321	Threatened
Steelhead Oncorhynchus (=Salmo) mykiss There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. http://ecos.fws.gov/ecp/species/1007	Threatened

Insects

NAME	STATUS
Bay Checkerspot Butterfly Euphydryas editha bayensis There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. http://ecos.fws.gov/ecp/species/2320	Threatened

San Bruno Elfin Butterfly Callophrys mossii bayensis Endangered

No critical habitat has been designated for this species.
http://ecos.fws.gov/ecp/species/3394

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service

[3]. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/
  birds-of-conservation-concern.php

- Conservation measures for birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data http://www.birdscanada.org/birdmon/default/datasummaries.jsp

The migratory birds species listed below are species of particular conservation concern (e.g. Birds of Conservation Concern) that may be potentially affected by activities in this location, not a list of every bird species you may find in this location. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To view available data on other bird species that may occur in your project area, please visit the AKN Histogram Tools and Other Bird Data Resources.

NAME	SEASON(S)
Allen's Hummingbird Selasphorus sasin http://ecos.fws.gov/ecp/species/9637	Breeding
Bald Eagle Haliaeetus leucocephalus http://ecos.fws.gov/ecp/species/1626	Year-round
Bell's Sparrow Amphispiza belli http://ecos.fws.gov/ecp/species/9303	Year-round
Black Oystercatcher Haematopus bachmani http://ecos.fws.gov/ecp/species/9591	Year-round
Black Swift Cypseloides niger http://ecos.fws.gov/ecp/species/8878	Breeding
Burrowing Owl Athene cunicularia http://ecos.fws.gov/ecp/species/9737	Year-round
Costa's Hummingbird Calypte costae http://ecos.fws.gov/ecp/species/9470	Breeding
Fox Sparrow Passerella iliaca	Wintering

Lawrence's Goldfinch Carduelis lawrencei http://ecos.fws.gov/ecp/species/9464	Breeding
Lesser Yellowlegs Tringa flavipes http://ecos.fws.gov/ecp/species/9679	Wintering
Lewis's Woodpecker Melanerpes lewis http://ecos.fws.gov/ecp/species/9408	Wintering
Long-billed Curlew Numenius americanus http://ecos.fws.gov/ecp/species/5511	Wintering
Marbled Godwit Limosa fedoa http://ecos.fws.gov/ecp/species/9481	Wintering
Nuttall's Woodpecker Picoides nuttallii http://ecos.fws.gov/ecp/species/9410	Year-round
Oak Titmouse Baeolophus inornatus http://ecos.fws.gov/ecp/species/9656	Year-round
Olive-sided Flycatcher Contopus cooperi http://ecos.fws.gov/ecp/species/3914	Breeding
Peregrine Falcon Falco peregrinus http://ecos.fws.gov/ecp/species/8831	Year-round
Red Knot Calidris canutus ssp. roselaari http://ecos.fws.gov/ecp/species/8880	Wintering
Rufous-crowned Sparrow Aimophila ruficeps http://ecos.fws.gov/ecp/species/9718	Year-round
Short-billed Dowitcher Limnodromus griseus http://ecos.fws.gov/ecp/species/9480	Wintering

Short-eared Owl Asio flammeus http://ecos.fws.gov/ecp/species/9295	Wintering
Western Grebe aechmophorus occidentalis http://ecos.fws.gov/ecp/species/6743	Year-round
Yellow Warbler dendroica petechia ssp. brewsteri http://ecos.fws.gov/ecp/species/3230	Breeding
Yellow-billed Magpie Pica nuttalli http://ecos.fws.gov/ecp/species/9726	Year-round

What does IPaC use to generate the list of migratory bird species potentially occurring in my specified location?

Landbirds:

Migratory birds that are displayed on the IPaC species list are based on ranges in the latest edition of the National Geographic Guide, Birds of North America (6th Edition, 2011 by Jon L. Dunn, and Jonathan Alderfer). Although these ranges are coarse in nature, a number of U.S. Fish and Wildlife Service migratory bird biologists agree that these maps are some of the best range maps to date. These ranges were clipped to a specific Bird Conservation Region (BCR) or USFWS Region/Regions, if it was indicated in the 2008 list of Birds of Conservation Concern (BCC) that a species was a BCC species only in a particular Region/Regions. Additional modifications have been made to some ranges based on more local or refined range information and/or information provided by U.S. Fish and Wildlife Service biologists with species expertise. All migratory birds that show in areas on land in IPaC are those that appear in the 2008 Birds of Conservation Concern report.

Atlantic Seabirds:

Ranges in IPaC for birds off the Atlantic coast are derived from species distribution models developed by the National Oceanic and Atmospheric Association (NOAA) National Centers for Coastal Ocean Science (NCCOS) using the best available seabird survey data for the offshore Atlantic Coastal region to date. NOAANCCOS assisted USFWS in developing seasonal species ranges from their models for specific use in IPaC. Some of these birds are not BCC species but were of interest for inclusion because they may occur in high abundance off the coast at different times throughout the year, which potentially makes them more susceptible to certain types of development and activities taking place in that area. For more refined details about the abundance and richness of bird species within your project area off the Atlantic Coast, see the Northeast Ocean Data Portal. The Portal also offers data and information about other types of taxa that may be helpful in your project review.

About the NOAANCCOS models: the models were developed as part of the NOAANCCOS project: Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf. The models resulting from this project are being used in a number of decision-support/mapping products in order to help guide decision-making on activities off the Atlantic Coast with the goal of reducing impacts to migratory birds. One such product is the Northeast Ocean Data Portal, which can be used to explore details about the relative occurrence and abundance of bird species in a particular area off the Atlantic Coast.

All migratory bird range maps within IPaC are continuously being updated as new and better information becomes available.

Can I get additional information about the levels of occurrence in my project area of specific birds or groups of birds listed in IPaC?

Landbirds:

The Avian Knowledge Network (AKN) provides a tool currently called the "Histogram Tool", which draws from the data within the AKN (latest,survey, point count, citizen science datasets) to create a view of relative abundance of species within a particular location over the course of the year. The results of the tool depict the frequency of detection of a species in survey events, averaged between multiple datasets within AKN in a particular week of the year. You may access the histogram tools through the Migratory Bird Programs AKN Histogram Tools webpage.

The tool is currently available for 4 regions (California, Northeast U.S., Southeast U.S. and Midwest), which encompasses the following 32 states: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North, Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

In the near future, there are plans to expand this tool nationwide within the AKN, and allow the graphs produced to appear with the list of trust resources generated by IPaC, providing you with an additional level of detail about the level of occurrence of the species of particular concern potentially occurring in your project area throughout the course of the year.

Atlantic Seabirds:

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAANCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Facilities

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal

zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix C

Observed Plant and Wildlife Species List

Appendix C. Plant and Wildlife Species observed within the Project Area on January 26, 2017.

Scientific Name	Common Name	Status
Wildlife		
Birds		
Bombycilla cedrorum	cedar waxwing	
Buteo lineatus	red-shouldered hawk	
Calypte anna	Anna's hummingbird	
Cathartes aura	turkey vulture	
Corvus brachyrhynchos	American crow	
Junco hyemalis	dark-eyed junco	
Melanerpes formicivorus	acorn woodpecker	
Melegaris gallopavo	wild turkey	
Melospiza melodia	song sparrow	
Melozone crissalis	California towhee	
Picoides nuttallii	Nuttall's woodpecker	BCC
Regulus calendula	ruby-crowned kinglet	
Setophaga coronata	yellow-rumped warbler	
Sialia mexicana	western bluebird	
Sturnus vulgaris	European starling	
Troglodytes/Thryomanes spp.	wren	
Mammals		
Odocoileus hemionus	black-tailed deer	
Otospermophilus beecheyi	California ground squirrel	
Thomomys bottae	pocket gopher	
Scientific Name	**Common Name**	**Rarity Status[1]**
Plants		
Amsinckia intermedia	Common fiddleneck	-
Avena fatua	Wildoats	-
Baccharis pilularis ssp. consanguinea	Coyote brush	-
Bromus diandrus	Ripgut brome	-
Centaurea solstitialis	Yellow starthistle	-
Cirsium vulgare	Bullthistle	-
Erigeron canadensis	Canada horseweed	-
Erodium botrys	Big heron bill	-
Erodium moschatum	Whitestem filaree	-
Euphorbia peplus	Petty spurge	-
Festuca perennis	Italian rye grass	-
Geranium carolinianum	Carolina geranium	-
Hirschfeldia incana	Mustard	-
Medicago polymorpha	California burclover	-
Nerium oleander	Oleander	-
Oxalis pes-caprae	Bermuda buttercup	-
Prunus ilicifolia ssp. ilicifolia	Holly leaf cherry	-
Quercus agrifolia	Coast live oak	-
Salix lasiolepis	Arroyo willow	-

Scientific Name	Common Name	Rarity Status[1]
Senecio vulgaris	Common groundsel	-
Sequoia sempervirens	Coast redwood	-
Trifolium sp.	Clover	-
Typha angustifolia	Narrow leaf cattail	-
Vicia sp.	Vetch	-

All plant species identified using the *Jepson Manual, 2nd Edition* (Baldwin et al. 2012).

[1]Rare Status: The CNPS Inventory of Rare and Endangered Plants (CNPS 2017)

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
Rank 1A:	Plants presumed extirpated in California and either rare or extinct elsewhere
Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere
Rank 2A:	Plants presumed extirpated in California, but more common elsewhere

Key to status codes:

BCC	Birds of Conservation Concern (U.S. Fish and Wildlife Service)