

Preliminary Arborist Report

4200 Dove Hill Road San Jose CA

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Preliminary Arborist Report 4200 Dove Hill Road

San Jose CA

Table of Contents

	Page						
Introduction and Overview	1						
Survey Methods	1						
Description of Trees	2						
Suitability for Preservation	3						
Preliminary Evaluation of Impacts	5						
Preliminary Mitigation Calculation	6						
Tree Preservation Guidelines	7						
List of Tables							
Table 1. Tree condition and frequency of occurrence	3						
Table 2. Tree suitability for preservation	4						
Table 3. Recommendations for action	6						
Table 4. Preliminary mitigation calculation	7						
Attachments							
Tree Assessment Forms							
Tree Assessment Map							

Introduction and Overview

David J. Powers & Associates is proposing to redevelop the 4200 Dove Hill Rd. site, in San Jose. The site is located adjacent to Highway 101 and slopes up to the east. It contains a mix of residential buildings on an upper tier, and a corporation yard and nursery on a lower tier. David J. Powers & Associates requested that HortScience, Inc. prepare an **Arborist Report** for the site. This report provides the following information:

- 1. An assessment of the trees growing on, and immediately adjacent to the site.
- 2. An assessment of the impacts of constructing the proposed project on the trees.
- 3. A calculation of mitigation requirements per the San Jose Municipal Code, Section 13.32.020.
- 4. Guidelines for tree preservation during the design, construction and maintenance phases of development.

Assessment Methods

Trees were assessed on April 20, 2015. The survey included all trees 4" in diameter and greater, measured at 24". The assessment procedure consisted of the following steps:

- 1. Identifying the tree as to species;
- 2. Tagging each tree with a metal tag and recording its location on a map;
- 3. Measuring the trunk diameter at a point 24" 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

A total of 35 trees were assessed, representing 16 species (Table 1, following page). Descriptions of each tree are found in the *Tree Assessment Forms* and locations are approximated on the *Tree Assessment Map* (see Attachments).

The site was on an east to west slope, with an upper and lower tier. The upper tier contained residential buildings, sheds and animal pens, and the lower tier contained a corporation yard and an active nursery. Only those nursery trees that had been planted in the ground were included in the assessment.

The most frequently occurring species were elderberry and evergreen ash, with eight (8) trees each. Six (6) of the elderberries were concentrated on the upper tier, with the other two on the lower tier. In general, these were multi-stemmed from the base and in fair condition (7 trees). Several had trunk wounds or had been topped.

The eight (8) evergreen ash were all located in the nursery. They appeared to have been planted as screening along highway 101 and to shade the plant material. They were young, with diameters between 5 and 12" and were in fair (5 trees) to good (2 trees) condition.

Coast redwood, with three (3) trees was also present. These were young, with diameters between 8 and 12". All were in poor condition with moderate to extensive dieback.

Two (2) London planes had been planted on the upper tier, adjacent to the house and parking. London plane #328 was the dominant tree, with a trunk diameter of 28". It was in good condition, with a full crown (**Photo 1**). London plane #327 was the subordinate tree, with a trunk diameter of 10". It had been suppressed by its larger neighbor and was in fair condition, with a one-sided form.



Photo 1: London plane #328 was the largest diameter tree assessed. It was in good condition, with a full crown. It had outcompeted its smaller neighbor, London plane #327 (arrow).

The remaining 12 species included one or two individuals from a mix of exotic landscape trees and fruit and nut trees. Average tree condition was fair (20 trees, or 57% of the population). Eight (8) trees, or 23%, were in good condition, and seven (20%) were in poor. In general, the native trees were better adapted to the site and had performed better than the planted exotics.

The City of San Jose defines all trees with a diameter of 18" or greater, measured 24" above grade, as *Ordinance-size* (Ordinance 13.32, Tree Removal controls). Any multistemmed tree where the sum of the trunk diameters is 18" or greater, is also considered *Ordinance-size*. Based on this definition, 13 of the trees met the minimum size requirement to qualify as *Ordinance-size*, including 11 that had multiple stems. The City requires a permit for the proposed removal of any *Ordinance-size* tree. *Ordinance-size* trees are identified in the attached *Tree Assessment Form*.

Table 1: Condition ratings and frequency of occurrence of trees. 4200 Dove Hill Rd., San Jose CA.

Common Name	Scientific Name	<u>Cor</u>	Condition Rating		
		Poor (2)	Fair (3)	Good (4)	Trees
Albizzia	Albizia julibrissin	1	-	_	1
Lemon	Citrus limon	-	1	-	1
Raywood ash	Fraxinus oxycarpa 'Raywood'	-	-	2	2
Evergreen ash	Fraxinus uhdei	1	5	2	8
Calif. black walnut	Juglans hindsii	1	-	-	1
English walnut	Juglans regia	-	1	-	1
Mulberry	Morus alba	1	-	-	1
Oleander	Nerium oleander	-	1	-	1
Empress tree	Paulownia tomentosa	-	1	-	1
London plane	Platanus x hispanica	-	1	1	2
Almond	Prunus dulcis	-	1	-	1
Common elderberry	Sambucus nigra	-	7	1	8
Calif. pepper	Schinus molle	-	1	1	2
Coast redwood	Sequoia sempervirens	3	-	-	3
Siberian elm	Ulmus pumila	-	1	-	1
Mexican fan palm	Washingtonia robusta	-	-	1	1
Total		7 20%	20 57%	8 23%	35 100%

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. For trees growing in open fields, away from people and property, the presence of structural defects and/or poor health presents a low risk of damage or injury if they fail. However, when we invite people to use areas within and adjacent to such trees, we must be concerned about their safety. Therefore, where development encroaches into existing plantings, we must consider the potential for trees to grow and thrive in a new environment as well as their ability to remain structurally stable.

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.

Species response

There is a wide variation in the response of individual species to construction impacts and changes in the environment. In our experience, for example, English and Calif. black walnuts are sensitive to construction impacts, while London plane and coast redwood are tolerant of site disturbance.

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.

Invasiveness

Species which 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. San Jose is part of the Central West Floristic Province. Calif. pepper was the only species identified as invasive present at the 4200 Dove Hill Rd. site.

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 Form*). A summary of suitability ratings is provided in **Table 2**.

Table 2: Suitability for preservation. 4200 Dove Hill Rd., San Jose CA.

High

These are trees with good health and structural stability that have the potential for longevity at the site. Three (3) trees were considered as being highly suitable for preservation, including: Calif. pepper #324, London plane #328 and Mexican fan palm #345.

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. Twenty (20) trees were moderately suitable for preservation, including: seven (7) elderberries, six (6) evergreen ash, two Raywood ash, and one (1) each of London plane, Lemon, Empress tree, oleander, and Siberian elm.

(Continued, following page)

Table 2: Suitability for preservation, continued. 4200 Dove Hill Rd., San Jose CA.

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. Twelve (12) trees had low suitability for preservation, including: the three (3) coast redwoods, two 92) of the evergreen ash, and one (1) each of common elderberry, Calif. pepper, albizia, almond, Calif. black walnut, English walnut and mulberry.

We cannot recommend retention of trees with poor 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.

Evaluation of Impacts

Appropriate tree retention develops a practical match between the location, intensity of construction activity and the quality and health of trees. The *Tree Assessment Form* was the reference point for tree condition and quality. Potential impacts from construction were evaluated using the Grading and Drainage Plans, prepared by Langan Engineering (dated March 2015).

The plans showed grading and drainage, but utility information and accurate tree locations were not included. Potential impacts from construction were estimated for each tree. Precise impacts will have to be determined once trees have been located and plotted, and the plans are finalized. For these reasons, the recommendations provided in this report must be considered preliminary.

The plan proposed to construct an assisted living facility on the site with 290 units in two buildings. Dove Hill Rd. would be improved and access roads would be constructed on the east side of building and south side of building B. A new sidewalk would be installed along the east side of Dove Hill Rd. at the southern end, and would continue along the south side of the access road adjacent to building B. Bioswales would be installed across the site, with a bioretention basin constructed in the northwest corner.

Based on my evaluation of the Conceptual Grading and Drainage Plans, 20 trees would be impacted by the proposed improvements, requiring their removal (Table 3, following page). This includes 14 trees that would fall within building B, three (3) trees within building A, and three (3) trees that would be impacted by the road improvements. Eighteen (18) of the trees identified for removal were of moderate or poor suitability for preservation (7 poor and 11 moderate), and seven (7) *Ordinance-size* trees. The City of San Jose requires a removal permit for the proposed removal of any *Ordinance-size* tree (Ordinance 13.32, Tree Removal controls).

Fifteen (15) trees can be preserved, including six (6) *Ordinance-size* trees (Table 3, following page). Preservation of trees is predicated on following the *Tree Preservation Guidelines* provided at the end of this document.

Preliminary Mitigation Calculation

Based on the City of San Jose's standard mitigation measure (San Jose Municipal Code, Section 13.32.020), the approved removal of any tree requires mitigation. The approved removal of the six (6) native trees (including three >18", one 12-18" and two <12" in diameter), 14 non-native trees (including four >18", two 12-18", and eight <12" in diameter) would require a total of 48 mitigation plantings. Trees with diameters less than 12" are to be replaced with 15 gallon, and those with diameters above 12" are to be replaced with 24" boxes. Ten (10) of the mitigation trees would have to be 15 gallon and 38 would have to be 24" box (Table 4, page 7).

As an alternative, one (1) 24" box can be counted as two (2) 15 gallon trees. Additionally, if the site cannot accommodate the number of mitigation plantings, alternative sites may be identified by the City for plantings, or an in-lieu fee of \$300 per tree may be donated for off-site tree planting.

Table 3. Recommendations for action. 4200 Dove Hill Rd., San Jose CA.

Tag #	Species	Diameter	Ordinance	Action
_	-		size?	
317	Calif. black walnut	6,5	No	Remove, within road imp.
318	Common	4,3	No	Remove, within bldg. B
	elderberry			
319	Common	7,3,2,1,1,1	No	Remove, within bldg. B
	elderberry			
320	Common	14,13,13	Yes	Remove, within bldg. B
	elderberry			
321	Almond	10,5,4	Yes	Preserve, outside impacts
322	Common	8,2,1	No	Remove, within road imp.
	elderberry			
323	Albizzia	5	No	Remove, within bldg. B
324	Calif. pepper	15	No	Remove, within bldg. B
325	English walnut	7,5,5,4	Yes	Remove, within bldg. B
326	Mulberry	11	No	Remove, within bldg. B
327	London plane	10	No	Remove, within bldg. B
328	London plane	28	Yes	Remove, within bldg. B
329	Coast redwood	8,8,7	Yes	Remove, within bldg. B
330	Raywood ash	5	No	Remove, within bldg. B
331	Coast redwood	11	No	Remove, within bldg. B
332	Common	13,9,8,6,5,5,4	Yes	Remove, within bldg. B
	elderberry			
333	Coast redwood	12	No	Remove, within bldg. B
334	Common	5,4,4,3,2,1,1,1	Yes	Preserve, outside impacts
	elderberry			
335	Raywood ash	7,6,6,5	Yes	Preserve, outside impacts
336	Calif. pepper	18,12	Yes	Preserve, within landscaping
337	Evergreen ash	12	No	Preserve, within landscaping
338	Common	5,4,3,1,1,1	No	Preserve, within landscaping
	elderberry			
339	Evergreen ash	12	No	Preserve, within landscaping
340	Evergreen ash	8,6	No	Preserve, within landscaping
341	Evergreen ash	8,7,7,5	Yes	Preserve, within landscaping
342	Evergreen ash	7,4	No	Preserve, within landscaping
343	Empress tree	6	No	Preserve, within landscaping
344	Evergreen ash	5	No	Preserve, within landscaping

345 Mexican fan palm 23 Yes Preserve , withi	in landscaping
346 Evergreen ash 5 No Preserve , within	in landscaping
347 Evergreen ash 6,2,1 No Preserve , with	in landscaping
348 Common 7,6,5 Yes Remove, within	n bldg. A
elderberry	
349 Siberian elm 10,10,8 Yes Remove, within	n road imp.
350 Lemon 6,5 No Remove, within	n bldg. A
351 Oleander 6,5 No Remove, within	n bldg. A

Table 4. Preliminary mitigation calculation. 4200 Dove Hill Rd., San Jose CA.

Diameter of tree to be	Tree to be	Removed		r & size cement es	Replacement total	
removed	Native	Non- Native	Orchard	15 Gallon	24" Box	
18 inches or greater	3	4	0	0	31	31
12 - 18 inches	1	2	0	0	7	7
less than 12 inches	2	8	0	10	0	10
Totals	6	14	0	10	38	48

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. Trees retained on sites that are subject to extensive injury during construction and are not adequately maintained become a liability rather than an asset.

Impacts can be minimized by coordinating demolition and construction activities within the **TREE PROTECTION ZONE**. The following recommendations will help maintain and improve the health and vitality of trees preserved at the 4200 Dove Hill Rd. site.

Design recommendations

- Have the vertical and horizontal locations of all the trees identified for preservation established and plotted on all plans. Forward these plans to the Consulting Arborist for review and comment.
- 2. Any plan affecting trees should be reviewed by the Consulting Arborist with regard to tree impacts. These include, but are not limited to, improvement plans, utility plans, and landscape and irrigation plans.
- 3. A TREE PROTECTION ZONE must be established for trees to be preserved, in which no soil disturbance is permitted. The TREE PROTECTION ZONE for all trees identified for preservation shall be defined at dripline in all directions.
- 4. No underground services including utilities, sub-drains, water or sewer shall be placed in the **TREE PROTECTION ZONE**.

- 5. Irrigation systems must be designed so that no trenching will occur within the TREE PROTECTION ZONE.
- 6. Tree Preservation Guidelines should be included on all plans.
- 7. Any herbicides placed under paving materials must be safe for use around trees and labeled for that use.

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.
- Trees to be retained shall be fenced to completely enclose the TREE PROTECTION
 ZONE. Fences are to be 6' chain link on posts driven firmly into the ground.
 Fences must be established prior to any grading or site work and are to remain
 until all construction is completed.
- 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.
- 4. Prior to the start of grading, trees may require pruning to correct defects in structure, clean the crown and/or provide construction clearance. Pruning and aerial inspections shall be completed by a Certified Arborist or Tree Worker, and 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.
- 5. Brush shall be chipped and spread beneath the trees within the **TREE PROTECTION ZONE.**
- 6. 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. 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.
- Fences have been erected to protect trees to be preserved. Fences define a
 specific TREE PROTECTION ZONE for each tree or group of trees. Fences are to
 remain until all site work has been completed. Fences may not be relocated or
 removed without permission of the Consulting Arborist.
- 4. Construction trailers, traffic and storage areas must remain outside fenced areas at all times.

- 5. Any grading, construction, demolition or other work within the **TREE PROTECTION ZONE** should be monitored by the Consulting Arborist.
- 6. Any root pruning required for construction purposes shall receive the prior approval of, and be supervised by, the Consulting Arborist.
- 7. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the **Tree Protection Zone**.
- 8. Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.

Maintenance of impacted trees

Trees preserved at the 4200 Dove Hill Rd. site will experience a physical environment different from that pre-development. Following construction, new owners should develop a management plan that includes pruning, fertilization, mulch, pest management, replanting and irrigation. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority. As trees age, the likelihood of failure of branches or entire trees increases.

HortScience, Inc.

John Leffingwell

Board Certified Master Arborist WE-3966B Registered Consulting Arborist #442

Attached: Tree Assessment Form

Tree Assessment Map

Tree Assessment

4200 Dove Hill Road

San Jose, California May 2015



TREE No.	SPECIES	SIZE DIAMETER (in inches)	ORDINANCE SIZE	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
317	Calif. black walnut	6,5	No	2	Low	Codominant trunks at base; dead top.
318	Common elderberry	4,3	No	3	Moderate	Codominant trunks at base; trunk wounds.
319	Common elderberry	7,3,2,1,1,1	No	3	Moderate	Multiple attachments at base; trunk wounds.
320	Common elderberry	14,13,13	Yes	3	Moderate	Multiple attachments at 1'; some stems removed; dieback.
321	Almond	10,5,4	Yes	3	Low	Multiple attachments at 3'; trunk wounds/rubbing damage.
322	Common elderberry	8,2,1	No	4	Moderate	Codominant trunks at base; good form.
323	Albizzia	5	No	2	Low	Moderate dieback; epicormics.
324	Calif. pepper	15	No	4	High	Multiple attachments at 10'; good form and structure.
325	English walnut	7,5,5,4	Yes	3	Low	Multiple attachments at 3'; topped at 10'; moderate dieback.
326	Mulberry	11	No	1	Low	Extensive trunk decay.
327	London plane	10	No	3	Moderate	Codominant trunks at 5'; suppressed; one sided SW.
328	London plane	28	Yes	4	High	Multiple attachments at 5'; good form and structure; dieback.
329	Coast redwood	8,8,7	Yes	1	Low	Multiple attachments at base: extensive dieback.
330	Raywood ash	5	No	4	Moderate	Sweeps W. from base; full canopy.
331	Coast redwood	11	No	2	Low	Dead top: moderate dieback.
332	Common elderberry	13,9,8,6,5,5,4	Yes	3	Moderate	Multiple attachments at base; some stems topped; dieback.
333	Coast redwood	12	No	2	Low	Extensive dieback.

Tree Assessment

4200 Dove Hill Road

San Jose, California May 2015



TREE No.	SPECIES	SIZE DIAMETER (in inches)	ORDINANCE SIZE	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
334	Common elderberry	5,4,4,3,2,1,1,1	Yes	3	Moderate	Multiple attachments at base; most stems topped; dieback.
335	Raywood ash	7,6,6,5	Yes	4	Moderate	Multiple attachments at base; full canopy.
336	Calif. pepper	18,12	Yes	3	Low	Partial failure; growing horizontal W.
337	Evergreen ash	12	No	4	Moderate	Codominant trunks at 3'; minor dieback.
338	Common elderberry	5,4,3,1,1,1	No	3	Low	Multiple attachments at base; leans W.; dieback.
339	Evergreen ash	12	No	4	Moderate	Multiple attachments at 10'; upright form; topped for overhead utilities.
340	Evergreen ash	8,6	No	3	Moderate	Codominant trunks at base; topped for overhead utilities.
341	Evergreen ash	8,7,7,5	Yes	3	Moderate	Multiple attachments at 2'; topped for overhead utilities.
342	Evergreen ash	7,4	No	3	Moderate	Codominant trunks at base; topped for overhead utilities.
343	Empress tree	6	No	3	Moderate	Topped for overhead utilities.
344	Evergreen ash	5	No	1	Low	Dead top; topped for overhead utilities.
345	Mexican fan palm	23	Yes	5	High	Good form and structure; 15' of brown trunk.
346	Evergreen ash	5	No	3	Moderate	Topped for overhead utilities.
347	Evergreen ash	6,2,1	No	3	Low	Topped at 2'; poor structure.
348	Common elderberry	7,6,5	Yes	3	Moderate	Multiple attachments at base; behind fence, could not inspect base.
349	Siberian elm	10,10,8	Yes	3	Moderate	Multiple attachments at 2'; topped; poor structure.

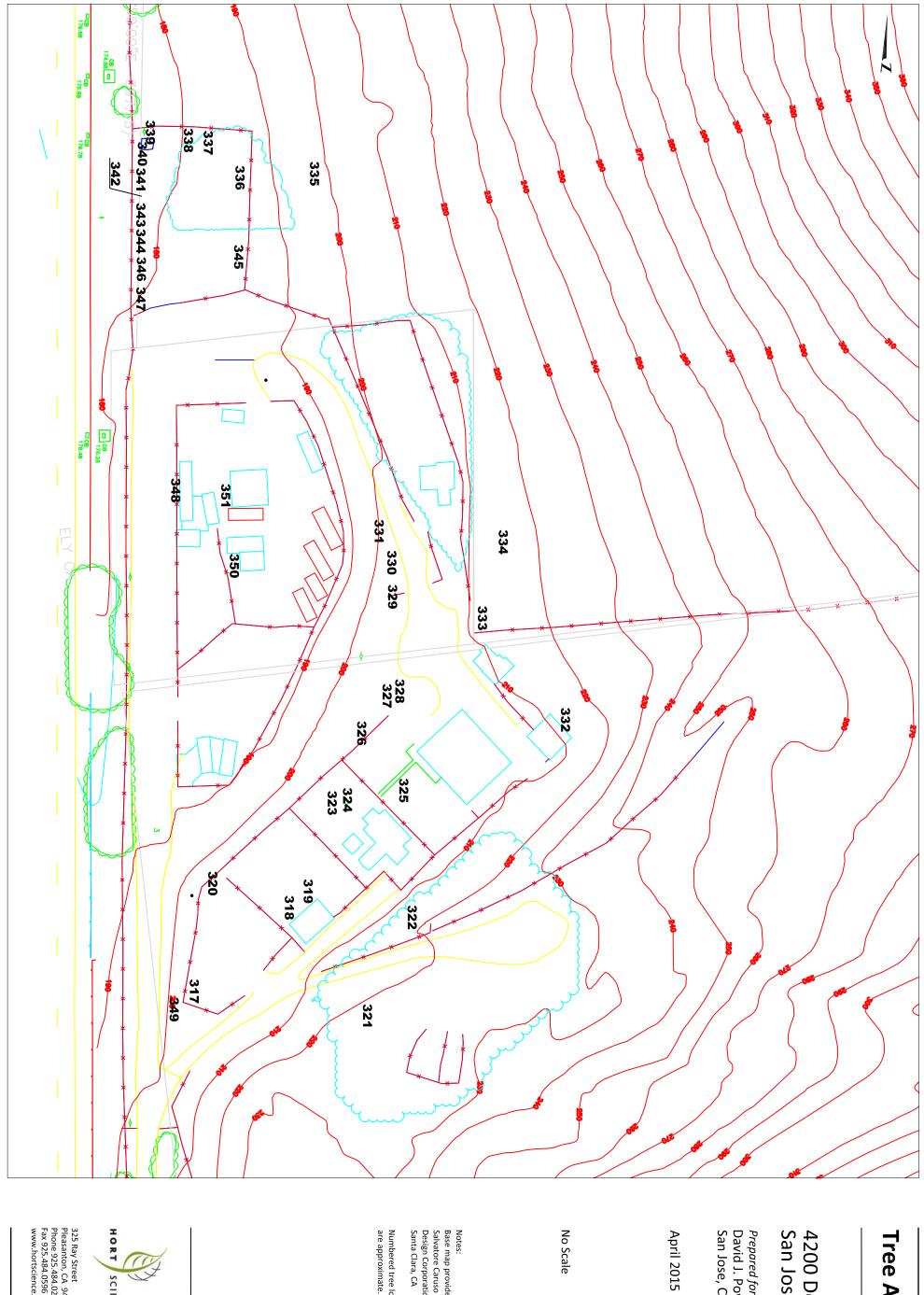
Tree Assessment

4200 Dove Hill Road

San Jose, California May 2015



TREE No.	SPECIES	SIZE DIAMETER (in inches)	ORDINANCE SIZE	CONDITION 1=POOR 5=EXCELLENT	SUITABILITY FOR PRESERVATION	COMMENTS
350	Lemon	6,5	No	3	Moderate	No tag; codominant trunks at base; behind fence, could not inspect base.
351	Oleander	6,5	No	3	Moderate	No tag; could not inspect base: No tag; codominant trunks at base; behind fence, could not inspect base.



Tree Assessment Plan

4200 Dove Hill Road San Jose, CA

Prepared for:
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San Jose, CA

Notes:
Base map provided by:
Salvatore Caruso
Design Corporation
Santa Clara, CA

Numbered tree locations are approximate.



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