11.3 Tree Evaluation

Fred Nelles School - Tree Evaluation

For: 18500 Whittier Blvd, Whittier, California

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Table of Contents

Introduction **1**
Project Background 1
Assignment 2
Summary 3
Aerial Map 4

Findings **5**
Compliance with State Law and Local Regulations 5
California Environmental Quality Act Analysis 5
General Conditions Affecting Tree Health and Condition 6
Explanation of Abbreviations Used in the Matrix 8
Matrix Headings 9
Matrix of Individual Findings 9

Discussion **23**
Preservation Decisions 23
Tree Health 24
New Trees 24
Existing Trees 25
Overall Health Profile 26
Overall Structural Condition Profile 26

Recommendations **27**
Recommendations for Tree Replacement 27
Matrix Headings 28
Matrix of Recommendations 28
Tree Protection of Trees Protected in Place 44
Recommendations for New Planting 45

Disclaimer **46**

Appendix **47**
A. Resume 48
B. Glossary 49
C. Photographic Documentation 52

Certification **78**

Introduction

Project Background

The Project site assessed in this report is generally comprised of two areas: a former youth correctional facility area (approximately 73.7 acres); and an adjacent commercial area (approximately 2.3 acres) located at the eastern corner of the site; refer to Figure 1, Aerial Map. The youth correctional facility is fully developed with structures, hardscapes, landscaping, and associated infrastructure related to the site's prior use. The 2.3-acre property is currently occupied by a commercial use (auto recycling business) and vacant railroad right-of-way. A proposed master planned community and commercial center is proposed on Project site under a Specific Plan which will include the preservation, relocation and/or removal and replacement of trees on the property. Although not required by the City of Whittier's Municipal Code, Brookfield Residential has engaged Arborgate Consulting, Inc. to prepare this Tree Evaluation Report per the scope of work described in the Assignment section, below.

A state tree survey was completed in December 2004, which numbered each tree on the site, identified the tree species, size and if the tree was in poor health. This survey report updates the 2004 survey using the same numbering scheme as the prior report and expands upon the health of each tree in more detail and incorporates recommendations on tree removal, replacement or preservation strategies based on the survey findings.

Assignment

Based on a previous tree inventory and assessment, my assignment was to provide updated arboricultural evaluation of about 460 trees' health and condition, suitability for preservation in place and capability of being transplanted, and report as appropriate for the developer and City of Whittier.

1. As the preliminary portion of work, this consultant visited the site and updated the existing inventory, determined the current health and structural condition of the trees, and made preliminary recommendations for removal of dead or high risk trees. Preliminary recommendations will be developed for the disposition of these trees, including those which can be transplanted and are worth transplanting, those that can be protected in place, and those that should be removed.
   - The inventory and evaluation of the existing trees will be referenced using the existing map and number system shown on the plans provided.
   - At a minimum 4” DBH size, species, structural condition and health will be updated.
   - The structural condition and health will be rated on an A-F basis, with A being excellent, B – good, C –not dying or improving, D-declining and F-dead or close to it.
   - Pest or disease symptoms will be noted, including obvious outward signs of internal decay.
   - Representative photographs will be included to provide documentation and understanding of current conditions.
2. Recommendations of immediate measures to improve long term health and condition and appropriate short term maintenance will be addressed.

   If requested, a separate proposal for a detailed tree preservation report can be provided. If requested, this consultant will also review other plans produced, on an hourly or lump sum basis, for their impact on the long term health of the trees. Pruning supervision, tree moving supervision or long term maintenance review is also available on request. On-going support will be available under separate agreement until completion of the project.

Summary

All of the trees presently on the Project site are stressed from being abandoned and unirrigated for the last ten years since the youth facility closed in 2004. Many have died or been removed since the original state tree survey was done. Some seedlings of the onsite trees have also grown up as "weed trees;" however, without irrigation these weed trees are also stressed and not in good condition. Lacking pruning, many of the trees have cracks, breaks and tear-outs. In 2009 Arborgate performed a tree survey and prepared a summary tree report for the same site and found that many of the trees were in poor condition due to lack of care during and after the Nelles facility's operations. Since then, many trees have declined significantly, which can largely be attributed to the recent years of drought and lack of appropriate maintenance.

Due to common poor structural condition of the trees, shallow root conditions, and declining health, many trees should be removed as they are unstable and pose hazardous conditions. Only three trees are in suitable condition for transplanting, if feasible. With appropriate corrective pruning, interim irrigation, weed control, and decay testing a good number of these trees may be brought back to a healthy and sound state. At this time there are a number of hazardous tree conditions and those visiting the site in the meantime should be careful to look up and look out for broken hanging limbs, unstable trees or trees with a splitting main fork.

Aerial Map

Whittier Blvd
El Camino Real
72
Rincon Dr
Keith Dr
Loch Lomand Dr
Havenwood Dr
Bexley Dr
Townley Dr
Fred C. Nelles Youth Correctional Facility
Google earth

Findings

Compliance with State Law and Local Regulations

Neither State law nor local regulations contained in the City of Whittier Municipal Code provide protection for any of the tree species identified on the Project site. Trees on the site are not regulated by the Oak Woodlands Conservation Act (Section 1360 et seq. of the California Fish and Game Code), as there no protected oak trees (genus *Quercus*) on the site. The trees on-site are additionally not classified as desert native plants covered by the California Desert Native Plants Act (Section 80001 et seq. of the California Food and Agricultural Code). The Municipal Code makes no provision for protection of trees on private property.

California Environmental Quality Act Analysis

The loss of trees can be considered a significant environmental impact under the California Environmental Quality Act (CEQA) Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations) in the following circumstances:

- *Potential Impact:* An impact to *aesthetics* could exist where a project removes trees near a state scenic highway.
  Site Evaluation: The project site is not within the vicinity of any state scenic highway; therefore, there would be no impact resulting from the loss of trees near a state scenic highway.
- *Potential Impact:* An impact to *biological resources* could exist where a project impacts sensitive plant species or impacts the habitat of sensitive wildlife and other species.

Site Evaluation: There are no sensitive-status tree species on the site, as determined by the species lists maintained by the California Department of Fish & Wildlife and the U.S. Fish & Wildlife Service. A complete assessment of biological resources impacts is beyond the scope of this report; however, because none of the trees are protected, the removal of trees from the site cannot be considered a significant impact in itself.

- *Potential Impact:* An impact to *biological resources* could exist if there were a conflict with local policies protecting trees.
  Site Evaluation: As noted in "Compliance with State Law and Local Regulations," above, the removal of trees on the site would not conflict with any State law or local ordinance.

Based on this evaluation, no impact related to CEQA is expected as a result of tree removal on the site.

General Conditions Affecting Tree Health and Condition

Going ten years without irrigation, and some of those years during a drought, can be hard on trees, especially riparian species. On the other hand many of the cypress, deodars, eucalypts, jacarandas, pines, and other more drought tolerant species appear in relatively good health, considering. Many of the palms are in surprisingly good health. Many established species can last for years without irrigation, but if roots were cut their ability to survive would be much less than trees that have been receiving regular irrigation. Many declining trees could still be restored with immediate supplemental irrigation. Even some of the more riparian species, e.g. sweet gums, tulip trees, and redwoods, were clearly still capable of being restored to health if they were irrigated.

Only a few signs of pest problems were observed. Stressed trees have little in the way of stored reserves to ward off pests or compartmentalize decay. Of special concern are the various types of borers that attack drought stressed trees. Since there is a good diversity of tree species, a measure of protection is provided in that pests are less likely to spread or build up populations to serious levels.

Good health is not an all-inclusive endorsement. The structural condition and safety of trees must also be considered. The care these trees received over the operational years was not good, and pruning, mulching, pest management and irrigation ended a decade or more in the past. In addition, trees must be in both good health and condition to be successful transplanting candidates. Transplanting very large trees is very expensive and it takes decades for them to recover. Transplanting very large stressed trees is not likely to be successful.

Many trees had been topped or headed back. State Government Code 53067 decries such pruning. The damage and defects caused by lack of early training or maintenance pruning can rarely be corrected to a sufficient degree to keep them safe in a new more public setting. In a number of cases corrective pruning could sufficiently reduce the risk of limb drop. A question

will remain if after pruning they still have adequate appearance to contribute to the future landscape. Trees that cannot be made sufficiently safe and sound should be removed early, especially when they crowd better trees. Trees with decay will need testing to determine how much strength has been lost. Such trees should not be transplanted, because the stress of transplanting will limit the trees' ability to compartmentalize decay.

A large percent of the trees are just not attractive and cannot be pruned, irrigated and fertilized enough to make them attractive. They have lost large limbs; have awkward forms, flat sides or other defects that reduce their value to the project. Ultimately, future businesses on site will need to have an attractive and pleasant environment to be inviting and be economically feasible. Homes sites have to be attractive enough to sell. These are trees and they do not have intrinsic value like humans do. If they do not suit the project, and no one else wants to pay to come get them, they should be removed.

The trees that were damaged by fire(s) have not all been ruined. While they may look unattractive due to the blackening of the trunks, light sand-blasting could restore an acceptable appearance. Naturally trees that have all the limbs on one side burned off will have no future value to the project.

Large surface roots indicated that some areas have shallow soils that will limit root depth. Before deciding to transplant any trees or deciding how close roots can be cut, I suggest that the effective depth of roots be measured by digging observation trenches in representative areas near those trees. Few trees will be able to stay in place and root depth will be an important criterion to determine which trees can be safely transplanted. It will also help decide how close roots can be cut for hardscape or utilities.

Explanation of Abbreviations Used in the Matrix

The size, species, evaluation of health, structural condition, location, and the description of defects, health and condition of the trees are listed below. Arboricultural terms are defined in the glossary.

Underlined abbreviations indicate severity. An “m” in front of an abbreviation indicates minor significance e.g., mDb = minor dieback. Term in the following matrix and the one found in Recommendations will be explained in the Glossary.

1s=one-sided
1sS = one sided limbs
2long = limb too long
Binj=basal injury
Brk = break
Cod=codominant
Cr=crowded
CrS = crowded scaffolds
Crk = crack
Db=dieback
DBH – Diameter at breast height, i.e. 54”
Dk=decay
DkB=basal decay
DkT = trunk decay
DL=Dog-leg
EH=end heavy
Epi = epicormic shoots
FC=flush cut
Gird = girdling root or wire
Hd = headed
Inc=included bark
Inj=injury
Binj = basal injury
Tinj=trunk injury
Rinj=root injury
Lt=lion-tailed
Mg-def= magnesium deficiency
OL = over-lifted
Sh = shallow roots
Sp=sparse
T = trunk
T-bow = trunk bowed
th = trunk height
TO=tear out
Xing = crossing limbs

Matrix Headings

In the matrix below the map numbers are consistent with the 2004 state tree survey. DBH stands for diameter at breast height, which is by standard 54 inches above average grade. Trees marked as "Gone" were listed on the state survey, but are no longer there. Health scores are A thru F, as in school grades. A = excellent, B = good, C = average, D = declining, and F = dead or close to it. The same is true for structural quality in A thru C scores. D = weak and F = failure is likely soon. The abbreviations used under "Notes" are as explained on page 8. Question marks indicate uncertainty if the disease is present and that further testing is required to confirm.

Matrix of Individual Findings

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
101	Jacaranda acutifolia	Jacaranda	26	C	C		Cod FC Db epi
102	Jacaranda acutifolia	Jacaranda	23	D	D		DLT brk epi Hd
103	Jacaranda acutifolia	Jacaranda	25	C-	D		T-bow cod inc FC
104	Jacaranda acutifolia	Jacaranda	26	C	C		Lean 1sS epi cod
105	Jacaranda acutifolia	Jacaranda	30	C	C		Lean cod Hd
106	Jacaranda acutifolia	Jacaranda	32	D	D		Sp cod inc HANGER
107	Jacaranda acutifolia	Jacaranda	23	C	D		Brk cod Db
108	Jacaranda acutifolia	Jacaranda	22	C-	C-		Cod Hd deep
109	Magnolia grandiflora	Southern magnolia	21	D-	C		Cod Db
110	Jacaranda acutifolia	Jacaranda	16	D	C		Cod lean Sp
111	Jacaranda acutifolia	Jacaranda	30	D	D		Cod Dk inc epi brk
112	Jacaranda acutifolia	Jacaranda	30	C	D		Lean 2long cod HANGER
113	Jacaranda acutifolia	Jacaranda	33	B	C		Lean epi cod Xing
114	Jacaranda acutifolia	Jacaranda	36	C	D		Cod inc epi brks Hd HANGER
115	Liquidambar styraciflua	Sweetgum	13	D	B	Xylella?	Dry Db
116	Liquidambar styraciflua	Sweetgum	22	D	C-	Xylella?	Dry Db 2long
117	Pittosporum undulatum	Victorian box	5+6+7	C-	D		Dry Db cod
118	Jacaranda acutifolia	Jacaranda	22	C-	D		1s cod brk DL 2long
119	Ceratonia siliqua	Carob	39	B	D		Brk Xing DL epi HANGER
120	Pittosporum undulatum	Victorian box	12	C	D		DLT 1s
121	Jacaranda acutifolia	Jacaranda	23	C	C		Cod brk Db epi
122	Cinnamomum camphora	Camphor tree	10	C-	B		mCod mDb
123	Casuarina stricta	Beefwood	28	C	C		Db 2long EH
124	Jacaranda acutifolia	Jacaranda	23	C	D		Hd cod inc epi lean

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
125	Jacaranda acutifolia	Jacaranda	27	C	C		DL epi cod Dk-TO
126	Jacaranda acutifolia	Jacaranda	28	C	C		Cod T-bow Hd epi Dk
127	Magnolia grandiflora	Southern magnolia	15	F	D		Almost dead
128	Magnolia grandiflora	Southern magnolia	16	F	D		Almost dead
129	Washingtonia hybrid	Hybrid fan palm	27'th	C	B		Cortex injury at base
130	Magnolia grandiflora	Southern magnolia	19	F	D		Almost dead
131	Magnolia grandiflora	Southern magnolia	14	F	F		Dead
132	Jacaranda acutifolia	Jacaranda	18	C	C		OL 1s Hd Xing epi
133	Jacaranda acutifolia	Jacaranda	30	C-	D		Cod brks Hd epi 2long
134	Podocarpus gracilior	Fern pine	16	C	C		Cod Sp mDb
135	Podocarpus gracilior	Fern pine	16	C	B		Sp mDb
136	Podocarpus gracilior	Fern pine	23	B	C		Cod Sp mDb 2long
137	Lagerstroemia indica	Crape myrtle	Gone				
138	Podocarpus gracilior	Fern pine	24	C	C		DLT cod Sp Db
139	Juniperus chinensis Torulosa.	Twisted juniper	14	D	D		TO FC Db
140	Podocarpus gracilior	Fern pine	29	C	D		Cod Sp DL Db
141	Podocarpus gracilior	Fern pine	32	C	C-		2long cod brk FC
142	Phoenix canariensis	Canary Island date .	50'th	C-	C	Fusarium?	Penciled mMg-def, small head
143	Phoenix canariensis	Canary Island date .	60'th	B	B	Fusarium?	Mg-def dry
144	Grevillea robusta	Silk oak	48	B	D		Dk topd HAZARD
145	Pinus canariensis	Canary Island pine	20	B	B		2long sags
146	Jacaranda acutifolia	Jacaranda	18	B	C-		Cod inc seam brks
147	Olea europaea	Olive	14	C-	C-	Xylella?	1s Db
148	Ulmus parvifolia	Chinese evergreen elm	23	B	B		Hd 2long
149	Jacaranda acutifolia	Jacaranda	21	C	D		Topd epi brk
150	Phoenix canariensis	Canary Island date .	60'th	C-	C	Fusarium?	Penciled mMg-def,
151	Phoenix canariensis	Canary Island date palm	55'th	C-	C	Fusarium?	Penciled mMg-def,
152	Phoenix canariensis	Canary Island date palm	65'th	B	B	Fusarium?	Mg-def
153	Liquidambar styraciflua	Sweetgum	12	C-	B		mDb
154	Callistemon citrinus	Bottlebrush	12	C-	D		Sp Db brks cod inc
155	Jacaranda acutifolia	Jacaranda	9	F	F		Dead
156	Jacaranda acutifolia	Jacaranda	10	D-	D-		Almost dead
157	Jacaranda acutifolia	Jacaranda	25	C	D		Cod inc Xing 2long
158	Jacaranda acutifolia	Jacaranda	34	C-	C		HANGER lean cod Sp
159	Yucca elephantipes	Giant yucca	18	B	B		see map
160	Pinus canariensis	Canary Island pine	30	B	C		2long

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
161	Pinus canariensis	Canary Island pine	38	B	C-		Cod 2long
162	Pinus canariensis	Canary Island pine	40	B	C		Cod 2long
163	Jacaranda acutifolia	Jacaranda	19	C-	D		Brk Hd cod epi
164	Jacaranda acutifolia	Jacaranda	26	C	D		Brk Hd cod epi HANGER
165	Jacaranda acutifolia	Jacaranda	26	C	D		Brk Hd cod epi
166	Juniperus chinensis Torulosa.	Twisted juniper	22"b	B	B		OL
167	Liquidambar styraciflua	Sweetgum	17	C-	C-		Short internodes cod
168	Jacaranda acutifolia	Jacaranda	24	C-	C		2long cod
169	Jacaranda acutifolia	Jacaranda	20	F	F		Dead
170	Jacaranda acutifolia	Jacaranda	21	C	B		Cod 2long
171	Jacaranda acutifolia	Jacaranda	25	C	C-		Dk cod T-bow brk 2long
172	Jacaranda acutifolia	Jacaranda	19	D	B		Dry FC cod DL
173	Jacaranda acutifolia	Jacaranda	30	C	B		Cod 2long
174	Jacaranda acutifolia	Jacaranda	18	C	D		FCs lean DLT cod brk
175	Jacaranda acutifolia	Jacaranda	22	C	C		Bees in cavity brk cod
176	Jacaranda acutifolia	Jacaranda	30	C-	D		Brk DL epi cod HANGER
177	Jacaranda acutifolia	Jacaranda	24"b	C-	D		Brk cod TO
178	Jacaranda acutifolia	Jacaranda	242+25	B	D		Cod brk DL epi
179	Pinus canariensis	Canary Island pine	26	C	C		2long
180	Pinus canariensis	Canary Island pine	32	C	C		2long EH
181	Pinus canariensis	Canary Island pine	Gone				
182	Magnolia grandiflora	Southern magnolia	Stump				
183	Pinus patula	Jelecote pine	Stump				
184	Pinus canariensis	Canary Island pine	32	B	C		2long leans
185	Pinus canariensis	Canary Island pine	28	B	B		2long mLean
186	Pinus canariensis	Canary Island pine	25	B	A		good
187	Pinus canariensis	Canary Island pine	23	B	C		OL possible DkB
188	Pinus canariensis	Canary Island pine	18	D	C		Db Cr189
189	Pinus canariensis	Canary Island pine	28	C-	D		Db Cr188
190	Pinus canariensis	Canary Island pine	42	B	C		1s OL root damage opp lean
191	Eucalyptus polyanthemos	Silver Mt. gum	Stump				
192	Pinus canariensis	Canary Island pine	24	C	C-		1s fire damage
193	Pinus canariensis	Canary Island pine	28	C	D		2long
194	Pinus halepensis	Aleppo pine	28	C-	D		Cod lean Db 2long
195	Celtis sinensis	Chinese hackberry	30	C-	D		Hd Db cod Xing
196	Magnolia grandiflora	Southern magnolia	12	D	D		Db cod inc Xing

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
197	Magnolia grandiflora	Southern magnolia	10	D-	D		Almost dead
198	Liriodendron tulipifera	Tulip tree	16	C-	C		Db 2long
199	Pinus canariensis	Canary Island pine	32	B	C		2long
200	Fraxinus velutina 'Modesto'	Modesto ash	Gone				
201	Jacaranda acutifolia	Jacaranda	19	C	D		Db brk epi cod Hd
202	Koelreuteria elegans	Chinese flame tree	44	C-	C		Test-4-Dk cod Db
203	Melia azedarach	Chinaberry	20	B	C		Cod inc brk 2long Binj
204	Jacaranda acutifolia	Jacaranda	12	D	D		1s cod DkT Binj
205	Jacaranda acutifolia	Jacaranda	19	C-	D		Brk Hd
206	Pinus canariensis	Canary Island pine	25	C	C		mFire damage Db
207	Pinus canariensis	Canary Island pine	35	D	D		Fire damage, 1s dead 2long
208	Pinus canariensis	Canary Island pine	17	D	D		Fire damage, 1s dead
209	Fraxinus velutina	Arizona ash	22	D	D		HANGER cod inc 2long
210	Cinnamomum camphora	Camphor tree	31	C-	C		Cod Db
211	Eucalyptus polyanthemos	Silver Mt. gum	18	D	D		Brks stress crks 2long
212	Eucalyptus polyanthemos	Silver Mt. gum	34	C	D		Fire damage stress crks Xing
213	Fraxinus velutina 'Modesto'	Modesto ash	17	F	F		Fire damage, dead
214	Eucalyptus polyanthemos	Silver Mt. gum	22	C-	D		Fire damage, brk epi DLT
215	Pinus canariensis	Canary Island pine	24	D	D		Fire damage
216	Pinus canariensis	Canary Island pine	37	C-	C		Fire damage
217	Eucalyptus polyanthemos	Silver Mt. gum	26	C	C		Fire damage, bark colored only
218	Eucalyptus polyanthemos	Silver Mt. gum	32	C	C-		Fire damage, bark colored only
219	Pinus canariensis	Canary Island pine	33	B	C		Cod
220	Pinus canariensis	Canary Island pine	29	B	C		2long
221	Pinus canariensis	Canary Island pine	34	B	C		2long cod
222	Brassaia actinophylla	Octopus tree	16	C	B		Cod inc
223	Washingtonia robusta	Mexican fan palm	60'th	B	A		Okay
224	Washingtonia robusta	Mexican fan palm	50'th	B	A		Okay
225	Washingtonia robusta	Mexican fan palm	50'th	B	A		Okay
226	Washingtonia robusta	Mexican fan palm	50'th	B	A		Okay
227	Jacaranda acutifolia	Jacaranda	18	D	C-		Brk DL 2long epi
228	Jacaranda acutifolia	Jacaranda	16	B	C-		FC gall brk epi
229	Magnolia grandiflora	Southern magnolia	18	C-	D		Cod epi DL mDb
230	Magnolia grandiflora	Southern magnolia	14	D	C-		Cod Db
231	Sapium sebiferum	Chinese tallow tree	14	D	D		Cod brk
232	Fraxinus velutina 'Modesto'	Modesto ash	Gone				

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
233	Fraxinus velutina	Arizona ash	20	D	C-		Db cod brks
234	Pinus canariensis	Canary Island pine	29	B	B		2long
235	Pinus canariensis	Canary Island pine	26	B	C		2long
236	Pinus canariensis	Canary Island pine	32	B	C		2long
237	Pinus canariensis	Canary Island pine	30	B	C		2long
238	Eucalyptus polyanthemos	Silver Mt. gum	30	C	C		Cod 2long
239	Washingtonia robusta	Mexican fan palm	75'th	C	C		T-bow Tinj
240	Washingtonia robusta	Mexican fan palm	80'th	B	C		Tinj
241	Eucalyptus polyanthemos	Silver Mt. gum	33	B	C		Fire damage, brk
242	Eucalyptus polyanthemos	Silver Mt. gum	16	C	D		Fire damage, FC 1s Xing
243	Eucalyptus polyanthemos	Silver Mt. gum	43	B	C		Fire damage, TO 2long
244	Pinus halepensis	Aleppo pine	44	C	D		Cod inc OL leans
245	Robinia pseudoacacia	Black locust	16+17	C-	D		Bees in cavity Db cod inc
246	Washingtonia robusta	Mexican fan palm	35'th	B	B		Clump
247	Washingtonia robusta	Mexican fan palm	50'th	B	B		Clump
248	Washingtonia robusta	Mexican fan palm	40'th	C	B		Clump
249	Melia azedarach	Chinaberry	30+22	C	D		Horizontal T, brk cod
250	Melia azedarach	Chinaberry	24	C	D		Split T, Db brks TO
251	Bauhinia variegata	Purple orchid tree	17	C	C-		Cod T-bow Db epis DL
252	Melia azedarach	Chinaberry	38	B	C-		Cod inc CrS 2long brks
253	Jacaranda acutifolia	Jacaranda	27	B	B		2long Hd
254	Liquidambar styraciflua	Sweetgum	12	B	B		Sp-early?
255	Liquidambar styraciflua	Sweetgum	7	B	C-		Sp TO cod inc
256	Liquidambar styraciflua	Sweetgum	5	C	C-	Xylella?	Tinj brk
257	Liquidambar styraciflua	Sweetgum	5	B	C		Tinj brk cod top
258	Sequoia sempervirens	Coast redwood	27	D	D		Cod inc Db
259	Lagerstroemia indica	Crape myrtle	7	C-	B		Dry Db
260	Liquidambar styraciflua	Sweetgum	19	D	C-		Top dead seam 2long
261	Liquidambar styraciflua	Sweetgum	9	D	C-		Top dead 2long
262	Liquidambar styraciflua	Sweetgum	9	C	B		Weak top, 2long
263	Liquidambar styraciflua	Sweetgum	10	C	C		Cod inc 2long
264	Liquidambar styraciflua	Sweetgum	12	D	D		Top dead
265	Pinus canariensis	Canary Island pine	27	B	C		2long
266	Magnolia grandiflora	Southern magnolia	13	C	C		Sp epis cod
267	Magnolia grandiflora	Southern magnolia	18	D	C		DL cod Xing 2long
268	Podocarpus gracilior	Fern pine	34	B	B		2long

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
269	Ceratonia siliqua	Carob	36	C	D		Dk cod T-bow brk 2long
270	Ceratonia siliqua	Carob	44"b	C	D		Cod crk HAZARD
271	Ceratonia siliqua	Carob	48	C	C-		fc Dk TO
272	Cupressus sempervirens	Italian cypress	26"b	A	B		Cod
273	Cupressus sempervirens	Italian cypress	25"b	A	B		Cod
274	Jacaranda acutifolia	Jacaranda	31	C-	D		TO crks 2long
275	Jacaranda acutifolia	Jacaranda	24	C	C		Cod DL Dk 2long epi
276	Jacaranda acutifolia	Jacaranda	28	C	C		Dk DL TO epi
277	Jacaranda acutifolia	Jacaranda	30	B	C-		Cod brk 2long T-bow
278	Lagerstroemia indica	Crape myrtle	5	C	C		Cod LB deep
279	Liquidambar styraciflua	Sweetgum	14	B	C		Bleeds FC OL
280	Koelreuteria elegans	Chinese flame tree	42	C	C		Cod FC DL
281	Koelreuteria elegans	Chinese flame tree	42	C-	C		Cod FC 2long
282	Liquidambar styraciflua	Sweetgum	21	C	C-		Bleeds cod brks
283	Washingtonia robusta	Mexican fan palm	45'th	B	B		Okay
284	Jacaranda acutifolia	Jacaranda	19	C	D		Dk brk epi 2long cod inc
285	Callistemon viminalis	Weeping bottlebrush	13	D	D		Sp brk Xing cod inc
286	Callistemon viminalis	Weeping bottlebrush	13	D	D		Sp cod inc
287	Callistemon viminalis	Weeping bottlebrush	13	D	C		Cod Sp
288	Cinnamomum camphora	Camphor tree	14	C-	C-		Cod brk Db epi
289	Cinnamomum camphora	Camphor tree	22	C	C-		FC Dk cod Db
290	Cinnamomum camphora	Camphor tree	19	D	C-		FC Db cod Db epi
291	Magnolia grandiflora	Southern magnolia	12	C-	C		Lean Db cod
292	Jacaranda acutifolia	Jacaranda	20	C	C		Leans brk
293	Phoenix canariensis	Canary Island date palm	60'th	B	B	Fusarium?	good
294	Schinus terebinthifolius	Brazilian pepper	22	B	D		Brk OL DL
295	Jacaranda acutifolia	Jacaranda	20	C-	D		DLT 1s epi
296	Jacaranda acutifolia	Jacaranda	Gone				
297	Magnolia grandiflora	Southern magnolia	18	D	B		Dry Db
298	Washingtonia robusta	Mexican fan palm	60'th	B	B		Okay
299	Phoenix canariensis	Canary Island date palm	80'th	B	B	Fusarium?	Mg-def
300	Diospyros kaki	Persimmon	8	C	C		Xing 1s 2long
301	Phoenix canariensis	Canary Island date palm	60'th	F	F	Fusarium?	Fell and cut up
302	Jacaranda acutifolia	Jacaranda	19	C	D		1s cod inc FC
303	Magnolia grandiflora	Southern magnolia	14	F	F		dead
304	Magnolia grandiflora	Southern magnolia	16	F	F		dead

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
305	Araucaria heterophylla	Norfolk Island pine	20	B	B		Bent top
306	Sequoia sempervirens	Coast redwood	20+18	C	B		Passion vine in canopy
307	Liquidambar styraciflua	Sweetgum	28	D	D		TO brk dead top
308	Sequoia sempervirens	Coast redwood	18	D	C-		Dead top
309	Sequoia sempervirens	Coast redwood	40"b	D	D		Cod inc dead top
310	Sequoia sempervirens	Coast redwood	39"b	D	D		Cod inc dead top
311	Sequoia sempervirens	Coast redwood	16	F	F		Dead
312	Sequoia sempervirens	Coast redwood	12+6+6	D	D		Almost dead
313	Sequoia sempervirens	Coast redwood	11	C	C		OL
314	Sequoia sempervirens	Coast redwood	18	D-	D		Almost dead
315	Sequoia sempervirens	Coast redwood	16	F	F		Dead
316	Sequoia sempervirens	Coast redwood	16	D	C		Top dead
317	Cedrus deodara	Deodar cedar	25	D	D		Db 1s DL
318	Cedrus deodara	Deodar cedar	23	C-	D		Db brks 2long
319	Cedrus deodara	Deodar cedar	Stump	F	F		
320	Morus alba	Fruitless mulberry	21	C-	D		Cod inc Xing topd
321	Phoenix canariensis	Canary Island date palm	25'th	C	B	Fusarium?	Dry
322	Grevillea robusta	Silk oak	38	B	C-		Cod inc risky 2long
323	Cupressus sempervirens	Italian cypress	42	D	D		Db cod inc Xing
324	Jacaranda acutifolia	Jacaranda	22	C	C		DLT cod leans
325	Jacaranda acutifolia	Jacaranda	19	C	C		Cod brks T-bow
326	Jacaranda acutifolia	Jacaranda	25	C-	C-		Cod TO brks
327	Magnolia grandiflora	Southern magnolia	20	F	F		dead
328	Ligustrum lucidum	Glossy privet	36	D-	F		Bees in cavity cod
329	Persea americana	Avocado	14"b	D-	D	Phytophthora?	Almost dead
330	Magnolia grandiflora	Southern magnolia	28	D-	C		Almost dead
331	Liquidambar styraciflua	Sweetgum	Gone				
332	Fraxinus uhdei	Shamel ash	Gone				
333	Fraxinus uhdei	Shamel ash	50	C	C		Cod 2long DL epi
334	Salix lasiolepis	Arroyo willow	8	D	D-		Split Db Xing
335	Gone	gone	Gone				
336	Albizia julibrissin	Mimosa	20	C-	D-		Dk Db Hd
337	Magnolia grandiflora	Southern magnolia	11	C-	C-		Db cod CrS dry
338	Juglans sp.	Walnut	20	D	C-		Dk Db cod FC
339	Fraxinus velutina 'Modesto'	Modesto ash	26	D	D		1sDb cod inc
340	Platanus x acerifolia.	London plane tree	26	C-	C		Db 2long

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
341	Stump	Stump	26	F	F		
342	Liquidambar styraciflua	Sweetgum	22	F	F	Xylella?	Dead
343	Cedrus deodora	Deodar cedar	24	C	C		Dry
344	Phoenix canariensis	Canary Island date palm	60'th	B	A	Fusarium?	mMg-def
345	Magnolia grandiflora	Southern magnolia	15	D-	D		Ivy on T
346	Magnolia grandiflora	Southern magnolia	13	D-	D		Ivy on T, Wisteria
347	Phoenix canariensis	Canary Island date palm	14'th	C	C	Fusarium?	Feed B4 transplanting
348	Jacaranda acutifolia	Jacaranda	30	B	B		Cod seam epi
349	Citrus reticulata.	Tangerine	10"b	F	F		Dead
350	Citrus limon	Lemon	11	D	C	Aphids-mites	Cod Db DL pale
351	Cedrus deodora	Deodar cedar	17	B	C		Lost top
352	Jacaranda acutifolia	Jacaranda	23+21	B	C		Hd Dk DL epi
353	Liquidambar styraciflua	Sweetgum	16	D	D	Xylella?	Cod Db
354	Cinnamomum camphora	Camphor tree	16	D	C		Cod Db
355	Liriodendron tulipifera	Tulip tree	27	C	C		Dk Db Sags
356	Cedrus deodora	Deodar cedar	31	B	C-		HANGER brks 2long
357	Magnolia grandiflora	Southern magnolia	Gone				
358	Magnolia grandiflora	Southern magnolia	28	D	D		Db 1s cod inc
359	Persea americana	Avocado	9+12	F	F	Phytophthora?	Dead
360	Phoenix canariensis	Canary Island date palm	65'th	B	B	Fusarium?	good
361	Ulmus parvifolia	Chinese evergreen elm	32	F	F		Dead + other dead tree
362	Persea americana	Avocado	33	F	F	Phytophthora?	Dead + other dead tree
363	Jacaranda acutifolia	Jacaranda	14	C-	D		Brks
364	Persea americana	Avocado	12	F	F	Phytophthora?	Dead
365	Persea americana	Avocado	10	F	F	Phytophthora?	Dead
366	Ulmus parvifolia	Chinese evergreen elm	24	C	C		2long Lt DL
367	Ulmus parvifolia	Chinese evergreen elm	23	B	C		2long Lt DL Sh
368	Ulmus parvifolia	Chinese evergreen elm	21	B	C		2long Lt DL
369	Phoenix canariensis	Canary Island date palm	50'th	B	B	Fusarium?	Dry ivy on T
370	Phoenix canariensis	Canary Island date palm	20'th	B	B	Fusarium?	Dry
371	Magnolia grandiflora	Southern magnolia	19	D	C		Db Rinj OL
372	Chorisia speciosa	Floss silk tree	27	C	C		Cod
373	Calodendron capense	Cape chestnut	31	B	B		Cod DL
374	Citrus limon	Lemon	11"b	D	C		Almost dead
375	Phoenix canariensis	Canary Island date palm	70'th	B	B	Fusarium?	Good
376	Washingtonia robusta	Mexican fan palm	36'th	C-	B		Declining

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
377	Magnolia grandiflora	Southern magnolia	12+12	F	D		Dead
378	Phoenix canariensis	Canary Island date palm	16'th	C	B	Fusarium?	Mg-def
379	Phoenix canariensis	Canary Island date palm	20'th	B	B	Fusarium?	Good
380	Phoenix canariensis	Canary Island date palm	80'th	B	B	Fusarium?	good
381	Cedrus deodora	Deodar cedar	60	B	C		OL 2long FC
382	Jacaranda acutifolia	Jacaranda	28	C	C		2long DL cod
383	Ceratonia siliqua	Carob	48	C-	D		Dk cod inc Lt Db crk HAZARD
384	Ceratonia siliqua	Carob	36	D	D		HAZARD crk
385	Ceratonia siliqua	Carob	42	C	D-		HAZARD Dk
386	Jacaranda acutifolia	Jacaranda	16	C	D		Brks 1s epi
387	Jacaranda acutifolia	Jacaranda	28	C	D		TO 2long epi
388	Jacaranda acutifolia	Jacaranda	34	C	D		HANGER TO2long cod
389	Jacaranda acutifolia	Jacaranda	25	C	D		Brk TO lean FC Xing epi
390	Tabebuia impetiginosa	Purple trumpet tree	2+2	C-	C-		Cod Xing
391	Erythrina caffra	Coral tree	24+18+14	B	D		Dk falling apart
392	Jacaranda acutifolia	Jacaranda	15	C	C-		Leans cod DL
393	Phoenix canariensis	Canary Island date palm	60'th	B	B	Fusarium?	4' high root boss
394	Jacaranda acutifolia	Jacaranda	28	C	C-		TO DL Dk 2long
395	Zelkova serrata	Saw tooth Zelkova	17	F	D		Dead
396	Zelkova serrata	Saw tooth Zelkova	7	F	F		Dead
397	Phoenix canariensis	Canary Island date palm	25'th	C	B	Fusarium?	Mg-def
398	Pittosporum japonica	Japanese Pittosporum	14+6+13+9	D	D		Cod inc Db
399	Melaleuca quinquenervia	Paperbark tree	12	C	B		Cod Db
400	Koelreuteria bipinnata	Goldenrain tree	14	C	B		Cod
401	Melaleuca quinquenervia	Paperbark tree	10+14	B	C		Cod inc
402	Carya illinoensis	Pecan	19	C	B		By bldg.
403	Eucalyptus citriodora	Lemon scented gum	18	C-	D-	past psyllids	1s Db
404	Melia azedarach	Chinaberry	17	B	C		by bldg. 1s lean
405	Stump	stump	Gone				
406	Chorisia speciosa	Floss silk tree	34	B	C		2long
407	Chorisia speciosa	Floss silk tree	35	B	C		CrS 2long Sh
408	Liquidambar styraciflua	Sweetgum	17	B	C		2long
409	Sequoia sempervirens	Coast redwood	25	B	A		B-epi
410	Persea americana	Avocado	30	C-	C	Phytophthora?	Cod DL
411	Persea americana	Avocado	20	C-	C	Phytophthora?	DL cod
412	Persea americana	Avocado	22	C-	C	Phytophthora?	DL cod

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
413	Persea americana	Avocado	20	C-	C	Phytophthora?	DL cod
414	Catalpa speciosa	Catalpa	Stump				
415	Catalpa speciosa	Catalpa	14	C	D		Tinj Bow'd DkB
416	Catalpa speciosa	Catalpa	13	C	D		Tinj lean DkB
417	Ulmus parvifolia	Chinese evergreen elm	34	C	C		Cod DL crk HAZARD
418	Tabebuia impetiginosa	Purple trumpet tree	15	B	B		Good
419	Ulmus parvifolia	Chinese evergreen elm	24	C	C-		DkT bow'd DL
420	Grevillea robusta	Silk oak	41	C	D		Topd DL cod
421	Grevillea robusta	Silk oak	42	B	D		HAZARD cod inc Dk topd
422	Brachychiton populneum	Bottle tree	18	C-	C		Deep OL
423	Brachychiton populneum	Bottle tree	17	C-	C		Deep OL
424	Brachychiton populneum	Bottle tree	13	C-	C		Deep OL
425	Brachychiton populneum	Bottle tree	19	C	C		OL
426	Brachychiton populneum	Bottle tree	gone				
427	Liquidambar styraciflua	Sweetgum	6	D	D		Dead top
428	Melia azedarach	Chinaberry	Gone				
429	Cinnamomum camphora	Camphor tree	58	C-	C		Db epi cod
430	Pittosporum undulatum	Victorian box	20	D	D	Verticillium?	Dk cod inc Db Sp
431	Bauhinia variegata	Purple orchid tree	16	B	D		FC cod inc
432	Bauhinia variegata	Purple orchid tree	14"b	C	D		1s DLS Db
433	Zelkova serrata	Saw tooth Zelkova	22	C-	C		Dry, cod inc (typical)
434	Liriodendron tulipifera	Tulip tree	21	D	D		Dead top 2long
435	Washingtonia robusta	Mexican fan palm	30'th	B	B		okay
436	Ulmus parvifolia	Chinese evergreen elm	18	C	C		mDb cod DL
437	Bauhinia variegata	Purple orchid tree	18	F	D-		Dk
438	Celtis sp.	Hackberry	6+6+6	D	D		Db Dk cod stump sprouts
439	Washingtonia robusta	Mexican fan palm	18'th	B	A		okay
440	Fraxinus velutina 'Modesto'	Modesto ash	24	F	F		Dead
441	Persea americana	Avocado	24	F	F	Phytophthora?	Dead
442	Celtis sp.	Hackberry	20	F	F		Dead
443	Persea americana	Avocado	24	F	F	Phytophthora?	Dead
444	Cedrus deodara	Deodar cedar	Gone				
445	Pinus canariensis	Canary Island pine	22	A	B		Wisteria climbs it
446	Persea americana	Avocado	26"b	D-	D	Phytophthora?	Almost dead
447	Persea americana	Avocado	28"b	D-	D	Phytophthora?	Almost dead
448	Persea americana	Avocado	34"b	D-	D	Phytophthora?	Almost dead

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
449	Persea americana	Avocado	26"b	D	D	Phytophthora?	Almost dead
450	Persea americana	Avocado	18+21	D	D	Phytophthora?	Almost dead
451	Persea americana	Avocado	11+11	D-	D	Phytophthora?	Almost dead
452	Ulmus parvifolia	Chinese evergreen elm	18	C	C		FC DL 2long
453	Persea americana	Avocado	48	D	D	Phytophthora?	Db cod inc Dk
454	Citrus limon	Lemon	4+4+4+4	F	F		Dead
455	Citrus limon	Lemon	10"b	D	C		Db
456	Citrus limon	Lemon	11	D	C		Db
457	Citrus limon	Lemon	7"b	D-	C		Db
458	Jacaranda acutifolia	Jacaranda	40"b	B	C-		mDb cod epi
459	Cupressus sempervirens	Italian cypress	15"b	C-	D		Suppressed
460	Jacaranda acutifolia	Jacaranda	42	C	D		Epi cod DL Xing
461	Lagerstroemia indica	Crape myrtle	5+5+5+4	C	C		Cod inc
462	Lagerstroemia indica	Crape myrtle	7+6+6+4	B	C	Mildew	Cod inc brk
463	Eriobotrya japonica	Loquat	10	C	B		Dry
464	Eriobotrya japonica	Loquat	11	B	C		Dry
465	Eriobotrya japonica	Loquat	8.5	D	C	Fire blight	Dry Db
466	Washingtonia robusta	Mexican fan palm	gone				
467	Eucalyptus polyanthemos	Silver Mt. gum	25	B	C-		Xing cod 2long
468	Jacaranda acutifolia	Jacaranda	25	B	C-		Brk epi cod
469	Jacaranda acutifolia	Jacaranda	27	C-	C		Brk epi FC
470	Jacaranda acutifolia	Jacaranda	25	C	C		Brk epi DLT 2long
471	Jacaranda acutifolia	Jacaranda	25	C-	C-		Brk epi
472	Jacaranda acutifolia	Jacaranda	18	C	D		Brk epi FC
473	Magnolia grandiflora	Southern magnolia	17	D-	C-		FC Db epi
474	Eucalyptus camaldulensis	Red gum	24	C	C-		Brks cod Xing
475	Washingtonia robusta	Mexican fan palm	32'th	C	C-		T-bow / DLT
476	Yucca elephantipes	Giant yucca	Stump				
477	Yucca elephantipes	Giant yucca	Stump				
478	Jacaranda acutifolia	Jacaranda	26	C	C		Cod DL FC brk
479	Jacaranda acutifolia	Jacaranda	24	B	C-		Sinj Bowed 2long
480	Jacaranda acutifolia	Jacaranda	18	C	C		Cod Hd DL
481	Jacaranda acutifolia	Jacaranda	Stump				
482	Jacaranda acutifolia	Jacaranda	Gone				
483	Liquidambar styraciflua	Sweetgum	22	C-	D		Cod mBleeding
484	Liquidambar styraciflua	Sweetgum	9	B	C		Cod

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
485	Sapium sebiferum	Chinese tallow tree	18"b	D	D		Db cod brk Hd
486	Gingko biloba	Gingko	10	C	C		Cod deep
487	Eucalyptus citriodora	Lemon scented gum	45	B	C		2long Xing on curb
488	Jacaranda acutifolia	Jacaranda	25	C	C-		DL Hd epi cod CrS
489	Jacaranda acutifolia	Jacaranda	25	B	D		TO seam brks
490	Jacaranda acutifolia	Jacaranda	20	D	C		Dry cod
491	Jacaranda acutifolia	Jacaranda	18	D	D		Cod brk 2long epi DL
492	Schinus terebinthifolius	Brazilian pepper	22	B	C-		root sprouts-RoundUp
493	Schinus terebinthifolius	Brazilian pepper	19	D	D		Almost dead
494	Koelreuteria elegans	Chinese flame tree	38	D	C		Dry cod Dk
495	Koelreuteria elegans	Chinese flame tree	40	C-	C		Dry cod
496	Koelreuteria elegans	Chinese flame tree	40	B	C		mDb cod
497	Koelreuteria elegans	Chinese flame tree	40	C	C		Dry
498	Pinus canariensis	Canary Island pine	Gone				
499	Jacaranda acutifolia	Jacaranda	18+18	C-	C-		Brk cod 2long
500	Pinus halepensis	Aleppo pine	38	C	D		Cod FC 2long
501	Washingtonia robusta	Mexican fan palm	55'th	B	A		Joined at base to 502
502	Washingtonia robusta	Mexican fan palm	60'th	B	A		Joined at base to 501
503	Washingtonia robusta	Mexican fan palm	60'th	B	A		Good
504	Pinus pinea	Italian stone pine	42	C	C-		Hd top 2long cod
505	Liriodendron tulipifera	Tulip tree	16	D	C-		Dead top
506	Magnolia grandiflora	Southern magnolia	8	C-	C-		Dry Sp Db
507	Pinus canariensis	Canary Island pine	28	D-	D		Fire damage
508	Pinus canariensis	Canary Island pine	25	D	C		Fire damage
509	Pinus canariensis	Canary Island pine	23	D	D		Fire damage FC
510	Pinus canariensis	Canary Island pine	16	C	B		OL mFire damage
511	Pinus canariensis	Canary Island pine	38	B	C		Possible Dk, test
512	Eucalyptus camaldulensis	Red gum	58	C-	C-	Tortoise beetles	Brks cod 2long
513	Eucalyptus camaldulensis	Red gum	40	C	C-		DLT DLS TO
514	Callistemon citrinus	Bottlebrush	16	C	C-		Cod inc 2long Sp
515	Callistemon citrinus	Bottlebrush	gone				
516	Pinus canariensis	Canary Island pine	40	B	C		2long Possible Dk BB
517	Fraxinus velutina	Arizona ash	26	C	D		Split cod inc
518	Fraxinus velutina	Arizona ash	16	D	D		Leans cod inc
519	Eriobotrya japonica	Loquat	6	B	B		1s
520	Cinnamomum camphora	Camphor tree	34	C	C		Db epi

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
521	Liquidambar styraciflua	Sweetgum	25	C-	D		Cod 2long Db
522	Morus alba	Fruitless mulberry	10" stump				
523	Jacaranda acutifolia	Jacaranda	22	C	C-		1s brk epi TO Dk
524	Jacaranda acutifolia	Jacaranda	22	C-	C-		Topd brk DL epi FC
525	Jacaranda acutifolia	Jacaranda	24	C	D		Active lean, bacterial galls
526	Cupressus sempervirens	Italian cypress	12	A	B	Mites	In paving
527	Cupressus sempervirens	Italian cypress	12	A	A	Mites	In paving
528	Cupressus sempervirens	Italian cypress	11	A	A	Mites	In paving
529	Cupressus sempervirens	Italian cypress	10	B	B	Mites	
530	Cupressus sempervirens	Italian cypress	8	C	D	Mites	Falling apart
531	Cupressus sempervirens	Italian cypress	10	B	B	Mites	okay
532	Cupressus sempervirens	Italian cypress	13	B	A	Mites	okay
533	Lagerstroemia indica	Crape myrtle	6.2	D-	C		Dry, almost dead
534	Lagerstroemia indica	Crape myrtle	8	B	C		Surface weed whip damage
535	Lagerstroemia indica	Crape myrtle	4.5	F	D		Dead
536	Pinus halepensis	Aleppo pine	26	C	D		Cod OL Db
537	Pinus canariensis	Canary Island pine	26	B	C		1s cod inc FC
538	Cedrus deodara	Deodar cedar	14	D	D		Db OL
539	Stump	stump	17	F			
540	Fraxinus uhdei	Shamel ash	48	D	D		Cod inc Db
541	Pinus pinea	Italian stone pine	42	C	D		HAZARD crk cod inc
542	Washingtonia robusta	Mexican fan palm	60'th	B	B		Good
543	Pinus pinea	Italian stone pine	30	C	D		Brk 1s Db
544	Pinus halepensis	Aleppo pine	30	C	D		Lean cod 1s
545	Ficus carica	Fig	gone				
546	Fraxinus uhdei	Shamel ash	56	B	C		Cod inc
547	Eriobotrya japonica	Loquat	gone				
548	Liquidambar styraciflua	Sweetgum	14	C	C		mBleeding FC
549	Liquidambar styraciflua	Sweetgum	19"b	F	F		Dead
550	Washingtonia robusta	Mexican fan palm	50'th	B	B		Joined at base with 552
551	Washingtonia robusta	Mexican fan palm	55'th	B	B		Joined at base with 551
552	Fraxinus velutina	Arizona ash	20	C-	C-		Cod inc brk Db
553	Schinus terebinthifolius	Brazilian pepper	25	C	D		Xing Db brks epi root sprouts
554	Ficus carica	Fig	gone				
555	Ficus carica	Fig	gone				
556	Ficus carica	Fig	gone				

Map	Botanical Name	Common Name	DBH	Health	Structure	Pest/Disease	Notes
557	Melia azedarach	Chinaberry	gone				
558	Magnolia grandiflora	Southern magnolia	14	C-	C		DLT cod
559	Magnolia grandiflora	Southern magnolia	13	D	C		Cod top Dk Db
560	Magnolia grandiflora	Southern magnolia	14	C-	C		Cod top Dk Db
561	Magnolia grandiflora	Southern magnolia	12	C-	C		Cod top Db
562	Magnolia grandiflora	Southern magnolia	11	C-	C		Cod Db

DBH measurements were made using a Biltmore stick or calipers, depending on size.

Arboricultural terms will be defined in the glossary.

Discussion

Preservation Decisions

Based on this tree survey, few if any trees can be retained in the future project design due conflicts with grading and drainage that are caused by clearance distances, existing root structures and tree placement.

However, there are a good number of trees that could be restored to health given enough time and specific care. While this project is in planning stages or approval stages much could be done to improve both their health and soundness. Project design is still at the conceptual, Specific Plan stage; therefore the final placement of buildings, roads, utilities and other improvements will not be determined until later stages. Considering the size of most of these trees, preserving and protecting trees in place and building around them may be achievable in limited circumstances due to impacts to grading and drainage that are caused by clearance distances. Where feasible, trees that are identified as being in a health condition of C or better may be considered for preservation. If not feasible, replacement recommendations are identified below. The information in this report can help guide designers in where to place the buildings, roads and other improvements while keeping desirable trees.

The clearance recommendations are intended to provide enough space, if properly protected, to retain stability and health. If someone is willing to risk some loss of health, but not risk stability, there is another "standard" developed through Bartlett Tree Research's field study where they pull tested field grown trees after cutting roots at different distances from the trunk. That study found that if roots were cut more than 3 to 5 times trunk diameter no significant stability was lost. This says nothing about health effects, just immediate loss of stability. Here some roots are close to the surface. Large roots should

clearly not be cut closer than 4 or 5 times trunk diameter, but I believe that some carefully controlled work can take place inside the clearance radius, if done carefully and exposed roots are well protected during the work. Excessive root damage is inevitable if not carefully supervised.

One of the most dominant species on site are the jacarandas. Street tree superintendents consider it a species prone to storm damage. Growing in turf weakens their wood leading to more failures. To restore a sound structure and allow nearly all to remain in place will be a difficult assignment. Only the best tree services can really provide the skill level needed to do this restoration, and it will take at least three years of a consistent pruning program. Also it will require the same or a narrower street width so that curbs do not need to cut in closer to the tree trunks. As it is the canopies are so close together that moving in a replacement will be a serious challenge.

The greatest risk will be if workers cut roots close to the trunks, then cover everything over, without discussing it before hand or mentioning it to the owner or his representative.

Tree Health

New Trees

American Forests Magazine reported about 15 to 20 years ago that the average life expectancy of an urban tree (i.e. in 4-foot sidewalk cut outs) was about 7 years, nationwide. Los Angeles and Miami reported an average life expectancy of 17 years for their urban trees. The main reason urban street trees don't last long is lack of root space. Root space is expressed in terms of volume. The typical urban four foot cutout would not have been dug deeper than 3 feet, nor would *most* trees grow roots deeper than 3 feet. The soil under the paving is usually compacted to at least 90% Proctor density which is often sufficient to stop roots from penetrating much outside the original planting hole, except just under the paving. In such urban spaces root volume may be as little as 48 cubic feet. If roots are confined to 48 cubic feet, they will have short lives and be dead or dying in less than 20 years.

There are many strategies to increase root space for urban trees, such as those described in *Reducing Infrastructure Damage by Tree Roots*, by Costello and Jones, available through the Western Chapter of the International Society of Arboriculture (530) 892-1118.

The Street Tree Seminar current edition of *Street Trees Recommended for Southern California*, recommends various minimum parkway, median or cutout sizes. As the building setbacks and design allows, the planter space for new trees should at least make those minimum dimensions.

One example is to increase the amount of root space and longevity of new trees, trenching between tree wells is recommended. The backfill into these trenches should be amended per an agronomic soil lab's analysis and recommendations and placed at less than 80% compaction if the soil is clay-like. This will likely require re-engineering the sidewalk above to span the trenches.

While pipes, conduits and utilities running the length must puncture the end root barriers, wrapping the pipes, conduit or other utilities with BioBarrier fabric should prevent or reduce roots escaping at these points. BioBarrier can also be laid horizontally under the paving or base to further reduce the risk of root damage.

Existing Trees

After ten years of neglect and drought the health of almost all the trees on site has been significantly reduced, even if it is not visibly evident. There are a few species, like some of the pines, Italian cypress and Silver Mountain gum, that grow naturally in areas with rainfall similar to our area, but after our recent drought even those are under some level of stress. In such states of stress trees are less likely to transplant successfully. If trees on this site look adequately healthy, they have usually managed to spread their roots over a large area to draw water from a larger volume of soil. Transplanting loses about 90% of the roots, even more if the tree has grown under drought stress. Also trees have the ability to store water under wetter conditions, but after a long drought this internal reserve of water is depleted. Even trees not being transplanted will be impacted more by root cutting if they have been drought stressed.

If new utilities are near large trees, serious damage to the roots and the trees' health could result. It will be important in the design phase to route utilities well away from trees that may be retained. This is the best time to consider these issues. Deep irrigation or rain is needed to make the trees more resilient to the coming construction stresses.

Another consideration is that drought stressed trees are more susceptible to borers. Rather than bathing the trees in insecticide, keeping them adequately hydrated is the better solution to prevention of borers.

After ten years of neglect, limbs have grown too long and weak branch attachments have been ignored and left unpruned. Corrective pruning should be carefully controlled. The type and degree of pruning these trees need is outside the skill set of most tree services. Good supervision is the key to good pruning. In the Recommendations section I have listed the obvious defects that were observed. It is these that need to be addressed, not just thinning or lion-tailing the trees. Proper pruning for these trees at this time will need more supervision and control than usual. Thinning or excessive pruning will not "balance top and bottom" as some believe. Sunlight on green foliage is the source of real tree food. This food "fuels" root production, new conductive vessels, new wood and pest resisting chemicals. Limbing up should also be carefully controlled. Remove no more than 25% of the foliage. Drought stressed trees should have as little green foliage removed as possible until they recover and grow normally. Definitely do not do thinning, lacing or anything more than dead-wooding or serious defect correction until they recover.

Different tree species have different seasons for pruning. Pruning all the trees at the same time would be a serious mistake, but a common one. Pruning out of season results in dieback and poor recovery. Do not even expect that all tree services know the proper season. Proper supervision by certified arborists is recommended.

No pathology samples have been taken from these trees. Some symptoms of pest and disease were observed. However, drought, root cutting and injury will make the pines more susceptible to borers. In this area, as a group, pines have the greatest risk of borers. If roots are lost or dried out, light fertilizing may be necessary, but it must be after the tree has been rehydrated and be based on an agronomic analysis of soil from the root zone.

Overall Health Profile

The largest health category is “C”, but there are 158 trees below that level of health, and not healthy enough to transplant.

A	B	C	C-	D	D-	F
6	109	124	70	71	17	31

34 trees were stumps or completely missing.

Overall Structural Condition Profile

The largest structural category is “C”, but there are 217 trees below that level of soundness, and not suitable to transplant. There are 161 in the “D” and below category that are not safe enough to keep without serious crown restoration.

A	B	C	C-	D	D-	F
14	62	135	56	130	6	25

34 trees were stumps or completely missing.

Recommendations

Recommendations for Tree Replacement

Neither the Whittier Municipal Code nor the Whittier Boulevard Specific Span establishes a standard mitigation requirement related to the loss of healthy trees. Therefore, based on 48 years of professional experience working in many jurisdictions and on dozens of projects in similar conditions, Arborgate Consulting, Inc. recommends the project incorporate a replacement ratio of two replacement trees for each healthy tree removed (2:1). As described in this report, 217 of the 460 trees previously identified on the site as part of past assessments have a structural condition of "C" or below and therefore would pose a public safety hazard if retained. Many of these trees are dead, in ill health, and/or are impacted by pests. Thirty-four of the 460 trees previously identified are stumps or were missing from the site entirely during the survey conducted for this report. Replacement trees should not be required for these 217 trees as they are not expected to survive in the current condition. The remaining 243 trees that could not be preserved onsite should be replaced at a 2:1 ratio. Only three trees are in a sufficiently healthy condition to potentially survive transplantation, so transplantation is not a suggested strategy except in this limited circumstance if determined feasible for the three trees identified in the Matrix of Recommendations.

The project proposes as a project design feature to replace removed existing trees at a ratio of 2:1 with varying species at a minimum size of 15 gallons. With this proposed replacement ratio, the project requires no further mitigation for the removal of existing trees.

It is important to note that continuing drought conditions may result in additional trees being classified as unhealthy or structurally unsound at a later date, when clearing of the site is initiated. Prior to initiating construction, a subsequent tree

survey should be completed by an arborist to determine if further tree health decline has occurred for trees identified for preservation or transplantation.

Matrix Headings

In the matrix below the map numbers are consistent with the 2004 state tree survey. DBH stands for diameter at breast height, which is by standard 54 inches above average grade. Trees marked as "Gone" were listed on the state survey, but are no longer there. Health scores are A thru F, as in school grades. A = excellent, B = good, C = average, D = declining, and F = dead or close to it. The same is true for structural quality in A thru C scores. D = weak and F = failure is likely soon. Under "Transplant" "No" means not suitable in health or structure quality and "Yes" means its suitable, but it may not be useful for the project, which has yet to be determined. "Protection" means in place, but it may not be useful for the project, which has yet to be determined. Some recommended for removal could be saved with some extra time and effort. "Clearance radius" is the distance to stay clear of the trunk in feet, i.e. no change in grade and no digging, storing or traffic can take place within this radius.

Matrix of Recommendations

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
101	Jacaranda acutifolia	Jacaranda	26	C	C	No	Yes	26
102	Jacaranda acutifolia	Jacaranda	23	D	D	No	No	Remove
103	Jacaranda acutifolia	Jacaranda	25	C-	D	No	Yes	25
104	Jacaranda acutifolia	Jacaranda	26	C	C	No	Yes	26
105	Jacaranda acutifolia	Jacaranda	30	C	C	No	Yes	30
106	Jacaranda acutifolia	Jacaranda	32	D	D	No	Yes	Remove
107	Jacaranda acutifolia	Jacaranda	23	C	D	No	Yes	23
108	Jacaranda acutifolia	Jacaranda	22	C-	C-	No	Yes	22
109	Magnolia grandiflora	Southern magnolia	21	D-	C	No	No	Remove
110	Jacaranda acutifolia	Jacaranda	16	D	C	No	Yes	Remove
111	Jacaranda acutifolia	Jacaranda	30	D	D	No	Yes	Remove
112	Jacaranda acutifolia	Jacaranda	30	C	D	No	Yes	30
113	Jacaranda acutifolia	Jacaranda	33	B	C	No	Yes	33
114	Jacaranda acutifolia	Jacaranda	36	C	D	No	Yes	36
115	Liquidambar styraciflua	Sweetgum	13	D	B	No	No	Remove

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
116	Liquidambar styraciflua	Sweetgum	22	D	C-	No	No	Remove
117	Pittosporum undulatum	Victorian box	5+6+7	C-	D	No	No	Remove
118	Jacaranda acutifolia	Jacaranda	22	C-	D	No	Yes	22
119	Ceratonia siliqua	Carob	39	B	D	No	No	Remove
120	Pittosporum undulatum	Victorian box	12	C	D	No	No	Remove
121	Jacaranda acutifolia	Jacaranda	23	C	C	No	Yes	23
122	Cinnamomum camphora	Camphor tree	10	C-	B	No	Yes	10
123	Casuarina stricta	Beefwood	28	C	C	No	Yes	21
124	Jacaranda acutifolia	Jacaranda	23	C	D	No	Yes	23
125	Jacaranda acutifolia	Jacaranda	27	C	C	No	Yes	27
126	Jacaranda acutifolia	Jacaranda	28	C	C	No	Yes	28
127	Magnolia grandiflora	Southern magnolia	15	F	D	No	No	Remove
128	Magnolia grandiflora	Southern magnolia	16	F	D	No	No	Remove
129	Washingtonia hybrid	Hybrid fan palm	27'th	C	B	No	Yes	5
130	Magnolia grandiflora	Southern magnolia	19	F	D	No	No	Remove
131	Magnolia grandiflora	Southern magnolia	14	F	F	No	No	Remove
132	Jacaranda acutifolia	Jacaranda	18	C	C	No	Yes	18
133	Jacaranda acutifolia	Jacaranda	30	C-	D	No	Yes	30
134	Podocarpus gracilior	Fern pine	16	C	C	No	Yes	12
135	Podocarpus gracilior	Fern pine	16	C	B	No	Yes	12
136	Podocarpus gracilior	Fern pine	23	B	C	No	Yes	17.25
137	Lagerstroemia indica	Crape myrtle	Gone					
138	Podocarpus gracilior	Fern pine	24	C	C	No	Yes	18
139	Juniperus chinensis Torulosa.	Twisted juniper	14	D	D	No	No	Remove
140	Podocarpus gracilior	Fern pine	29	C	D	No	Yes	21.75
141	Podocarpus gracilior	Fern pine	32	C	C-	No	Yes	24
142	Phoenix canariensis	Canary Island date palm	50'th	C-	C	No	Yes	5
143	Phoenix canariensis	Canary Island date palm	60'th	B	B	No	Yes	5
144	Grevillea robusta	Silk oak	48	B	D	No	No	Remove
145	Pinus canariensis	Canary Island pine	20	B	B	No	Yes	15

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
146	Jacaranda acutifolia	Jacaranda	18	B	C-	No	No	Remove
147	Olea europaea	Olive	14	C-	C-	No	No	Remove
148	Ulmus parvifolia	Chinese evergreen elm	23	B	B	No	Yes	17.25
149	Jacaranda acutifolia	Jacaranda	21	C	D	No	Yes	21
150	Phoenix canariensis	Canary Island date palm	60'th	C-	C	No	Yes	5
151	Phoenix canariensis	Canary Island date palm	55'th	C-	C	No	Yes	5
152	Phoenix canariensis	Canary Island date palm	65'th	B	B	No	Yes	5
153	Liquidambar styraciflua	Sweetgum	12	C-	B	No	Yes	12
154	Callistemon citrinus	Bottlebrush	12	C-	D	No	No	Remove
155	Jacaranda acutifolia	Jacaranda	9	F	F	No	No	Remove
156	Jacaranda acutifolia	Jacaranda	10	D-	D-	No	No	Remove
157	Jacaranda acutifolia	Jacaranda	25	C	D	No	Yes	25
158	Jacaranda acutifolia	Jacaranda	34	C-	C	No	Yes	34
159	Yucca elephantipes	Giant yucca	18	B	B	No	Yes	14
160	Pinus canariensis	Canary Island pine	30	B	C	No	Yes	22.5
161	Pinus canariensis	Canary Island pine	38	B	C-	No	Yes	28.5
162	Pinus canariensis	Canary Island pine	40	B	C	No	Yes	30
163	Jacaranda acutifolia	Jacaranda	19	C-	D	No	Yes	19
164	Jacaranda acutifolia	Jacaranda	26	C	D	No	Yes	26
165	Jacaranda acutifolia	Jacaranda	26	C	D	No	Yes	26
166	Juniperus chinensis Torulosa.	Twisted juniper	22"b	B	B	No	Yes	16
167	Liquidambar styraciflua	Sweetgum	17	C-	C-	No	Yes	17
168	Jacaranda acutifolia	Jacaranda	24	C-	C	No	Yes	24
169	Jacaranda acutifolia	Jacaranda	20	F	F	No	No	Remove
170	Jacaranda acutifolia	Jacaranda	21	C	B	No	Yes	21
171	Jacaranda acutifolia	Jacaranda	25	C	C-	No	Yes	25
172	Jacaranda acutifolia	Jacaranda	19	D	B	No	No	Remove
173	Jacaranda acutifolia	Jacaranda	30	C	B	No	Yes	30
174	Jacaranda acutifolia	Jacaranda	18	C	D	No	Yes	18
175	Jacaranda acutifolia	Jacaranda	22	C	C	No	Yes	22

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
176	Jacaranda acutifolia	Jacaranda	30	C-	D	No	Yes	30
177	Jacaranda acutifolia	Jacaranda	24"b	C-	D	No	Yes	16
178	Jacaranda acutifolia	Jacaranda	24+25	B	D	No	Yes	35
179	Pinus canariensis	Canary Island pine	26	C	C	No	Yes	19.5
180	Pinus canariensis	Canary Island pine	32	C	C	No	Yes	24
181	Pinus canariensis	Canary Island pine	Gone					
182	Magnolia grandiflora	Southern magnolia	Stump					Remove
183	Pinus patula	Jelecote Pine	Stump					Remove
184	Pinus canariensis	Canary Island pine	32	B	C	No	Yes	24
185	Pinus canariensis	Canary Island pine	28	B	B	No	Yes	21
186	Pinus canariensis	Canary Island pine	25	B	A	No	Yes	18.75
187	Pinus canariensis	Canary Island pine	23	B	C	No	Yes	17.25
188	Pinus canariensis	Canary Island pine	18	D	C	No	No	Remove
189	Pinus canariensis	Canary Island pine	28	C-	D	No	No	Remove
190	Pinus canariensis	Canary Island pine	42	B	C	No	No	Remove
191	Eucalyptus polyanthemos	Silver Mt. gum	Stump					Remove
192	Pinus canariensis	Canary Island pine	24	C	C-	No	Yes	18
193	Pinus canariensis	Canary Island pine	28	C	D	No	Yes	21
194	Pinus halepensis	Aleppo pine	28	C-	D	No	No	Remove
195	Celtis sp.	Hackberry	30	C-	D	No	No	Remove
196	Magnolia grandiflora	Southern magnolia	12	D	D	No	No	Remove
197	Magnolia grandiflora	Southern magnolia	10	D-	D	No	No	Remove
198	Liriodendron tulipifera	Tulip tree	16	C-	C	No	Yes	16
199	Pinus canariensis	Canary Island pine	32	B	C	No	Yes	24
200	Fraxinus velutina 'Modesto'	Modesto ash	Gone					
201	Jacaranda acutifolia	Jacaranda	19	C	D	No	Yes	19
202	Koelreuteria elegans	Chinese flame tree	44	C-	C	No	Yes	44
203	Melia azedarach	Chinaberry	20	B	C	No	No	Remove
204	Jacaranda acutifolia	Jacaranda	12	D	D	No	No	Remove
205	Jacaranda acutifolia	Jacaranda	19	C-	D	No	Yes	19

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
206	Pinus canariensis	Canary Island pine	25	C	C	No	Yes	18.75
207	Pinus canariensis	Canary Island pine	35	D	D	No	No	Remove
208	Pinus canariensis	Canary Island pine	17	D	D	No	No	Remove
209	Fraxinus velutina	Arizona ash	22	D	D	No	No	Remove
210	Cinnamomum camphora	Camphor tree	31	C-	C	No	Yes	31
211	Eucalyptus polyanthemos	Silver Mt. gum	18	D	D	No	No	Remove
212	Eucalyptus polyanthemos	Silver Mt. gum	34	C	D	No	No	Remove
213	Fraxinus velutina 'Modesto'	Modesto ash	17	F	F	No	No	Remove
214	Eucalyptus polyanthemos	Silver Mt. gum	22	C-	D	No	No	Remove
215	Pinus canariensis	Canary Island pine	24	D	D	No	No	Remove
216	Pinus canariensis	Canary Island pine	37	C-	C	No	Yes	37
217	Eucalyptus polyanthemos	Silver Mt. gum	26	C	C	No	Yes	26
218	Eucalyptus polyanthemos	Silver Mt. gum	32	C	C-	No	Yes	32
219	Pinus canariensis	Canary Island pine	33	B	C	No	Yes	24.75
220	Pinus canariensis	Canary Island pine	29	B	C	No	Yes	21.75
221	Pinus canariensis	Canary Island pine	34	B	C	No	Yes	25.5
222	Brassia actinophylla	Octopus tree	16	C	B	No	Yes	12
223	Washingtonia robusta	Mexican fan palm	60'th	B	A	No	Yes	4
224	Washingtonia robusta	Mexican fan palm	50'th	B	A	No	Yes	4
225	Washingtonia robusta	Mexican fan palm	50'th	B	A	No	Yes	4
226	Washingtonia robusta	Mexican fan palm	50'th	B	A	No	Yes	4
227	Jacaranda acutifolia	Jacaranda	18	D	C-	No	No	Remove
228	Jacaranda acutifolia	Jacaranda	16	B	C-	No	Yes	12
229	Magnolia grandiflora	Southern magnolia	18	C-	D	No	Yes	18
230	Magnolia grandiflora	Southern magnolia	14	D	C-	No	No	Remove
231	Sapium sebiferum	Chinese tallow tree	14	D	D	No	No	Remove
232	Fraxinus velutina 'Modesto'	Modesto ash	Gone					
233	Fraxinus velutina	Arizona ash	20	D	C-	No	No	Remove
234	Pinus canariensis	Canary Island pine	29	B	B	No	Yes	21.75
235	Pinus canariensis	Canary Island pine	26	B	C	No	Yes	19.5

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
236	Pinus canariensis	Canary Island pine	32	B	C	No	Yes	24
237	Pinus canariensis	Canary Island pine	30	B	C	No	Yes	22.5
238	Eucalyptus polyanthemos	Silver Mt. gum	30	C	C	No	Yes	30
239	Washingtonia robusta	Mexican fan palm	75'th	C	C	No	Yes	4
240	Washingtonia robusta	Mexican fan palm	80'th	B	C	No	Yes	4
241	Eucalyptus polyanthemos	Silver Mt. gum	33	B	C	No	No	Remove
242	Eucalyptus polyanthemos	Silver Mt. gum	16	C	D	No	No	Remove
243	Eucalyptus polyanthemos	Silver Mt. gum	43	B	C	No	Yes	43
244	Pinus halepensis	Aleppo pine	44	C	D	No	No	Remove
245	Robinia pseudoacacia	Black locust	16+17	C-	D	No	No	Remove
246	Washingtonia robusta	Mexican fan palm	35'th	B	B	No	Yes	4
247	Washingtonia robusta	Mexican fan palm	50'th	B	B	No	Yes	4
248	Washingtonia robusta	Mexican fan palm	40'th	C	B	No	Yes	4
249	Melia azedarach	Chinaberry	30+22	C	D	No	No	Remove
250	Melia azedarach	Chinaberry	24	C	D	No	No	Remove
251	Bauhinia variegata	Purple orchid tree	17	C	C-	No	Yes	12.75
252	Melia azedarach	Chinaberry	38	B	C-	No	No	Remove
253	Jacaranda acutifolia	Jacaranda	27	B	B	No	No	Remove
254	Liquidambar styraciflua	Sweetgum	12	B	B	No	Yes	9
255	Liquidambar styraciflua	Sweetgum	7	B	C-	No	Yes	5.25
256	Liquidambar styraciflua	Sweetgum	5	C	C-	No	Yes	5
257	Liquidambar styraciflua	Sweetgum	5	B	C	No	Yes	3.75
258	Sequoia sempervirens	Coast redwood	27	D	D	No	No	Remove
259	Lagerstroemia indica	Crape myrtle	7	C-	B	No	Yes	7
260	Liquidambar styraciflua	Sweetgum	19	D	C-	No	No	Remove
261	Liquidambar styraciflua	Sweetgum	9	D	C-	No	No	Remove
262	Liquidambar styraciflua	Sweetgum	9	C	B	No	Yes	9
263	Liquidambar styraciflua	Sweetgum	10	C	C	No	Yes	10
264	Liquidambar styraciflua	Sweetgum	12	D	D	No	No	Remove
265	Pinus canariensis	Canary Island pine	27	B	C	No	Yes	20.25

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
266	Magnolia grandiflora	Southern magnolia	13	C	C	No	Yes	13
267	Magnolia grandiflora	Southern magnolia	18	D	C	No	No	Remove
268	Podocarpus gracilior	Fern pine	34	B	B	No	Yes	25.5
269	Ceratonia siliqua	Carob	36	C	D	No	No	Remove
270	Ceratonia siliqua	Carob	44"b	C	D	No	No	Remove
271	Ceratonia siliqua	Carob	48	C	C-	No	No	Remove
272	Cupressus sempervirens	Italian cypress	26"b	A	B	No	Yes	21
273	Cupressus sempervirens	Italian cypress	25"b	A	B	No	Yes	21
274	Jacaranda acutifolia	Jacaranda	31	C-	D	No	No	Remove
275	Jacaranda acutifolia	Jacaranda	24	C	C	No	Yes	24
276	Jacaranda acutifolia	Jacaranda	28	C	C	No	Yes	28
277	Jacaranda acutifolia	Jacaranda	30	B	C-	No	Yes	22.5
278	Lagerstroemia indica	Crape myrtle	5	C	C	No	Yes	4
279	Liquidambar styraciflua	Sweetgum	14	B	C	No	Yes	10.5
280	Koelreuteria elegans	Chinese flame tree	42	C	C	No	Yes	42
281	Koelreuteria elegans	Chinese flame tree	42	C-	C	No	Yes	42
282	Liquidambar styraciflua	Sweetgum	21	C	C-	No	Yes	21
283	Washingtonia robusta	Mexican fan palm	45'th	B	B	No	Yes	4
284	Jacaranda acutifolia	Jacaranda	19	C	D	No	Yes	19
285	Callistemon viminalis	Weeping bottlebrush	13	D	D	No	No	Remove
286	Callistemon viminalis	Weeping bottlebrush	13	D	D	No	No	Remove
287	Callistemon viminalis	Weeping bottlebrush	13	D	C	No	No	Remove
288	Cinnamomum camphora	Camphor tree	14	C-	C-	No	Yes	14
289	Cinnamomum camphora	Camphor tree	22	C	C-	No	Yes	22
290	Cinnamomum camphora	Camphor tree	19	D	C-	No	No	Remove
291	Magnolia grandiflora	Southern magnolia	12	C-	C	No	Yes	12
292	Jacaranda acutifolia	Jacaranda	20	C	C	No	No	Remove
293	Phoenix canariensis	Canary Island date palm	60'th	B	B	No	Yes	5
294	Schinus terebinthifolius	Brazilian pepper	22	B	D	No	No	Remove
295	Jacaranda acutifolia	Jacaranda	20	C-	D	No	No	Remove

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
296	Jacaranda acutifolia	Jacaranda	Gone					
297	Magnolia grandiflora	Southern magnolia	18	D	B	No	No	Remove
298	Washingtonia robusta	Mexican fan palm	60'th	B	B	No	Yes	4
299	Phoenix canariensis	Canary Island date palm	80'th	B	B	No	Yes	5
300	Diospyros kaki	Persimmon	8	C	C	No	Yes	6
301	Phoenix canariensis	Canary Island date palm	60'th	F	F	No	No	Remove
302	Jacaranda acutifolia	Jacaranda	19	C	D	No	No	Remove
303	Magnolia grandiflora	Southern magnolia	14	F	F	No	No	Remove
304	Magnolia grandiflora	Southern magnolia	16	F	F	No	No	Remove
305	Araucaria heterophylla	Norfolk Island pine	20	B	B	No	Yes	20
306	Sequoia sempervirens	Coast redwood	20+18	C	B	No	Yes	30
307	Liquidambar styraciflua	Sweetgum	28	D	D	No	No	Remove
308	Sequoia sempervirens	Coast redwood	18	D	C-	No	No	Remove
309	Sequoia sempervirens	Coast redwood	40"b	D	D	No	No	Remove
310	Sequoia sempervirens	Coast redwood	39"b	D	D	No	No	Remove
311	Sequoia sempervirens	Coast redwood	16	F	F	No	No	Remove
312	Sequoia sempervirens	Coast redwood	12+6+6	D	D	No	No	Remove
313	Sequoia sempervirens	Coast redwood	11	C	C	No	Yes	12
314	Sequoia sempervirens	Coast redwood	18	D-	D	No	No	Remove
315	Sequoia sempervirens	Coast redwood	16	F	F	No	No	Remove
316	Sequoia sempervirens	Coast redwood	16	D	C	No	No	Remove
317	Cedrus deodara	Deodar cedar	25	D	D	No	No	Remove
318	Cedrus deodara	Deodar cedar	23	C-	D	No	No	Remove
319	Cedrus deodara	Deodar cedar	Stump					Remove
320	Morus alba	Fruitless mulberry	21	C-	D	No	No	Remove
321	Phoenix canariensis	Canary Island date palm	25'th	C	B	?	Yes	5
322	Grevillea robusta	Silk oak	38	B	C-	No	No	Remove
323	Cupressus sempervirens	Italian cypress	42	D	D	No	No	Remove
324	Jacaranda acutifolia	Jacaranda	22	C	C	No	Yes	22

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
325	Jacaranda acutifolia	Jacaranda	19	C	C	No	Yes	19
326	Jacaranda acutifolia	Jacaranda	25	C-	C-	No	No	Remove
327	Magnolia grandiflora	Southern magnolia	20	F	F	No	No	Remove
328	Ligustrum lucidum	Glossy privet	36	D-	F	No	No	Remove
329	Persea americana	Avocado	14"b	D-	D	No	No	Remove
330	Magnolia grandiflora	Southern magnolia	28	D-	C	No	No	Remove
331	Liquidambar styraciflua	Sweetgum	Gone					
332	Fraxinus uhdei	Shamel ash	Gone					
333	Fraxinus uhdei	Shamel ash	50	C	C	No	Yes	50
334	Salix lasiolepis	Arroyo willow	8	D	D-	No	No	Remove
335	Gone	gone	Gone					
336	Albizia julibrissin	Mimosa	20	C-	D-	No	No	Remove
337	Magnolia grandiflora	Southern magnolia	11	C-	C-	No	Yes	11
338	Juglans sp.	Walnut	20	D	C-	No	No	Remove
339	Fraxinus velutina 'Modesto'	Modesto ash	26	D	D	No	No	Remove
340	Platanus x acerifolia.	London plane tree	26	C-	C	No	Yes	26
341	Stump	Stump	26					Remove
342	Liquidambar styraciflua	Sweetgum	22	F	F	No	No	Remove
343	Cedrus deodara	Deodar cedar	24	C	C	No	Yes	18
344	Phoenix canariensis	Canary Island date palm	60'th	B	A	No	Yes	5
345	Magnolia grandiflora	Southern magnolia	15	D-	D	No	No	Remove
346	Magnolia grandiflora	Southern magnolia	13	D-	D	No	No	Remove
347	Phoenix canariensis	Canary Island date palm	14'th	C	C	No	Yes	5
348	Jacaranda acutifolia	Jacaranda	30	B	B	No	Yes	22.5
349	Citrus reticulata.	Tangerine	10"b	F	F	No	No	Remove
350	Citrus limon	Lemon	11	D	C	No	No	Remove
351	Cedrus deodara	Deodar cedar	17	B	C	No	Yes	12.75
352	Jacaranda acutifolia	Jacaranda	23+21	B	C	No	Yes	27
353	Liquidambar styraciflua	Sweetgum	16	D	D	No	No	Remove
354	Cinnamomum camphora	Camphor tree	16	D	C	No	No	Remove

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
355	Liriodendron tulipifera	Tulip tree	27	C	C	No	Yes	27
356	Cedrus deodara	Deodar cedar	31	B	C-	No	Yes	23.25
357	Magnolia grandiflora	Southern magnolia	Gone					
358	Magnolia grandiflora	Southern magnolia	28	D	D	No	No	Remove
359	Persea americana	Avocado	9+12	F	F	No	No	Remove
360	Phoenix canariensis	Canary Island date palm	65'th	B	B	No	Yes	5
361	Ulmus parvifolia	Chinese evergreen elm	32	F	F	No	No	Remove
362	Persea americana	Avocado	33	F	F	No	No	Remove
363	Jacaranda acutifolia	Jacaranda	14	C-	D	No	No	Remove
364	Persea americana	Avocado	12	F	F	No	No	Remove
365	Persea americana	Avocado	10	F	F	No	No	Remove
366	Ulmus parvifolia	Chinese evergreen elm	24	C	C	No	Yes	18
367	Ulmus parvifolia	Chinese evergreen elm	23	B	C	No	Yes	17.25
368	Ulmus parvifolia	Chinese evergreen elm	21	B	C	No	Yes	15.75
369	Phoenix canariensis	Canary Island date palm	50'th	B	B	No	Yes	5
370	Phoenix canariensis	Canary Island date palm	20'th	B	B	Yes	Yes	5
371	Magnolia grandiflora	Southern magnolia	19	D	C	No	No	Remove
372	Chorisia speciosa	Floss silk tree	27	C	C	No	Yes	20.25
373	Calodendron capense	Cape chestnut	31	B	B	Yes	Yes	25
374	Citrus limon	Lemon	11"b	D	C	No	No	Remove
375	Phoenix canariensis	Canary Island date palm	70'th	B	B	No	Yes	5
376	Washingtonia robusta	Mexican fan palm	36'th	C-	B	No	No	Remove
377	Magnolia grandiflora	Southern magnolia	12+12	F	D	No	No	Remove
378	Phoenix canariensis	Canary Island date palm	16'th	C	B	No	Yes	5
379	Phoenix canariensis	Canary Island date palm	20'th	B	B	Yes	Yes	5
380	Phoenix canariensis	Canary Island date palm	80'th	B	B	No	Yes	5
381	Cedrus deodara	Deodar cedar	60	B	C	No	Yes	45
382	Jacaranda acutifolia	Jacaranda	28	C	C	No	Yes	28
383	Ceratonia siliqua	Carob	48	C-	D	No	No	Remove
384	Ceratonia siliqua	Carob	36	D	D	No	No	Remove

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
385	Ceratonia siliqua	Carob	42	C	D-	No	No	Remove
386	Jacaranda acutifolia	Jacaranda	16	C	D	No	No	Remove
387	Jacaranda acutifolia	Jacaranda	28	C	D	No	No	Remove
388	Jacaranda acutifolia	Jacaranda	34	C	D	No	No	Remove
389	Jacaranda acutifolia	Jacaranda	25	C	D	No	No	Remove
390	Tabebuia impetiginosa	Purple trumpet tree	2+2	C-	C-	No	No	Remove
391	Erythrina caffra	Coral tree	24+18+14	B	D	No	No	Remove
392	Jacaranda acutifolia	Jacaranda	15	C	C-	No	Yes	15
393	Phoenix canariensis	Canary Island date palm	60'th	B	B	No	Yes	5
394	Jacaranda acutifolia	Jacaranda	28	C	C-	No	Yes	28
395	Zelkova serrata	Saw tooth Zelkova	17	F	D	No	No	Remove
396	Zelkova serrata	Saw tooth Zelkova	7	F	F	No	No	Remove
397	Phoenix canariensis	Canary Island date palm	25'th	C	B	Yes	Yes	5
398	Pittosporum japonica	Japanese pittosporum	14+6+13+9	D	D	No	No	Remove
399	Melaleuca quinquenervia	Paperbark tree	12	C	B	No	Yes	12
400	Koelreuteria bipinnata	Goldenrain tree	14	C	B	No	Yes	14
401	Melaleuca quinquenervia	Paperbark tree	10+14	B	C	No	No	Remove
402	Carya illinoensis	Pecan	19	C	B	No	?	15
403	Eucalyptus citriodora	Lemon scented gum	18	C-	D-	No	No	Remove
404	Melia azedarach	Chinaberry	17	B	C	No	No	Remove
405	Stump	stump	Gone					Remove
406	Chorisia speciosa	Floss silk tree	34	B	C	No	Yes	25.5
407	Chorisia speciosa	Floss silk tree	35	B	C	No	Yes	26.25
408	Liquidambar styraciflua	Sweetgum	17	B	C	No	Yes	12.75
409	Sequoia sempervirens	Coast redwood	25	B	A	No	Yes	25
410	Persea americana	Avocado	30	C-	C	No	Yes	30
411	Persea americana	Avocado	20	C-	C	No	Yes	20
412	Persea americana	Avocado	22	C-	C	No	Yes	22
413	Persea americana	Avocado	20	C-	C	No	Yes	20
414	Catalpa speciosa	Catalpa	Stump					Remove

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
415	Catalpa speciosa	Catalpa	14	C	D	No	No	Remove
416	Catalpa speciosa	Catalpa	13	C	D	No	No	Remove
417	Ulmus parvifolia	Chinese evergreen elm	34	C	C	No	No	Remove
418	Tabebuia impetiginosa	Purple trumpet tree	15	B	B	No	Yes	11.25
419	Ulmus parvifolia	Chinese evergreen elm	24	C	C-	No	No	Remove
420	Grevillea robusta	Silk oak	41	C	D	No	No	Remove
421	Grevillea robusta	Silk oak	42	B	D	No	No	Remove
422	Brachychiton populneum	Bottle tree	18	C-	C	No	No	Remove
423	Brachychiton populneum	Bottle tree	17	C-	C	No	No	Remove
424	Brachychiton populneum	Bottle tree	13	C-	C	No	No	Remove
425	Brachychiton populneum	Bottle tree	19	C	C	No	Yes	19
426	Brachychiton populneum	Bottle tree	Gone					
427	Liquidambar styraciflua	Sweetgum	6	D	D	No	No	Remove
428	Melia azedarach	Chinaberry	Gone					
429	Cinnamomum camphora	Camphor tree	58	C-	C	No	Yes	58
430	Pittosporum undulatum	Victorian box	20	D	D	No	No	Remove
431	Bauhinia variegata	Purple orchid tree	16	B	D	No	No	Remove
432	Bauhinia variegata	Purple orchid tree	14"b	C	D	No	No	Remove
433	Zelkova serrata	Saw tooth Zelkova	22	C-	C	No	Yes	22
434	Liriodendron tulipifera	Tulip tree	21	D	D	No	No	Remove
435	Washingtonia robusta	Mexican fan palm	30'th	B	B	No	Yes	4
436	Ulmus parvifolia	Chinese evergreen elm	18	C	C	No	Yes	13.5
437	Bauhinia variegata	Purple orchid tree	18	F	D-	No	No	Remove
438	Celtis sp.	Hackberry	6+6+6	D	D	No	No	Remove
439	Washingtonia robusta	Mexican fan palm	18'th	B	A	No	Yes	4
440	Fraxinus velutina 'Modesto'	Modesto ash	24	F	F	No	No	Remove
441	Persea americana	Avocado	24	F	F	No	No	Remove
442	Celtis sp.	Hackberry	20	F	F	No	No	Remove
443	Persea americana	Avocado	24	F	F	No	No	Remove
444	Cedrus deodara	Deodar cedar	Gone					

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
445	Pinus canariensis	Canary Island pine	22	A	B	No	Yes	16.5
446	Persea americana	Avocado	26"b	D-	D	No	No	Remove
447	Persea americana	Avocado	28"b	D-	D	No	No	Remove
448	Persea americana	Avocado	34"b	D-	D	No	No	Remove
449	Persea americana	Avocado	26"b	D	D	No	No	Remove
450	Persea americana	Avocado	18+21	D	D	No	No	Remove
451	Persea americana	Avocado	11+11	D-	D	No	No	Remove
452	Ulmus parvifolia	Chinese evergreen elm	18	C	C	No	Yes	13.5
453	Persea americana	Avocado	48	D	D	No	No	Remove
454	Citrus limon	Lemon	4+4+4+4	F	F	No	No	Remove
455	Citrus limon	Lemon	10"b	D	C	No	No	Remove
456	Citrus limon	Lemon	11	D	C	No	No	Remove
457	Citrus limon	Lemon	7"b	D-	C	No	No	Remove
458	Jacaranda acutifolia	Jacaranda	40"b	B	C-	No	Yes	28
459	Cupressus sempervirens	Italian cypress	15"b	C-	D	No	No	Remove
460	Jacaranda acutifolia	Jacaranda	42	C	D	No	Yes	42
461	Lagerstroemia indica	Crape myrtle	5+5+5+4	C	C	No	Yes	8
462	Lagerstroemia indica	Crape myrtle	7+6+6+4	B	C	No	Yes	9
463	Eriobotrya japonica	Loquat	10	C	B	No	Yes	7.5
464	Eriobotrya japonica	Loquat	11	B	C	No	Yes	9
465	Eriobotrya japonica	Loquat	8.5	D	C	No	No	Remove
466	Washingtonia robusta	Mexican fan palm	Gone					
467	Eucalyptus polyanthemos	Silver Mt. gum	25	B	C-	No	Yes	25
468	Jacaranda acutifolia	Jacaranda	25	B	C-	No	Yes	18.75
469	Jacaranda acutifolia	Jacaranda	27	C-	C	No	Yes	27
470	Jacaranda acutifolia	Jacaranda	25	C	C	No	Yes	25
471	Jacaranda acutifolia	Jacaranda	25	C-	C-	No	Yes	25
472	Jacaranda acutifolia	Jacaranda	18	C	D	No	Yes	18
473	Magnolia grandiflora	Southern magnolia	17	D-	C-	No	No	Remove
474	Eucalyptus camaldulensis	Red gum	24	C	C-	No	No	Remove

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
475	Washingtonia robusta	Mexican fan palm	32'th	C	C-	No	No	Remove
476	Yucca elephantipes	Giant yucca	Stump					Remove
477	Yucca elephantipes	Giant yucca	Stump					Remove
478	Jacaranda acutifolia	Jacaranda	26	C	C	No	Yes	26
479	Jacaranda acutifolia	Jacaranda	24	B	C-	No	Yes	18
480	Jacaranda acutifolia	Jacaranda	18	C	C	No	Yes	18
481	Jacaranda acutifolia	Jacaranda	Stump					Remove
482	Jacaranda acutifolia	Jacaranda	Gone					
483	Liquidambar styraciflua	Sweetgum	22	C-	D	No	?	22
484	Liquidambar styraciflua	Sweetgum	9	B	C	No	Yes	6.75
485	Sapium sebiferum	Chinese tallow tree	18"b	D	D	No	No	Remove
486	Gingko biloba	Gingko	10	C	C	Yes	Yes	8
487	Eucalyptus citriodora	Lemon scented gum	45	B	C	No	No	Remove
488	Jacaranda acutifolia	Jacaranda	25	C	C-	No	Yes	25
489	Jacaranda acutifolia	Jacaranda	25	B	D	No	No	Remove
490	Jacaranda acutifolia	Jacaranda	20	D	C	No	No	Remove
491	Jacaranda acutifolia	Jacaranda	18	D	D	No	No	Remove
492	Schinus terebinthifolius	Brazilian pepper	22	B	C-	No	No	Remove
493	Schinus terebinthifolius	Brazilian pepper	19	D	D	No	No	Remove
494	Koelreuteria elegans	Chinese flame tree	38	D	C	No	Yes	38
495	Koelreuteria elegans	Chinese flame tree	40	C-	C	No	Yes	40
496	Koelreuteria elegans	Chinese flame tree	40	B	C	No	Yes	30
497	Koelreuteria elegans	Chinese flame tree	40	C	C	No	Yes	40
498	Pinus canariensis	Canary Island pine	Gone					
499	Jacaranda acutifolia	Jacaranda	18+18	C-	C-	No	Yes	26
500	Pinus halepensis	Aleppo pine	38	C	D	No	No	Remove
501	Washingtonia robusta	Mexican fan palm	55'th	B	A	No	Yes	4
502	Washingtonia robusta	Mexican fan palm	60'th	B	A	No	Yes	4
503	Washingtonia robusta	Mexican fan palm	60'th	B	A	No	Yes	4
504	Pinus pinea	Italian stone pine	42	C	C-	No	No	Remove

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
505	Liriodendron tulipifera	Tulip tree	16	D	C-	No	No	Remove
506	Magnolia grandiflora	Southern magnolia	8	C-	C-	No	Yes	8
507	Pinus canariensis	Canary Island pine	28	D-	D	No	No	Remove
508	Pinus canariensis	Canary Island pine	25	D	C	No	No	Remove
509	Pinus canariensis	Canary Island pine	23	D	D	No	No	Remove
510	Pinus canariensis	Canary Island pine	16	C	B	No	Yes	12
511	Pinus canariensis	Canary Island pine	38	B	C	No	Yes	28.5
512	Eucalyptus camaldulensis	Red gum	58	C-	C-	No	No	Remove
513	Eucalyptus camaldulensis	Red gum	40	C	C-	No	No	Remove
514	Callistemon citrinus	Bottlebrush	16	C	C-	No	Yes	12
515	Callistemon citrinus	Bottlebrush	Gone					
516	Pinus canariensis	Canary Island pine	40	B	C	No	Yes	30
517	Fraxinus velutina	Arizona ash	26	C	D	No	No	Remove
518	Fraxinus velutina	Arizona ash	16	D	D	No	No	Remove
519	Eriobotrya japonica	Loquat	6	B	B	No	Yes	5
520	Cinnamomum camphora	Camphor tree	34	C	C	No	Yes	34
521	Liquidambar styraciflua	Sweetgum	25	C-	D	No	Yes	25
522	Morus alba	Fruitless mulberry	10" stump					Remove
523	Jacaranda acutifolia	Jacaranda	22	C	C-	No	Yes	22
524	Jacaranda acutifolia	Jacaranda	22	C-	C-	No	Yes	22
525	Jacaranda acutifolia	Jacaranda	24	C	D	No	No	Remove
526	Cupressus sempervirens	Italian cypress	12	A	B	No	Yes	9
527	Cupressus sempervirens	Italian cypress	12	A	A	No	Yes	9
528	Cupressus sempervirens	Italian cypress	11	A	A	No	Yes	9
529	Cupressus sempervirens	Italian cypress	10	B	B	No	Yes	7.5
530	Cupressus sempervirens	Italian cypress	8	C	D	No	No	Remove
531	Cupressus sempervirens	Italian cypress	10	B	B	No	Yes	7.5
532	Cupressus sempervirens	Italian cypress	13	B	A	No	Yes	9.75
533	Lagerstroemia indica	Crape myrtle	6.2	D-	C	No	No	Remove
534	Lagerstroemia indica	Crape myrtle	8	B	C	?	Yes	6

Map	Botanical Name	Common Name	DBH	Health	Structure	Transplant feasible	Protection feasible	Clearance radius
535	Lagerstroemia indica	Crape myrtle	4.5	F	D	No	No	Remove
536	Pinus halepensis	Aleppo pine	26	C	D	No	No	Remove
537	Pinus canariensis	Canary Island pine	26	B	C	No	No	Remove
538	Cedrus deodara	Deodar cedar	14	D	D	No	No	Remove
539	Stump	Stump	17					Remove
540	Fraxinus uhdei	Shamel ash	48	D	D	No	No	Remove
541	Pinus pinea	Italian stone pine	42	C	D	No	No	Remove
542	Washingtonia robusta	Mexican fan palm	60'th	B	B	No	Yes	4
543	Pinus pinea	Italian stone pine	30	C	D	No	No	Remove
544	Pinus halepensis	Aleppo pine	30	C	D	No	No	Remove
545	Ficus carica	Fig	Gone					
546	Fraxinus uhdei	Shamel ash	56	B	C	No	No	Remove
547	Eriobotrya japonica	Loquat	Gone					
548	Liquidambar styraciflua	Sweetgum	14	C	C	No	No	Remove
549	Liquidambar styraciflua	Sweetgum	19"b	F	F	No	No	Remove
550	Washingtonia robusta	Mexican fan palm	50'th	B	B	No	Yes	4
551	Washingtonia robusta	Mexican fan palm	55'th	B	B	No	Yes	4
552	Fraxinus velutina	Arizona ash	20	C-	C-	No	No	Remove
553	Schinus terebinthifolius	Brazilian pepper	25	C	D	No	No	Remove
554	Ficus carica	Fig	Gone					
555	Ficus carica	Fig	Gone					
556	Ficus carica	Fig	Gone					
557	Melia azedarach	Chinaberry	Gone					
558	Magnolia grandiflora	Southern magnolia	14	C-	C	No	No	Remove
559	Magnolia grandiflora	Southern magnolia	13	D	C	No	No	Remove
560	Magnolia grandiflora	Southern magnolia	14	C-	C	No	No	Remove
561	Magnolia grandiflora	Southern magnolia	12	C-	C	No	Yes	12
562	Magnolia grandiflora	Southern magnolia	11	C-	C	No	No	Remove

Tree Protection of Trees Protected in Place

Where tree preservation is determined feasible by Brookfield, the following applies.

1. Protection Barrier: A protection barrier shall be installed around the trees to be preserved. The barrier shall be constructed of durable fencing material, such as chain-link fencing. The barrier shall be placed as far from the base of the tree(s) as possible, at least 1-foot per inch of trunk diameter and beyond the drip-line. The fencing shall be maintained in good repair throughout the duration of the project, and shall not be removed, relocated, or encroached upon until the surrounding landscape is installed.

2. Storage of Materials: There shall be NO storage of materials or supplies of any kind within the area of the protection barriers. Concrete and cement materials, block, stone, sand and soil shall not be placed within the drip-line of the tree.

3. Fuel Storage: Fuel storage shall NOT be permitted within 100 feet of any tree to be preserved. Refueling, servicing and maintenance of equipment and machinery shall NOT be permitted within 100 feet of protected trees.

4. Debris and Waste Materials: Debris and waste from construction or other activities shall NOT be permitted within protected areas. Wash down of concrete or cement handling equipment, in particular, shall NOT be permitted within 100 feet of protected trees.

5. Planting near Trees Designated for Protection: Any digging within designated protection zones (.75 x DBH) shall done using supersonic air directly as the digging medium, by means of a nozzle, whose nominal rated input pressure (available from manufacturer's literature) must not exceed 130 psig (pounds per square inch at gage) unless otherwise approved, e.g. AirKnife or AirSpades. Nozzles designed for input above 130 psig can damage fine roots. Air compressors rated between 100 to 125 psig recommended.

6. Grade Changes: Any grade changes proposed should be approved by a Registered Consulting Arborist before construction begins, and precautions taken to mitigate potential injuries. Grade changes can be particularly damaging to trees. Even as little as two inches of fill can cause the death of a tree. Lowering the grade will destroy a major portion of a root system.

7. Damages: Any tree damages or injuries should be reported to the project arborist as soon as possible. Severed or crushed roots shall be pruned cleanly to healthy tissue, using proper pruning tools. Broken branches or limbs shall be pruned according to International Society of Arboriculture Pruning Guidelines and ANSI A-300 Pruning Standards.

8. Preventive Measures: Before construction begins, irrigation and fertilization of the affected trees is recommended to improve tree vigor and health. Soil analysis testing should be completed to assure fertilization with the appropriate fertilizer products. Pruning of the tree canopies and branches should be done at the direction of the project arborist to remove any dead or broken branches, and to provide the necessary clearances for the construction equipment. Any thinning should be done only

after broken branches, branches with weak attachment, overly long branches, crowded or crossing branches have been removed and all pruning must be stopped before 25% foliage has been removed.

9. Irrigation: Over the course of construction deep irrigation will be needed every four months. To avoid wetting a large area of soil use an irrigation method that only wets the surface inside the protection fencing.

10. Dust control: At the end of every work week use a high pressure nozzle to rinse off construction dust.

Recommendations for New Planting

In grading the site it is important to bank topsoil and spread it out on the surface after mass grading is complete. Topsoil is biologically active and has much more available nutrients than subsoils.

Send soil samples from various planting locations around the site to an agronomic soils laboratory for testing and recommendations. In each of the locations one sample should represent the top 12 inches of soil and the other the next 12 inches down. I recommend Wallace Laboratories, 365 Coral Circle, El Segundo, CA 90245. See their web site for directions on collecting samples: http://us.wlabs.com/

Depending on the size of the sidewalk cutouts and the species of tree selected, trench two lines between tree wells before replacing the sidewalk. Call Dig-Alert to locate all underground utilities before beginning. Use a wide-bladed trencher to dig from each side of the tree well to the corresponding corners of the next tree well. Where possible dig the trenches 30 inches deep and *at least* 8 inches wide. Backfill the trenches with amended site soil, per an agronomic soils laboratory, e.g. Wallace Laboratories 310-615-0116. Do not compact more than 80% Proctor density. Use PAM as directed by the laboratory to keep the soil in the trenches from compacting. Avoid fertilization beyond any recommendations made by the soils laboratory.

Tree sizes of 15 gallons are recommended for planting as they are large enough to create a nice aesthetic appearance but small enough to increase the tree's chance of survival. They will outgrow larger sizes in just a few years. Do not plant root bound trees. Check for circling or girdling roots before delivery or at least before planting. Be sure the trees are delivered with an unbroken single, strong, central leader. Do not dig the hole deeper than the depth of the rootball from the bottom to the top of the root flare. Be sure to remove the entire box including bottoms. Use flexible staking appropriate for the tree caliper. Apply a 2-3-inch deep layer of well composted, coarse-textured (1/2 to 2” particle size) mulch, with no manure or sewage bi-products in each cutout, but not against the tree trunks.
Do not plant turf, ground cover or shrubs within the rootballs or a four-foot radius of the trunk.

Minimize pruning of any new trees. Retain side-branches as long as possible. Keep them short as necessary, but do not remove them for at least three years.

Secure the stakes to the trees with Arbor Tie, Cinch Tie or equivalent, but not hose and wire.

Disclaimer

Current, industry standard information on tree preservation has been applied. However, even when every tree is inspected, inspection involves sampling, therefore some additional areas of decay or weakness may be missed. I could only interpret the root conditions based on the exposed root flare or surface roots. Therefore, current root conditions are assumed based on these indications.

A complete tree hazard evaluation was not requested or performed. Weather, winds and the magnitude and direction of storms are not predictable and some failures may still occur despite the best application of high professional standards. Construction and future tree maintenance will also affect the trees health and stability and are not under the supervision or scrutiny of this consultant. Construction activity such as grading and trenching will also affect the health and safety, but are unknown and unsupervised by this consultant. This consultant does not assume liability for any tree failures involved with this property.

Frequent monitoring and a final inspection before occupancy are necessary to adequately assess the risk of trees affected by construction.

Appendix

A. Resume

B. Glossary

C. Photographic Documentation

A. Resume

GREGORY W. APPLEGATE, ASCA, ASLA

Registered Consulting Arborist #365

PROFESSIONAL REGISTRATIONS:

American Society of Consulting Arborists #365
International Society of Arboriculture, Certified Arborist Number WE-0180a
International Society of Arboriculture, Certified Tree Risk Assessor PCN-444

EXPERIENCE:

Mr. Applegate is an independent consulting arborist. He has been in the horticulture field since 1963, providing professional arboricultural consulting since 1984 within both private and public sectors. His expertise includes appraisal, tree preservation, diagnosis of tree growth problems, construction impact mitigation, environmental assessment, expert witness testimony, hazard evaluation, pruning programs, species selection and tree health monitoring.

Mr. Applegate has consulted for insurance companies, schools, colleges, universities, major developers, theme parks, homeowners, homeowners' associations, landscape architects, landscape contractors, property managers, attorneys and governmental bodies.

Notable projects on which he has consulted are: Disneyland, Disneyland Hotel, DisneySeas-Tokyo, Disney's Wild Animal Kingdom, the New Tomorrowland, Disney's California Adventure, Disney Hong Kong project, Knott's Berry Farm, J. Paul Getty Museums, Tustin Ranch, Newport Coast, Crystal Court, Newport Fashion Island Palms, Bixby Ranch Country Club, Playa Vista, Laguna Canyon Road and Myford Road for The Irvine Company, MTA Expo and Purple Lines, MWD-California Lakes, Paseo Westpark Palms, Loyola-Marymount campus, Cal Tech, Cal State Long Beach, Pierce College, The Irvine Concourse, UCI, USC, UCLA, LA City College, LA Trade Tech, Riverside City College, Crafton Hills College, MTA projects, and the State of California review of the Landscape Architecture License exam (re: plant materials)

EDUCATION:

Bachelor of Science in Landscape Architecture, California State Polytechnic University, Pomona 1973
Arboricultural Consulting Academy (by ASCA) Arbor-Day Farm, Kansas City 1995
Continuing Education Courses in Arboriculture to maintain Certified Arborist status and for ASCA registration

PROFESSIONAL AFFILIATIONS:

American Society of Consulting Arborists (ASCA), Registered Member
American Society of Landscape Architects (ASLA), Full Member
International Society of Arboriculture (ISA), Regular Member
California Tree Failure Report Program, UC Davis, Participant
Street Tree Seminar (STS), Associate Member

COMMUNITY AFFILIATIONS:

ASCA web site, west coast tree question responder	(2007 and continuing)
SoCalif ASLA visibility committee	1980-82
Landscape Arch. License Exam prep, Instructor, Cal Poly Pomona	(1986-90)
American Institute of Landscape Architects, LA Chapter Board of Directors	(1980-82)
California Landscape Architect Student Scholarship Fund-Chairman	(1985)
International Society of Arboriculture-Examiner-tree worker certification	(1990)
ASCA, Industry definitions committee and A3G committee	2009-2010
Guest lecturer at UCLA, Cal Poly, Saddleback College, & Palomar Junior College	

B. Glossary

ANSI-A300 American National Standards Institute performance standards for the care and maintenance of trees, shrubs and other woody plants. Copies are available from International Society of Arboriculture bookstore 888-ISA-TREE

Arboricultural Pertaining to the awareness, care, evaluation, identification, growing, maintenance, management, planting, selection, treatment, understanding, valuation and so forth of trees and other woody plants and their growing environments, particularly in shade and ornamental (non-crop/commodity) settings.

Arboriculture The selection, cultivation, and care of trees, vines, and shrubs.

Arborist A person possessing the technical competence through experience and related training to provide for or supervise the management of trees or other woody plants in a landscape setting.

ASCA The American Society of Consulting Arborists, Inc. a professional society, as described in its by-laws.

Backfill The soil returned to a planting hole after planting, sometimes amended, sometimes not.

Bark Tissue on the outside of the vascular cambium. Bark is usually divided into inner bark - active phloem and aging and dead crushed phloem - and outer bark.

Caliper Diameter of a nursery-grown or small size tree trunk. Larger trees are usually measured at 4ð feet (see DBH) Trees with calipers 4 inches and below are measured at 6 inches above grade(ANSI Z60-1-1990) Trees above 4 inches, but still transplantable are measured at 12 inches above grade.

Canopy The live, foliage-bearing part of a tree.

Chlorotic Lacking in chlorophyll, typically yellow or yellowish in color.

Codominant Leaders equal in size and relative importance, developed from 2 apical buds at the top of a stem. Each codominant stem is an extension of the stem below it. There are no branch collars or trunk collars at the bases of codominant stems.

Compaction (Soil Compaction) The compression of soil, causing a reduction of pore space and an increase in the bulk density of the soil. Tree roots cannot grow in compacted soil.

Crown The upper portions of a tree or shrub, including the main limbs, branches, and twigs.

Cultivar A cultivated variety. Maybe a field selection or a horticultural variety that has originated and persisted under cultivation. Usually enclosed in single quotes after the genus and species names.

DBH	Diameter of the trunk, measured at breast height or 54 inches above the average grade. See caliper.
Decay	Progressive deterioration of organic tissues, usually caused by fungal or bacterial organisms, resulting in loss of cell structure, strength, and function - in wood, the loss of structural strength.
Decline	Progressive reduction of health or vigor of a plant.
Dieback	Progressive death of buds, twigs and branch tissues, on individual limbs, or throughout the canopy.
Dripline	A projected line on the ground that corresponds to the spread of branches in the canopy; the farthest spread of branches.
Epicormic	Epi - upon; cormic - stem. Branches that are upon the stem, i.e. sprouting from either dormant buds in the cambial zone, or from buds sprung anew from ray traces. Epicormic shoots are a sign that energy reserves have been lowered.
Fertilization	The process of adding nutrients to a tree or plant; usually done by incorporating the nutrients into the soil, but sometimes by foliar application or injection directly into living tissues.
Foliage	The live leaves, fronds or needles of the tree; the plant part primarily responsible for photosynthesis.
Gall	An abnormal, disorganized growth of plant tissues, caused by parasitic or infectious organisms such as insects, fungi, bacteria, or viruses.
Girdling root	A root that partially or entirely encircles the trunk and/or buttress roots, which could restrict growth and downward movement of photosynthate and/or water and nutrients up.
Grading	Also Regrading. Intentional altering of topography and soil levels, using machinery.
Hanger	A broken limb that has not fallen out of the tree yet.
Heading	Pruning techniques where the cut is made to a bud, weak lateral branch or stub.
Included bark -	Bark embedded within the crotch between a branch and the trunk or between two or more stems that prevents the formation of a normal branch bark ridge. This often occurs in branches with narrow-angled attachments or branches resulting from the loss of the leader. Such attachments are weakly attached and subject to splitting out.
Limb	A large lateral branch growing from the main trunk.

Lion-tailing	Pruning technique where internal foliage and branches are removed, leaving the latter concentrated at branch ends.
Mulch/Mulching	Substances spread on top of the ground to conserve water, protect against erosion, retain moisture, and protect the roots of trees from heat, cold or drought. The substances are typically organic, such as compost, manure or bark chips.
Root collar	The basal area of the tree; transition zone from trunk to root. Also sometimes called trunk flare.
Root crown	Area at the base of a tree where the roots and stem merge (synonym – root collar)
Root flare	Area at the base of a trunk where the roots attach and flare out.
Root system	The portion of the tree containing the root organs, including buttress roots, transport roots, and fine absorbing roots; all underground parts of the tree.
Root zone	The area and volume of soil around the tree in which roots are normally found. May extend to three or more times the branch spread of the tree, or several times the height of the tree.
Scaffold limb	Primary structural branch of the crown.
Seam	An indented crease (usually out of a crotch) running down the trunk or limb indicating an internal crack
Sprout	Also water sprout. A shoot or stem that grows from the bark of a tree; adventitious or secondary growth.
Street tree	A tree growing adjacent to dedicated roadways and within the cityÕs right of way.
Stress	"Stress is a potentially injurious, reversible condition, caused by energy drain, disruption, or blockage, or by life processes operating near the limits for which they were genetically programmed." Alex Shigo
Suppressed	
Taper	Relative change I diameter with length - reflects ability of stem or branch to evenly distribute stress.
Topping	Pruning technique to reduce height - heading of large branches.
Trees	An arborescent woody plant, with a single or few trunks near the base
Value	The relative worth, merit, or importance of a thing, expressed as a single point, a range, or a relationship to a benchmark.
Vigor	Active, healthy growth of plants: ability to respond to stress factors.

C. Photographic Documentation

Much of this property is overgrown with weeds and the weeds are competing for water and nutrients.

The tulip tree in front is significantly decayed.

It is very unusual for Canary Island date palms to topple.

Redwoods are not drought tolerant and most here are in serious decline due to the drought.

Drought survival seems somewhat random, but is more likely determined by differences in soil, competition and sun exposure.

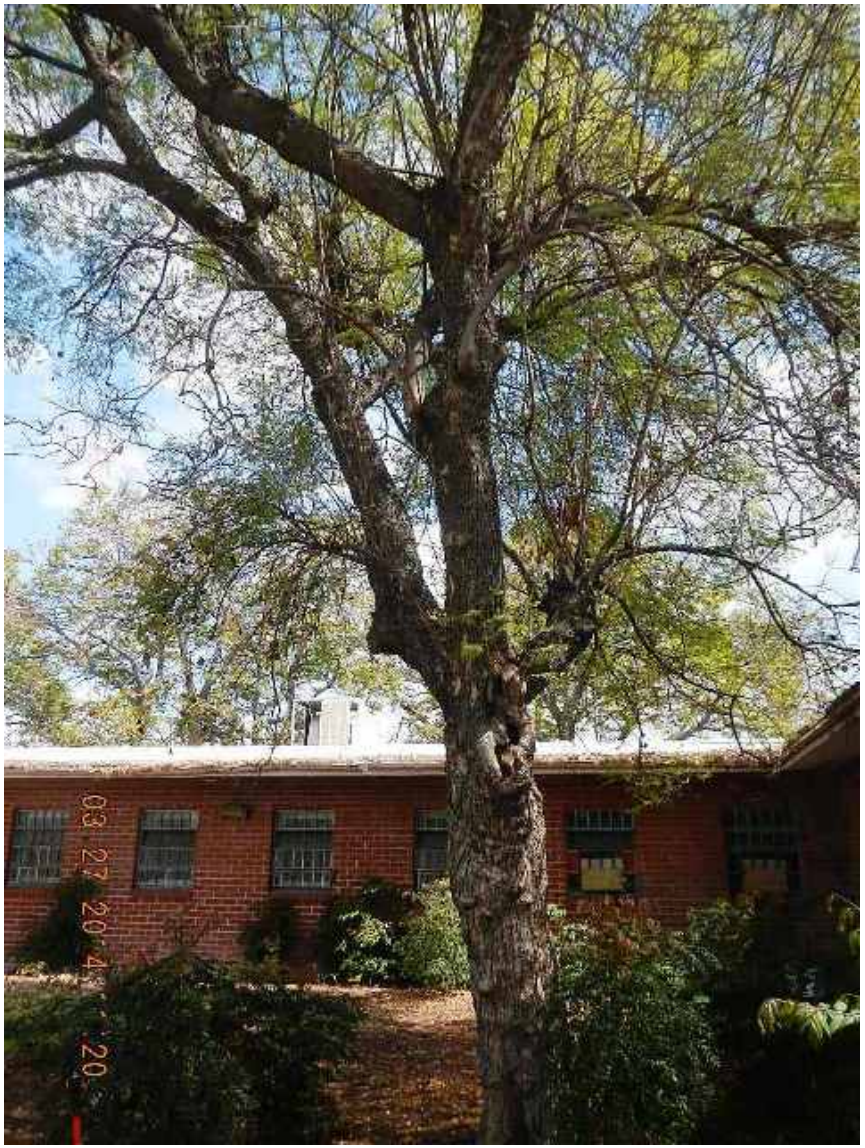
One-sided dieback like this is caused by fire. There have been several fires around the campus that damaged trees.

Magnolias are also not very drought tolerant and most are declining.

These red gums have dropped several large limbs and are likely to drop again. They should be removed.

These Silver Mountain gum have been damaged by fire.

These Silver Mountain gum have also been damaged by fire.



Note the large amount of epicormic shoots. This is usually regrowth after being damaged or over-pruned.

Fallen tree or dead pines left laying out are breeding grounds for borers.

Carob trees are decay prone.

These carobs were over lifted and lion-tailed.

Old flush cuts often get decay in carobs.

The cavity in this crotch is probably due to a weak crotch splitting.

Large cuts in carobs are often decayed.

The trees in front of this old residence are in better condition on average than elsewhere on site.

This Canary Island date palm has a magnesium deficiency.

The constricted trunks indicate a long period of decline.

There are several very large Shamel ash around the site.
Several large limbs have split out from their canopies.

Fern pines are surprisingly drought tolerant.

Avocados need exacting care, deep irrigation, deep mulch, and protected soil. Only a few may be restored to health.

Canary Island pines are one of the lowest maintenance trees.
This is an example of excellent structure with almost no pruning.

Unfortunately most of the orchid trees had inadequate pruning.

This would be a good camphor to save, but they do not transplant well.

When Aleppo pines get top heavy they are more likely to topple.

Floss silk trees can be dramatic and beautiful flowering trees, but they are often shallow rooted.

The fire damage on these pines was fairly superficial.

The fire damage on these pines was also fairly superficial.

Aleppo pines in this climate and in turf can grow erratic forms unless competing leaders are subordinated.

Note the strong lean and large split.

Sweet gums are not drought tolerant, but some have survived.

Large eucalypts need regular inspection and good safety pruning.

This healthy lemon gum is growing over the curb.

Many of the large Shamel ash have survived well.
Both of these Shamel ash are in the same area.

Some of the large Shamel ash have not survived well. Why?

Old silk oaks often drop large limbs. All on this site were topped. Topping makes them more likely to drop limbs.

Many of the jacarandas have broken limbs, been headed or topped. This species is prone to storm damage, especially when grown in lawns.

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Certification

I, Gregory W. Applegate, certify to the best of my knowledge and belief:

That the statements of fact contained in this report, are true and correct. That the report analysis, opinions, and conclusions are limited only the reported assumptions and limiting conditions, and are my personal unbiased professional analysis, opinions and conclusions.

That I have no present or prospective interest in the vegetation that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.

That my compensation is not contingent upon the reporting or a predetermined outcome that favors the cause of the client, or the attainment of stipulated result.

That my analysis, opinions, and conclusions were developed, and this report has been prepared, in conformity with the standards of ASCA and customary arboricultural practice.

That I have made a personal inspection of the plants that are the subject of this report. No one provided significant professional assistance to the person signing this report.

Arborgate Consulting, Inc.
Gregory W. Applegate, CEO _____ Date 6-12-14
Registered Consulting Arborist #365
Certified Arborist WE-0180a
Certified Tree Risk Assessor PCN-444

Trees Feasible to Protect in Place

Trees Feasible to Relocate/Transplant

Note:
Trees subject to transplantation require further verification by an arborist.

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UPDATED 4/21/2014 /SWA
UPDATED 7/12/2014 /EPD Solutions, Inc.