

**ASSESSMENT OF
EUCALYPTUS TREES AT CAPE MASTER
AND THE CAPE DEVELOPMENTS**



Prepared for:

RPM SERVICES, INC.

Mission Statement

*To provide quality environmental consulting
services with integrity that protect and
enhance the human and natural environment*

April 2009



**Assessment of
Eucalyptus Trees
at
Cape Master and The Cape
Developments**

Prepared for:

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SECTION I. INTRODUCTION

BACKGROUND

RPM Services, Inc. requested David Magney Environmental Consulting (DMEC) to assess the health of the Eucalyptus trees at The Cape and Cape Master housing complexes, in Ventura, California. RPM requested an assessment of these trees to determine management and maintenance needs for each tree, with emphasis on identifying trees that may pose a safety hazard.

The 38 mature Tasmanian Blue Gum (*Eucalyptus globulus* ssp. *globulus*) trees on the two housing complexes are the remnants of a windrow planted in the early 1900s. The Eucalyptus windrow was planted to protect agricultural crops from wind damage. Prior to development of the housing complexes, the adjacent fields contained citrus orchards.

As a condition of development, the City of Ventura required that the Eucalyptus windrow be preserved and protected. The Cape and Cape Master were developed after 1980. At least some of the trees were designated as heritage trees.





PROJECT PURPOSE AND SCOPE

The purpose of the report is to describe the basic condition of the 38 Blue Gum Eucalyptus trees at The Cape and Cape Master housing units, to make recommendations as to maintenance and safety. Each tree was assessed for general health, safety, and maintenance.

PROJECT LOCATION

The Eucalyptus windrow, which is oriented along a north-south transect, is located on the west side of the Cape Master condominium development, along Goldman Street between Sullivan and Thille Streets, in eastern Ventura, California. The Cape condominium development trees are located south of Sullivan Street and north of Telephone Road. The general location of project site is shown on Figure 1, General Project Site Location Map, and the windrow at the two developments is shown on Figure 2, Map of Blue Gum Eucalyptus Tree Windrow, which has each tree identified with a unique number between 1 and 38.

Figure 1. General Project Site Location Map

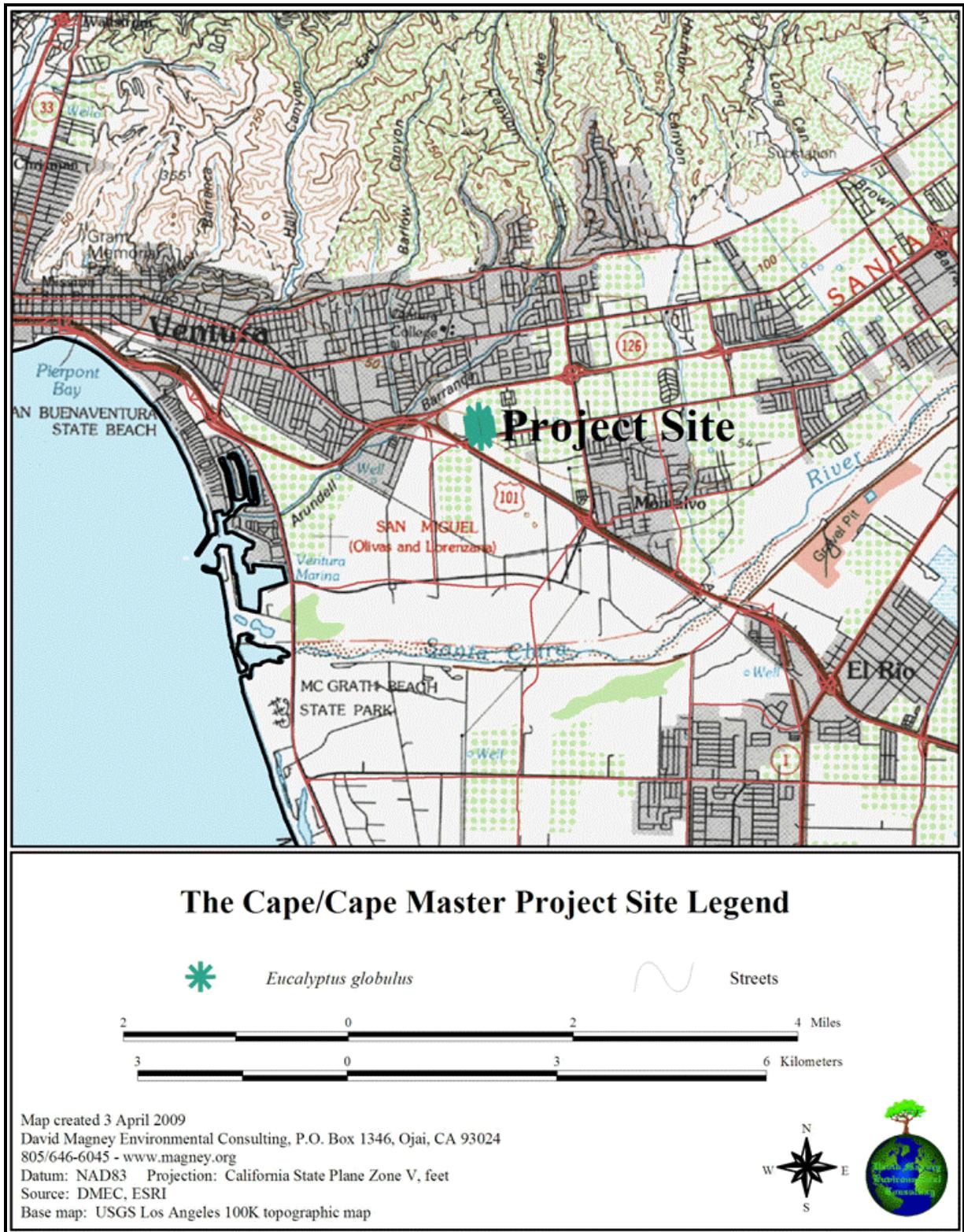
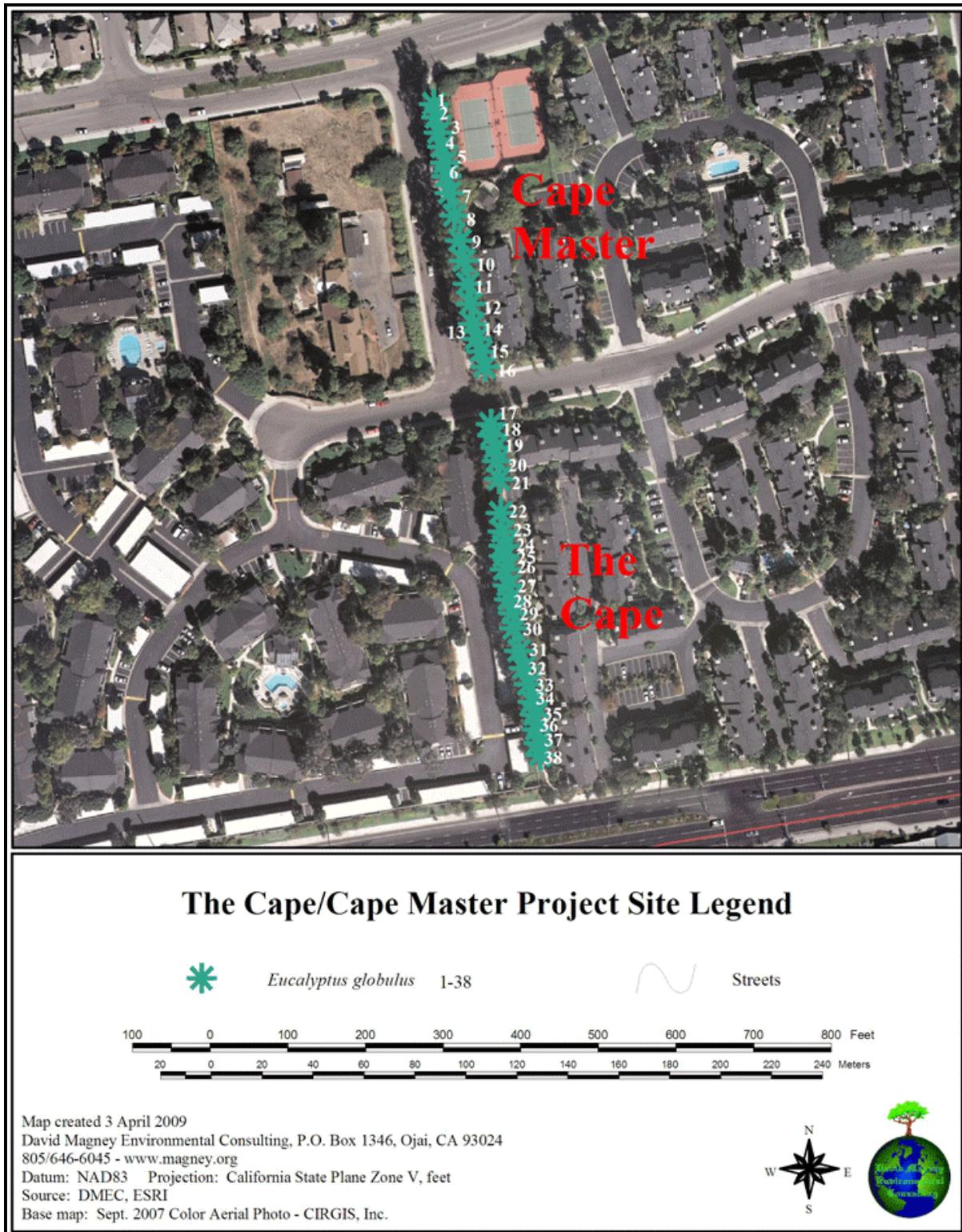


Figure 2. Map of Blue Gum Eucalyptus Tree Windrow



SECTION II. METHODS

To assess each tree, observations were made according to standard criteria, including:

- physical measurements (DBH, height, number of trunks, canopy cover in four cardinal directions);
- structural conditions;
- insect damage;
- evidence of rot or fungal growth;
- soil conditions;
- root and root crown conditions;
- maintenance needs; and
- safety concerns.

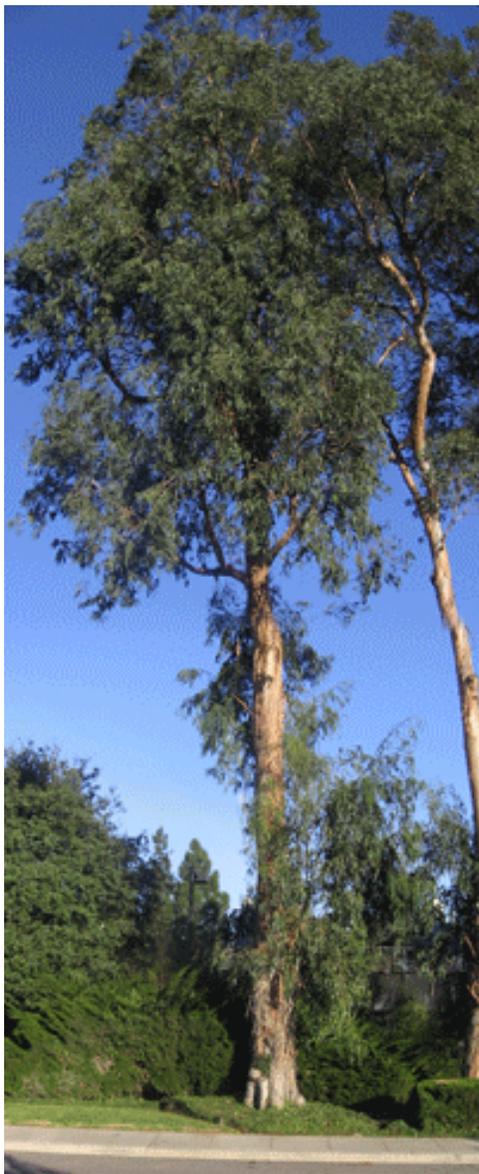
These observations were recorded on field assessment forms, one for each tree, which are included as Appendix A. Photographs of each tree were taken, which are included as Appendix B.

The trees were examined on one or more dates, including: 9 and 17 December 2008 and 9 and 21 January 2009. The condition of the roots and root crowns of selected trees were examined on 21 January 2009.

SECTION III. ASSESSMENT OF TREE CONDITIONS

TREES

One species of tree comprises the old agricultural windrow, which was used to provide a windbreak for citrus orchards that occurred onsite prior to house development. One species is represented in the windrow, Tasmanian Blue Gum (*Eucalyptus globulus* Labill. ssp. *globulus*).



Tasmanian Blue Gum is a fast-growing, tall tree native to Tasmania and southeastern Australia. It grows to over 385 feet high (5th tallest tree in the world), usually with one main trunk, but may have two to three trunks. Typical height is around 200 feet. Its leaves are bimorphic, with the mature leaves falcate (sickle-shaped) are 6 to 10 inches long, and are very aromatic. The juvenile leaves are broadly ovate and clasping at the base, and glaucous blue in color. The flowers contain numerous cream-colored stamens, and lack petals. The fruit, a hard capsule, is triangular-cone shaped and bluish-green. The bark is gray to tan, and shreds in long strips, and can leave much litter on the ground. (Dunmire 1970.)

Tasmanian Blue Gum is sensitive to frost (17-22°F), but readily resprouts after a killing freeze. It needs deep soil for best growth (Dunmire 1970).

During the process of grading the site for the housing developments (The Cape and Cape Master), the soil grade was changes, and between 6 and 18 inches of fill material was placed on under the driplines of the windrow trees. This resulted in burial of the root crowns of many of the trees.

Over time, several of the trees within the windrow were removed, as evidenced by gaps in the windrow, and a gap in tree identification tags installed by a previous arborist. Today, the windrow contains 38 mature trees, ranging in height from about 75 to 120 feet, and with trunk diameters of 22 to 54 inches at breast height (DBH).

The trees are generally tall and slender, almost entirely with a single trunk. Their canopies generally do not exceed 60 feet across, with the smallest only 20 feet across, due primarily to their close proximity to each other, in a line. Height to canopy from the ground ranges from 10 to 70 feet.



CONDITION OF TREES

In general, the trees are in good health; however, at least one tree is unhealthy, and many need preventative care to remain healthy. Their conditions are described for each tree on the assessment forms (Appendix A) and summarized in Table 1a-d, Summary of Trees and Recommendations.

SAFETY CONCERNS

Only one tree is considered a potential safety hazard at this time, Tree #14, the third tree from the corner of Sullivan and Goodman Streets. Several other trees, including #s 1, 3, 4, 5, 7, 8, 10, 12, and 31, may be safety hazards due to weak structure or wounds that could expand and cause a portion of the tree to break off.

Over half of the trees are at risk of eventual failure from rot developing in the root crown unless the excess fill material is removed. Trees noted to have excess fill covering their root crowns include tree #s: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 22, 24, 25, and 30.

To keep all trees in a safe condition, they should be maintained regularly and inspected periodically. Those trees with noted potential problems should be inspected regularly, in about six (6) months, to check if the conditions of concern have improved or worsened. The other trees should be inspected by a certified arborist at least once every five (5) years.

MAINTENANCE NEEDS

All trees should have trunk sprouts and dead branches removed. The canopies should be thinned on some trees, but not more than 10 percent removed in any one year. All trees should have hazardous limbs, particularly any dead branches, removed annually.

Tree #23 does not need any special treatment or maintenance at this time.



Table 1a. Summary of Trees and Recommendations

Tree #	1	2	3	4	5	6	7	8	9	10
Height (ft)	100	90	95	110	110	100	105	100	105	100
Crown (ft)	35	25	35	35	30	35	45	35	45	40
Height to Crown (ft)	28	45	45	60	40	45	60	25	50	70
# Trunks	1	1	1	2	1	1	1	1	1	1
DBH (inches)	40	27	28	35/32	38	36	37	40	43	33
Balanced?	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes
Symmetrical?	Yes	Yes	No	Yes	Yes	No	No	No	No	Yes
Condition¹	D	A	A	A	A	A	A	A	A	A
Branching										
Decay?	Yes	None	None	Yes	Maybe	None	Yes	Yes	None	Maybe
Defects?	None	None	None	Yes	None	None	None	None	None	None
Dieback?	No	No	No	No	No	No	No	No	No	No
Normal Growth?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nutrient Deficiencies?	No	No	No	No	No	No	No	No	No	No
Root Crown										
Healthy?	No	No	No	No	No	No	No	No	No	No
Buried?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Soil?	fill	fill	fill	fill	fill	fill	fill	fill	fill	fill
Pests										
Insects?	None	None	None	None	None	None	None	None	None	None
Fungus?	None	None	Yes	Yes	Maybe	<i>Pisolithus tinctorius</i>	Yes	Yes	None	Yes
Bacteria?	None	None	None	None	None	None	None	None	None	None
Roots										
Healthy?	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Rot?	No	No	No	No	No	No	Yes	Yes	No	No
Photographs:	1-13, 421- 424, 428- 434	14-23	24- 32, 435- 444	33-50	51-62	1-10	11-22, 445- 452	23-35, 453- 459	36-44	60- 70, 191- 193
Hazardous?	Maybe	No	Maybe	Maybe	Maybe	No	Maybe	Maybe	No	Maybe
Date(s)	9Dec08, 22Jan09	9Dec08	9Dec08 22Jan09	9Dec08	9Dec08	17Dec08	17Dec08 22Jan09	17Dec08, 22Jan09	17Dec08	9Jan09
Recommendations²	RF, RS	RF, TC	RF, RI, RM	RF, RI	RF	RF	RF	RF, RS	RF, TC	RF, TC

¹ Condition definitions: A = Sound and solid trunk; A1 = nice specimen tree; D = decay present; L = leaning; WC= weak crotch; OW = oozing wound.

² Recommendation definitions: RF = remove fill; RS = remove trunk sprouts; RI = remove ivy; RM = remove Myoporium; RW = remove irrigation; RP = remove pine tree; RT = remove tree; TC = thin canopy (no more than 10%); IW = inspect wound; RL = remove turfgrass lawn.



Table 1b. Summary of Trees and Recommendations

Tree #	11	12	13	14	15	16	17	18	19
Height (ft)	90	80	85	90	100	105	85	100	105
Crown (ft)	60	35	40	35	20	45	50	35	30
Height to Crown (ft)	35	35	35	35	35	60	30	30	60
# Trunks	1	1	1	1	1	1	1	1	1
DBH (inches)	49	27	40	36	35	40	40	33	34
Balanced?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Symmetrical?	No	Yes	No	Yes	No	Yes	Yes	No	Yes
Condition³	A	A	A	D	A	A	A	A	A
Branching									
Decay?	None	None	None	Yes	None	None	None	None	None
Defects?	None	None	None	None	None	None	None	None	None
Dieback?	No	No	No	No	No	No	No	No	No
Normal Growth?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nutrient Deficiencies?	No	No	No	No	No	No	No	No	No
Root Crown									
Healthy?	No	No	No	No	No	No	No	No	No
Buried?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Soil?	fill	fill	fill	fill	fill	fill	fill	Ivy	Ivy
Pests									
Insects?	None	None	None	None	None	None	None	None	None
Fungus?	None	Yes	None	<i>Laetiporus gilbertsonii</i>	None	None	Yes	None	None
Bacteria?	None	None	None	None	None	None	None	None	None
Roots									
Healthy?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rot?	No	No	No	No	No	No	No	No	No
Photographs:	71-78	21-30, 79-87, 460-466	88-89, 172- 177	178-190, 467-473	194-202	203- 211	212-221, 474-482	222- 227	228- 235
Hazardous?	No	Maybe	No	Yes	No	No	No	No	No
Date(s)	9Jan09	9Jan09, 22Jan09	9Jan09	9Jan09, 22Jan09	9Jan09	9Jan09	9Jan09, 22Jan09	9Jan09	9Jan09
Recommendations⁴	RF, TC	RF, TC	RF, TC	RT	RF, RS	RF, TC	RF, RW, TC	RF, RI, TC	RF, RI, RW

³ Condition definitions: A = Sound and solid trunk; A1 = nice specimen tree; D = decay present; L = leaning; WC= weak crotch; OW = oozing wound.

⁴ Recommendation definitions: RF = remove fill; RS = remove trunk sprouts; RI = remove ivy; RM = remove Myoporium; RW = remove irrigation; RP = remove pine tree; RT = remove tree; TC = thin canopy (no more than 10%); IW = inspect wound; RL = remove turfgrass lawn.



Table 1c. Summary of Trees and Recommendations

Tree #	20	21	22	23	24	25	26	27	28	29
Height (ft)	80	90	90	85	90	90	100	90	80	95
Crown (ft)	35	40	35	25	35	35	50	45	25	30
Height to Crown (ft)	20	15	10	25	25	35	25	25	30	20
# Trunks	1	1	2	1	1	1	1	1	1	1
DBH (inches)	30	44	28/6	22	32	33	30	39	22	33
Balanced?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Symmetrical?	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Condition⁵	A	A	A	A	A	A	A	A	A	A
Branching										
Decay?	None	None	None	None	None	None	None	None	None	None
Defects?	None	None	None	None	None	None	None	None	Top missing	None
Dieback?	No	No	No	No	No	No	No	No	Top missing	No
Normal Growth?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nutrient Deficiencies?	No	No	No	No	No	No	No	No	No	No
Root Crown										
Healthy?	No	No	No	Yes	No	No	Yes	No	No	No
Buried?	No	No	Yes	No	Yes	Yes	No	Yes	Yes	No
Soil?	Ivy	Ivy	fill	Good	Ivy	Ivy	Good	Ivy	fill	Ivy
Pests										
Insects?	None	None	None	None	None	None	None	None	None	None
Fungus?	None	None	Yes	None	None	None	None	None	None	None
Bacteria?	None	None	None	None	None	None	None	None	None	None
Roots										
Healthy?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rot?	No	No	No	No	No	No	No	No	No	No
Photographs:	236-243	244-253	254-262, 483-490	263-270	271-278	279-286	287-296, 415-416	297-304	305-312	313-322
Hazardous?	No	No	No	No	No	No	No	No	No	No
Date(s)	9Jan09	9Jan09	9Jan09, 22Jan09	9Jan09	9Jan09	9Jan09	9Jan09	9Jan09	9Jan09	9Jan09
Recommendations⁶	RS, TC	RI, TC	RF, RI, RW	None	RF, RI, TC	RF, RI, TC	RP, TC	RI, TC	TC	RI, TC

⁵ Condition definitions: A = Sound and solid trunk; A1 = nice specimen tree; D = decay present; L = leaning; WC= weak crotch; OW = oozing wound.

⁶ Recommendation definitions: RF = remove fill; RS = remove trunk sprouts; RI = remove ivy; RM = remove Myoporium; RW = remove irrigation; RP = remove pine tree; RT = remove tree; TC = thin canopy (no more than 10%); IW = inspect wound; RL = remove turfgrass lawn.



Table 1d. Summary of Trees and Recommendations

Tree #	30	31	32	33	34	35	36	37	38
Height (ft)	90	95	100	100	90	95	75	85	120
Crown (ft)	35	40	25	45	40	25	20	30	40
Height to Crown (ft)	30	25	20	20	25	20	25	10	25
# Trunks	1	1	1	1	1	1	1	1	1
DBH (inches)	36	29	21	31	35	30	31	31	54
Balanced?	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Symmetrical?	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
Condition⁷	A	L	OW	A1	A1	L	WC	A	A
Branching									
Decay?	None	None	Yes	None	None	None	None	None	None
Defects?	Weak crotch	None	None	None	None	None	Weak crotch	None	None
Dieback?	No	No	No	No	No	No	No	No	No
Normal Growth?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nutrient Deficiencies?	No	No	No	No	No	No	No	No	No
Root Crown									
Healthy?	No	No	No	No	No	Yes	No	No	Yes
Buried?	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Soil?	Ivy	Ivy	Ivy	fill	Ivy	Good	Ivy	Ivy	Good
Pests									
Insects?	None	None	None	None	None	None	None	None	None
Fungus?	None	None	possible	None	None	None	None	None	None
Bacteria?	None	None	None	None	None	None	None	None	None
Roots									
Healthy?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rot?	No	No	No	No	No	No	No	No	No
Photographs:	323-328	329-337	338-347, 491-499	348-355	356-366	367-376	377-387, 500-505	388-396	397-411
Hazardous?	No	No	Maybe	No	No	No	No	No	No
Date(s)	9Jan09	9Jan09	9Jan09, 22Jan09	9Jan09	9Jan09	9Jan09	9Jan09	9Jan09	9Jan09
Recommendations⁸	RF, RI, TC	RI, TC	OW, TC	RL, TC	RS, TC	TC	TC	TC	TC

⁷ Condition definitions: A = Sound and solid trunk; A1 = nice specimen tree; D = decay present; L = leaning; WC= weak crotch; OW = oozing wound.

⁸ Recommendation definitions: RF = remove fill; RS = remove trunk sprouts; RI = remove ivy; RM = remove Myoporium; RW = remove irrigation; RP = remove pine tree; RT = remove tree; TC = thin canopy (no more than 10%); IW = inspect wound; RL = remove turfgrass lawn.

SECTION V. CONCLUSIONS AND RECOMMENDATIONS



Each of the trees need maintenance pruning to remove trunk sprouts, damaged branches, and removal of selected branches that are not structurally sound.

Excess fill needs to be removed from the base on nearly all the trees to expose the root crowns to proper levels, ranging between 6 to 18 inches.



Tree #14 is recommended for removal since its trunk is infected by a damaging fungus (*Laetiporus gilbertsonii*) that is known to eventually kill Eucalyptus trees. This fungus causes rot of the heartwood, and will eventually kill the tree. The fungal attack is likely the result of fill material being placed over the root crown several years previous.



All generally applied irrigation within 15 feet of the tree trunks should cease, as this practice promotes rot. No supplemental irrigation should be applied to the root zones of the windrow trees. Only spot application of irrigation for other smaller shrubs should be allowed, with only enough water supplied to satisfy the target plants.

All ground cover plants, primarily Algerian Ivy (*Hedera canariensis*) and turfgrass, should be removed from within 5 feet of the trunk of each tree.



Two small pine trees planted too close to the Eucalyptus trees should be removed, located adjacent to the trees in The Cape development. One small Myoporum (*Myoporum laetum*) should be removed that was planted too close to Tree #3.



Wounds on selected trees should be monitored every 6 months to determine if health of the trees are at risk.



SECTION VII. ACKNOWLEDGEMENTS

This report was written by David Magney, certified arborist ISA #WE-7674A. Mr. Magney created graphics. The photographs are by Mr. Magney, except the two photographs of the *Laetiporus gilbertsonii* are by Fred Stevens and Mark Corwin. Ms. Callen Huff assisted with data management and proofread the report.

Mr. Donald Rodrigues, ISA certified arborist, provided guidance and technical assistance with the assessment.

SECTION VIII. CITATIONS

REFERENCES CITED

- Dunmire, J.R. 1970. *Sunset Western Garden Handbook*. Sixth Printing. Lane Magazine & Book Company, Menlo Park, California.
- Keane, P.J., G.A. Kile, and P.D. Rodger. 2000. *Diseases and Pathogens of Eucalypts*. Csiro Publishing, Queensland, Australia.

APPENDICES

Appendix A Tree Field Evaluation Forms

Appendix B Photographs of Trees



APPENDIX A TREE FIELD EVALUATION FORMS



APPENDIX B PHOTOGRAPHS OF TREES

Tree 1



Tree 2



Tree 3



Tree 4



Tree 5



Tree 6





Tree 7



Tree 8



Tree 9





Tree 10



Tree 11



Tree 12





Tree 13



Tree 14



Tree 15



Tree 16



Tree 17





Tree 18



Tree 19



Tree 20



Tree 21



Tree 22



Tree 23

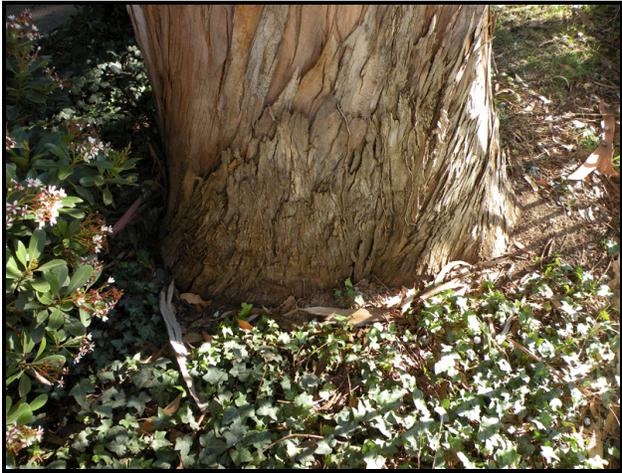


Tree 24



Tree 25





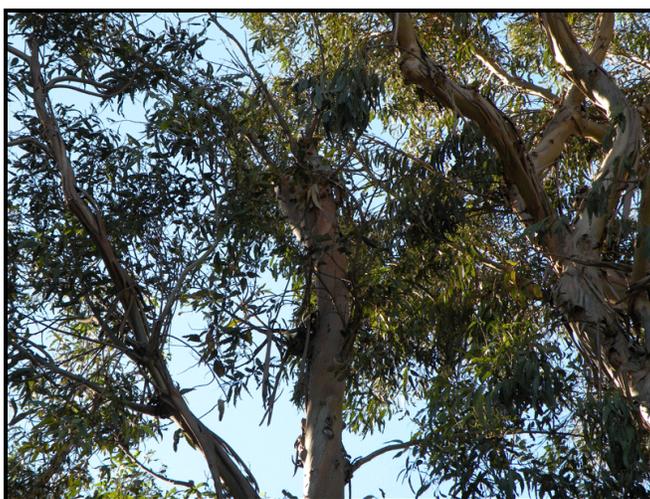
Tree 26



Tree 27



Tree 28

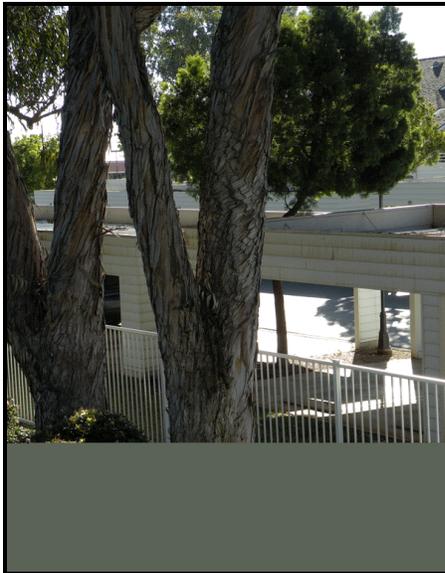




Tree 29



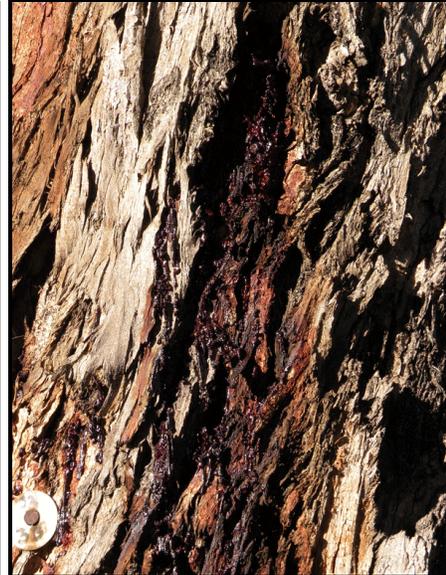
Tree 30



Tree 31



Tree 32



Tree 33



Tree 34





Tree 35



Tree 36





Tree 37





Tree 38



