Tree Inventory Report

20540 Broadway Sonoma, CA

February 19th, 2025

Prepared for: Red Tail Residential

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Summary

On February 7th we conducted a tree inventory at 20540 Broadway in Sonoma. This inventory was to help Red Tail Residential in the process of developing the property.

We surveyed 155 trees across 13 species, with valley oak (*Quercus lobata*) and white poplar (*Populus alba*) being the most common. Health ratings are approximate due to the dormant season. Tree locations were recorded using satellite imagery, provided site plan and TreePlotter software. Multi-stemmed trees were measured using an equivalent dbh calculation.

Background

Dugan Garrison of Murow Development Consultants reached out to us on January 15th. He requested a tree inventory to aid Red Tail Residential in developing the property at 20540 Broadway in Sonoma.

Assignment

Our assignment was to:

1. Inventory all trees over 4 inches dbh including tree identification,

tree condition, diameter at breast height (dbh), tree protection zone (TPZ), non-intrusion zone as defined by the city of Sonoma Tree Ordinance, approximate height, approximate canopy spread, suitability for preservation and observations.

- 2. Place approximate tree locations on a map.
- 3. Submit a written report documenting the data inventoried.

Limits of the Assignment

Our investigation was limited to the information provided by Dugan Garrison, the provided site plans, the city of Sonoma Tree Ordinance, by our own research, and by the conditions during our onsite inspection. We did not tag trees. Tree dormancy affected our ability to assess tree health and possible species identification. This report is not a tree protection plan, a tree risk assessment, an engineer report, an aesthetic evaluation, or a tree appraisal.

Purpose and Use of the Report

The purpose and use of this report is to aid Red Tail Residential in the permitting process to develop the property. Red Tail Residential may also use this report and inventory to determine which trees to preserve and design development accordingly.

Observations and Methods

We visited the property at 20540 Broadway in Sonoma on February 7th, 2025.

We inventoried all trees on the property larger than 4 inches in diameter at 4.5 feet above grade (dbh) and noted their approximate locations (Appendix 1). There were several trees smaller than 4 inches dbh that we did not survey. The south-western corner of the property has a grove with smaller poplar trees and the vineyard section has smaller oak trees growing along the vine rows. We identified and observed 155 trees in the onsite as noted attached spreadsheet (Appendix 2).

Health ratings provided in this report are approximate, as the tree inventory was conducted during the dormant season. Due to seasonal dormancy, we were unable to assess the trees in their optimal condition.

The suitability for preservation is not a recommendation to retain or remove, but an indication of how successful the trees will be if they are impacted by development.

We added trees that were not identified from the previous survey. Some trees were single trees with two stems that the previous survey noted as two trees, we inventoried them as single trees and noted it on the provided site plans (Appendix 1). Following is the breakdown of all the tree species inventoried:

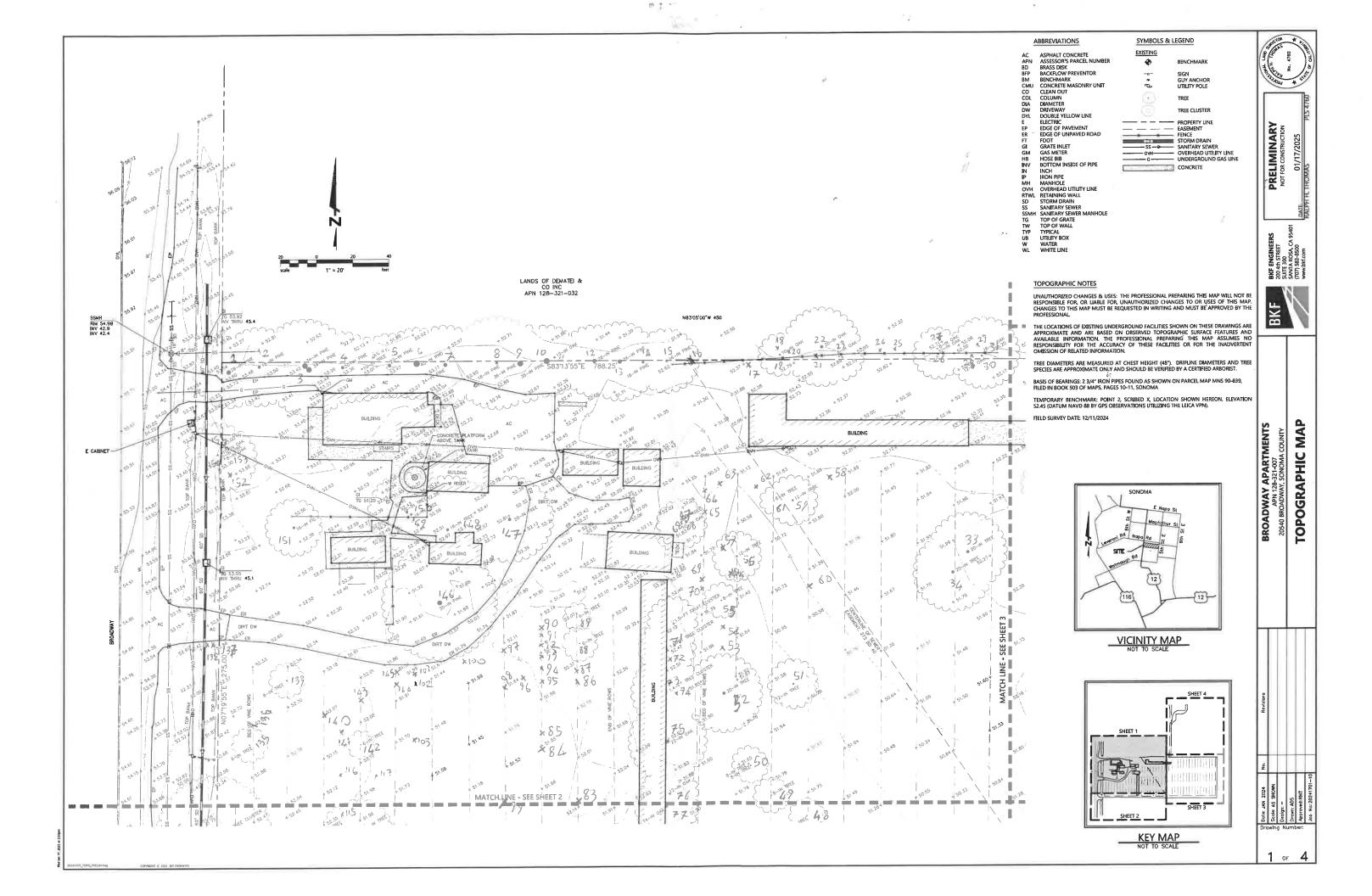
- 8 Coastal live oak (Quercus agrifolia)
- 3 Coast redwood (Sequoia sempervirens)
- 1 Common fig (Ficus carica)
- 1 English Walnut (*Juglans regia*)
- 10 Long leaf pine (*Pinus palustris*)
- 4 Maple (*Acer sp.*)
- 11 Monterey pine (*Pinus radiata*)
- 1 Pear (*Pyrus sp.*)
- 1 Pittosporum (*Pittosporum sp.*)
- 11 Plum (*Prunus sp.*)
- 2 Tree of heaven (Ailanthus altissima)
- 75 Valley oak (*Quercus lobata*)
- 27 White poplar (*Populus alba*)

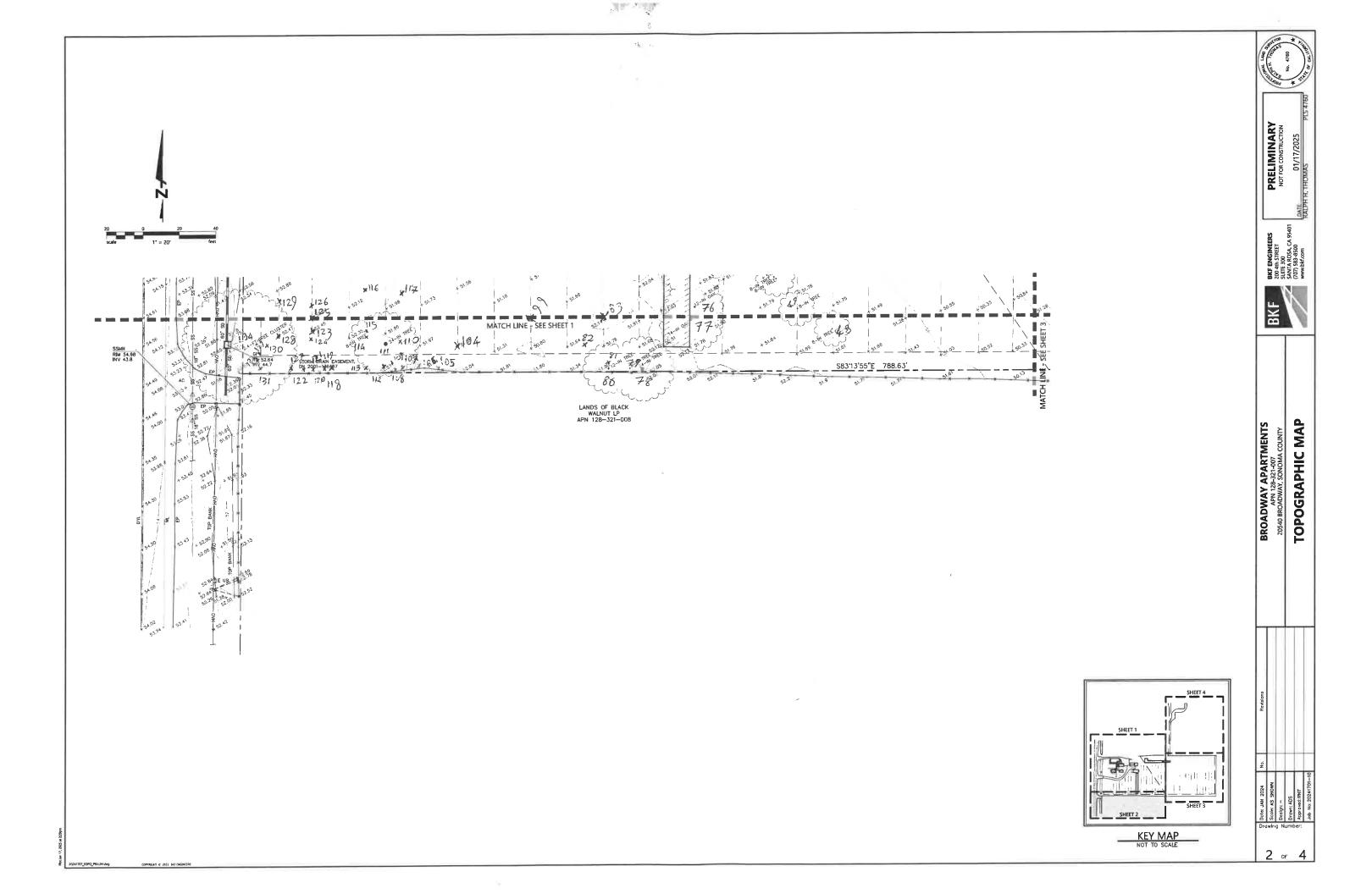
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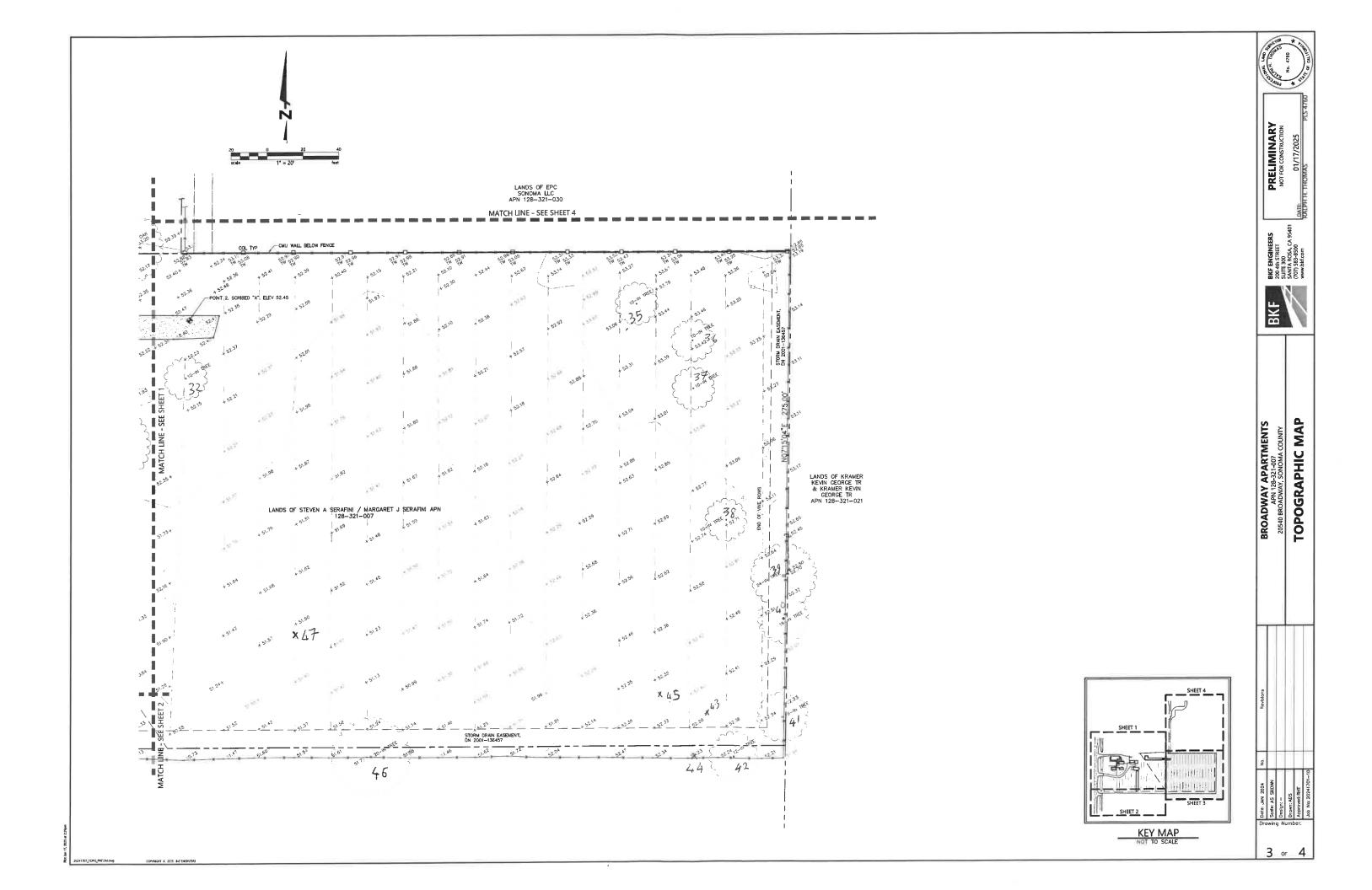
We calculated the TPZ for all of the trees. For this calculation we used tree age, dbh and relative tolerance of the tree's species to root disturbance. We included TPZ calculations as it is the industry standard for managing trees and development even though the city of Sonoma uses a "nonintrusion zone".

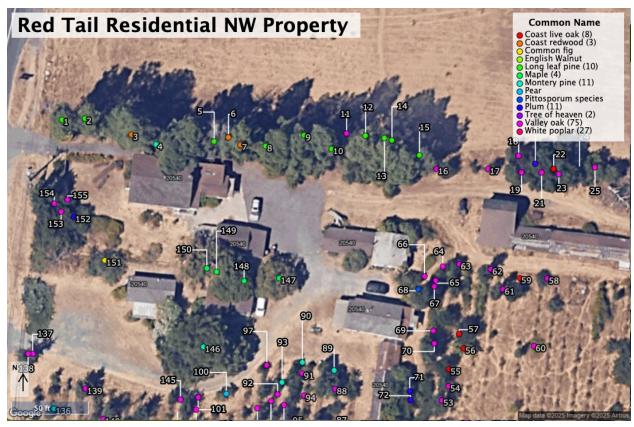
For calculations involving multi-stemmed trees we measured all stems and calculated an equivalent dbh by taking the square root of the sum of each stem's squared dbh. We used TreePlotter, a tree inventory software, and the provided site plan to record approximate tree locations and inventory trees.

Appendix 1 Annotated Site Plans and Maps

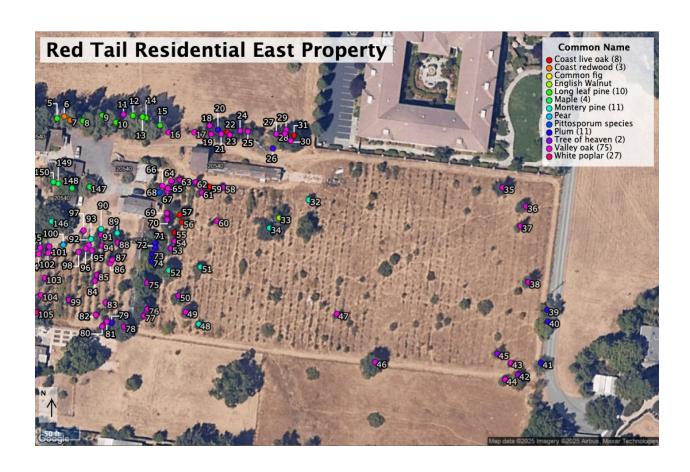












Appendix 2: Tree Inventory

Tree Id	Common Name	Latin Name	DBH	DBH Multi- Stems	"Nonintrustion Zone" (radius in feet)	Tree Protection Zone (TPZ)	Health	Structure	Suitability For Preservation	Observations	Crown Spread (Estimated in ft)	Tree Height (Estimated in ft)
1	Long leaf pine	Pinus palustris	29		18	29	Good	Good	Moderate		20	80
2	Long leaf pine	Pinus palustris	19		16	19	Good	Good	Moderate		15	80
3	Coast redwood	Sequoia sempervirens	50	37,33	32	37	Fair	Fair	Low	Co-dominant tree, Included Bark	30	80
4	Montery pine	Pinus radiata	21		16	21	Good	Poor	Low	Trunk Leaning (E), Trunk Leaning (S)	30	40
5	Long leaf pine	Pinus palustris	22		16	22	Good	Good	Moderate		30	60
6	Coast redwood	Sequoia sempervirens	47		28	35	Poor	Fair	Low	Co-dominant tree, 3 stems, dead top	30	60
7	Coast redwood	Sequoia sempervirens	38		24	29	Good	Good	Moderate		30	80
8	Long leaf pine	Pinus palustris	25		18	25	Good	Good	Moderate		30	70
9	Long leaf pine	Pinus palustris	27	23,15	18	27	Good	Fair	Moderate	Co-dominant tree	30	60
10	Long leaf pine	Pinus palustris	30	21,22	20	30	Good	Poor	Low	Co-dominant tree, Included Bark	25	
11	Valley oak	Quercus lobata	10		10	10	Good	Good	High	Trunk Leaning (N)	25	25
12	Long leaf pine	Pinus palustris	27		18	27	Good	Good	Moderate		30	70
13	Long leaf pine	Pinus palustris	27		18	27	Good	Poor	Low	Included Bark	30	70
14	Long leaf pine	Pinus palustris	26		18	26	Good	Good	High		30	60
15	Long leaf pine	Pinus palustris	16		12	16	Fair	Good	Low		20	50
16	Valley oak	Quercus lobata	6		10	5	Good	Good	High		10	20
17	Valley oak	Quercus lobata	4		6	3	Good	Good	High		8	15
18	Valley oak	Quercus lobata	5		6	4	Good	Good	High	Trunk Leaning (N)	10	15
19	Valley oak	Quercus lobata	9	7,5	10	6	Good	Fair	Moderate		10	20
20	Plum	Prunus species	9	7,4,3	10	9	Fair	Fair	Low		15	15
21	Valley oak	Quercus lobata	5		6	4	Good	Good	Moderate	Supressed Tree, Trunk Leaning (S)	15	15
22	Coast live oak	Quercus agrifolia	19	14,13	16	14	Fair	Fair	Moderate	Co-dominant tree	30	25
23	Valley oak	Quercus lobata	9		10	7	Good	Good	High		25	30
24	Valley oak	Quercus lobata	5		6	4	Good	Good	High		10	15
25	Valley oak	Quercus lobata	6		10	5	Good	Good	Moderate		10	20
26	Plum	Prunus species	12	9,6,4	10	12	Fair	Fair	Moderate		25	25
27	Valley oak	Quercus lobata	7		10	5	Good	Good	Moderate	Trunk Leaning (N)	20	25
28	Valley oak	Quercus lobata	4		6	3	Fair	Good	Moderate	Supressed Tree	10	15
29	Valley oak	Quercus lobata	5		6	4	Good	Good	Moderate	Supressed Tree	10	15
30	Valley oak	Quercus lobata	11		10	11	Good	Good	Moderate		20	30
31	Coast live oak	Quercus agrifolia	22	12,18	16	16	Good	Fair	Moderate		40	40
32	Montery pine	Pinus radiata	5		6	4	Fair	Fair	Low	Injury at base	10	15

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33	English Walnut	Juglans regia	21	14,12,9	16	31	Fair	Fair	Low		30	20
34	Montery pine	Pinus radiata	13		12	13	Good	Good	Moderate		30	30
35	Valley oak	Quercus lobata	14		12	14	Good	Poor	Low	Co-dominant tree, Included Bark	25	25
36	Valley oak	Quercus lobata	9	5,5,6	10	7	Good	Fair	Moderate	Co-dominant tree	20	20
37	Valley oak	Quercus lobata	8	6,6	10	6	Good	Fair	Moderate	Co-dominant tree	15	25
38	Valley oak	Quercus lobata	9	7,6	10	7	Fair	Good	Moderate	Co-dominant tree	20	20
39	Plum	Prunus species	25	23,8,6	18	31	Fair	Fair	Moderate		30	25
40	Plum	Prunus species	22	18,12	16	27	Poor	Fair	Moderate		30	20
41	Plum	Prunus species	14	8,6,5,5,4,5	12	17	Poor	Fair	Moderate		30	20
42	Tree of heaven	Ailanthus altissima	16	12,10	12	12	Fair	Poor	Low		25	20
43	Valley oak	Quercus lobata	5		6	4	Good	Good	High		10	12
44	Valley oak	Quercus lobata	8	6,5	10	6	Good	Good	High		10	12
45	Tree of heaven	Ailanthus altissima	6	5,4	10	5	Fair	Poor	Low		8	15
46	Valley oak	Quercus lobata	17		12	17	Good	Fair	Moderate		40	30
47	Valley oak	Quercus lobata	5		6	4	Good	Good	High		8	20
48	Montery pine	Pinus radiata	6		10	6	Good	Fair	Moderate		15	20
49	Valley oak	Quercus lobata	9		10	7	Good	Good	High		20	25
50	Valley oak	Quercus lobata	12	10,7	12	12	Good	Fair	Moderate	Co-dominant tree	20	25
51	Montery pine	Pinus radiata	11	8,8	10	11	Good	Poor	Low	Co-dominant tree, Included Bark	25	20
52	Montery pine	Pinus radiata	16		12	16	Fair	Poor	Low	Co-dominant tree, Included Bark	25	20
53	Valley oak	Quercus lobata	9		10	7	Good	Good	High		15	25
54	Valley oak	Quercus lobata	5		6	4	Good	Excellent	High		8	25
55	Coast live oak	Quercus agrifolia	8	5,4,4	10	4	Good	Poor	Low	Co-dominant tree, Included Bark	20	20
56	Coast live oak	Quercus agrifolia	11	8,8	10	8	Good	Poor	Low	Co-dominant tree	20	20
57	Coast live oak	Quercus agrifolia	6		10	3	Good	Good	High		20	20
58	Valley oak	Quercus lobata	4		6	3	Fair	Fair	Moderate		15	10
59	Coast live oak	Quercus agrifolia	8	6,5	10	4	Good	Poor	Low		20	25
60	Valley oak	Quercus lobata	4		6	3	Good	Good	High		8	20
61	Valley oak	Quercus lobata	6		10	5	Good	Good	High		10	26
62	Valley oak	Quercus lobata	7		10	5	Good	Good	High		10	26
63	Valley oak	Quercus lobata	5		6	4	Good	Good	High		8	15
64	Valley oak	Quercus lobata	4		6	3	Good	Excellent	High		8	15
65	Valley oak	Quercus lobata	4		6	3	Good	Excellent	High		8	15
66	Valley oak	Quercus lobata	4		6	3	Fair	Fair	Moderate	Supressed Tree	10	25
67	Valley oak	Quercus lobata	9		10	7	Good	Fair	Moderate	Co-dominant tree	15	25
68	Pittosporum species	Pittosporum species	6	4,4	6	6	Good	Fair	Moderate		10	12

69	Valley oak	Quercus lobata	8	1	10	6	Good	Fair	Moderate		10	25
70	Valley oak	Quercus lobata	5		6	4	Good	Good	Moderate		10	25
71	Plum	Prunus species	8	6,4,4	10	8	Fair	Fair	Low		25	20
72	Plum	-	5	0,4,4	6	5	Poor	Fair	Low		20	20
73	Plum	Prunus species		E E E 4 4		10	Poor	Fair	-			20
ļ		Prunus species	10	5,5,5,4,4	10	7			Low		20	
74	Plum	Prunus species	7	4,4,4	10	· .	Poor	Fair	Low		20	20
75	Valley oak	Quercus lobata	20		16	20	Good	Good	High		30	30
76	Valley oak	Quercus lobata	12		12	12	Good	Good	High		20	25
77	Valley oak	Quercus lobata	13		12	13	Good	Fair	High		20	25
78	Valley oak	Quercus lobata	14		12	14	Good	Good	High		30	30
79	Plum	Prunus species	8	4,4,4,4	10	6	Poor	Poor	Low		20	20
80	Valley oak	Quercus lobata	11		10	11	Good	Good	Moderate		25	30
81	Valley oak	Quercus lobata	4		6	3	Good	Good	Low	Supressed Tree, Trunk Leaning (N)	12	12
82	Valley oak	Quercus lobata	5		6	4	Good	Excellent	High		12	20
83	Valley oak	Quercus lobata	5		6	4	Good	Fair	High	Damage at base	12	20
84	Valley oak	Quercus lobata	5		6	4	Good	Excellent	High		10	20
85	Valley oak	Quercus lobata	4		6	3	Good	Good	High		10	20
86	Valley oak	Quercus lobata	6		10	5	Good	Good	High		10	20
87	Valley oak	Quercus lobata	4		6	3	Good	Excellent	High		6	15
88	Valley oak	Quercus lobata	11	6,6,5,4	10	8	Good	Fair	Low	Co-dominant Limbs	25	20
89	Montery pine	Pinus radiata	6		10	6	Good	Good	Moderate		10	20
90	Montery pine	Pinus radiata	4		6	4	Fair	Good	Moderate		10	20
91	Valley oak	Quercus lobata	4		6	3	Good	Excellent	Moderate		10	15
92	Valley oak	Quercus lobata	4		6	3	Good	Fair	Moderate		10	15
93	Montery pine	Pinus radiata	4		6	3	Good	Good	Moderate		10	15
94	Valley oak	Quercus lobata	4		6	3	Good	Good	Moderate		10	12
95	Valley oak	Quercus lobata	5		6	4	Good	Good	High		10	12
96	Valley oak	Quercus lobata	5		6	4	Good	Good	High		10	12
97	Valley oak	Quercus lobata	5		6	4	Good	Excellent	Moderate		10	20
98	Valley oak	Quercus lobata	6		10	5	Good	Good	Moderate		15	20
99	Valley oak	Quercus lobata	4		6	3	Good	Excellent	High		8	20
100	Pear	Pyrus species	8	5,4,5	10	10	Fair	Fair	Moderate		10	10
101	Valley oak	Quercus lobata	4		6	3	Good	Good	High		10	15
102	Valley oak	Quercus lobata	6		10	5	Good	Good	High		10	20
103	Valley oak	Quercus lobata	6		10	5	Good	Good	High		10	20
104	Valley oak	Quercus lobata	4		6	3	Good	Excellent	High		10	20
105	White poplar	Populus alba	9	4, 4, 5, 4	10	4	Fair	Fair	Low		30	30
106	White poplar	Populus alba	4		6	2	Fair	Fair	Low		30	30

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107	White poplar	Populus alba	9	7, 5	10	4	Fair	Fair	Low		30	30
108	White poplar	Populus alba	8		10	4	Fair	Fair	Low		30	30
109	White poplar	Populus alba	7		10	4	Fair	Fair	Low		30	30
110	White poplar	Populus alba	9	5, 7	10	4	Fair	Fair	Low		30	30
111	White poplar	Populus alba	15	8, 7, 7, 6, 4	12	7	Fair	Fair	Low		30	30
112	White poplar	Populus alba	4		6	2	Fair	Fair	Low		30	30
113	White poplar	Populus alba	6		10	3	Fair	Fair	Low		30	30
114	Coast live oak	Quercus agrifolia	8	6, 6	10	4	Good	Fair	Moderate		10	10
115	White poplar	Populus alba	9	7, 6	10	7	Good	Fair	Moderate		30	20
116	White poplar	Populus alba	6	5, 4	10	5	Good	Fair	Moderate		30	20
117	Valley oak	Quercus lobata	4		6	3	Good	Excellent	High		10	20
118	White poplar	Populus alba	14	11,7,5	12	10	Fair	Fair	Moderate		30	20
119	White poplar	Populus alba	7	5, 5	10	5	Fair	Fair	Moderate		30	20
120	White poplar	Populus alba	7		10	5	Fair	Fair	Moderate		30	20
121	White poplar	Populus alba	10	7, 7	10	7	Fair	Poor	Moderate		30	20
122	White poplar	Populus alba	6	5, 4	10	5	Fair	Poor	Moderate		30	20
123	White poplar	Populus alba	9	5, 7	10	6	Fair	Poor	Moderate		30	20
124	White poplar	Populus alba	4		6	3	Fair	Poor	Moderate		30	20
125	White poplar	Populus alba	9	6,6,4	10	7	Fair	Poor	Moderate		30	20
126	White poplar	Populus alba	4		6	3	Fair	Poor	Moderate		30	20
127	White poplar	Populus alba	10	7, 7	10	7	Fair	Poor	Moderate		30	20
128	White poplar	Populus alba	9	7, 6	10	7	Fair	Poor	Moderate		30	20
129	White poplar	Populus alba	6	4, 4	6	4	Fair	Poor	Moderate		30	20
130	Valley oak	Quercus lobata	7		10	5	Good	Fair	Moderate		10	30
131	White poplar	Populus alba	13	8, 8, 5, 4	12	10	Fair	Poor	Moderate		30	20
132	White poplar	Populus alba	11	8, 7	10	8	Fair	Poor	Moderate		30	20
133	White poplar	Populus alba	5		6	4	Fair	Poor	Moderate		30	20
134	White poplar	Populus alba	18	9, 9, 9, 8	12	13	Fair	Poor	Moderate		30	20
135	Coast live oak	Quercus agrifolia	6	4, 5	10	3	Good	Poor	Low		15	20
136	Montery pine	Pinus radiata	4		6	3	Good	Good	High		6	10
137	Valley oak	Quercus lobata	7		10	5	Good	Good	High		6	10
138	Valley oak	Quercus lobata	6		10	5	Good	Good	High		10	30
139	Valley oak	Quercus lobata	8	6, 6	10	5	Good	Fair	High		10	30
140	Valley oak	Quercus lobata	6		10	5	Good	Good	High		10	30
141	Valley oak	Quercus lobata	13	6, 6, 6, 5, 5	12	9	Good	Fair	Low		10	20
142	Valley oak	Quercus lobata	6		10	5	Good	Excellent	High		10	20
143	Valley oak	Quercus lobata	6		10	5	Good	Good	High		10	20
144	Valley oak	Quercus lobata	4		6	3	Good	Excellent	High		10	20
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145	Valley oak	Quercus lobata	4		6	3	Good	Good	High	10	20
146	Montery pine	Pinus radiata	32		20	32	Fair	Fair	Low	40	40
147	Maple	Acer species	21		16	26	Fair	Fair	Moderate	30	25
148	Maple	Acer species	15	8, 8, 6, 7, 5	12	19	Fair	Fair	Moderate	30	25
149	Maple	Acer species	14		12	18	Fair	Fair	Moderate	30	25
150	Maple	Acer species	18		16	23	Fair	Fair	Moderate	30	25
151	Common fig	Ficus carica	10	9, 4	10	7	Fair	Fair	Moderate	20	15
152	Plum	Prunus species	7	6, 4	10	5	Fair	Fair	Moderate	15	15
153	Valley oak	Quercus lobata	7		10	5	Fair	Fair	Moderate	10	20
154	Valley oak	Quercus lobata	9		10	7	Fair	Good	Moderate	10	20
155	Valley oak	Quercus lobata	8		10	6	Fair	Fair	Moderate	10	20