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ARBORIST REPORT

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Location:

10 Country Club Way
Carmel Valley, CA 93924

Revised:

May 22, 2023

Prepared For:

Rancho Del Monte Country Club CV LP
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1 INTRODUCTION

RRM Design Group was contracted by Rancho Del Monte Country Club CV LP to complete a tree inventory, assessment, and arborist report for protected and landmark oak trees that may be impacted by the proposed project located at 10 Country Club Way in Carmel Valley (APN: 187-252-011-000). Our scope of services includes tagging, measuring, assessing, photographing the condition of all trees included in the inventory, and a tree risk assessment for potentially hazardous trees. Preservation suitability and health are based on the current site conditions. The proposed project may change the preservation suitability and impact the health of the trees.

1.1 Project Location

The project work area consists of several unoccupied structures, a fenced pool and outdoor patio area, gravel entry drive, and a large, graded area for parking. It is bounded by West Carmel Valley Road to the south and west, Country Club Drive to the north, and Country Club Way to the east. Much of the project site will remain untouched, and for that reason a 3.8-acre work area was identified within the 7-acre parcel based on the proposed limit of grading. This report focuses on the 3.8-acre work area.

1.2 Project Description

The proposed development project consists of a revitalization of the existing 1960's era country club that spans the 7-acre property. Most of the original structures and amenities are currently in a state of disrepair. The proposed structures will generally utilize the footprints of the buildings that exist onsite today. The proposed site layout and programming is also similar to the original construction with an entry drive, several patios, decks, walkways, turf areas, a pool, and jacuzzi. A parking lot is proposed in the large clearing located in the northern portion of the site, taking the place of what was previously the site of a tennis court.

2 METHODOLOGY

2.1 Regulatory Overview

Refer to the Monterey County Code of Ordinances, Chapter 16.60 – Preservation of Oak and Other Protected Trees.

2.2 Tree Survey Methodology

Our tree survey work is a deliberate and systematic methodology for cataloging trees on site:

1. Identify each tree species.
2. Tag each tree with a metal tag and note its location on a site map.
3. Measure each trunk diameter at 24" above grade per Monterey County standards.
4. Evaluate the health and structure of each tree using the following numerical standard:
 - 5 - A healthy, vigorous tree, reasonably free of disease, with good structure and form typical of the species.
 - 4 - A tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
 - 3 - A tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that may be mitigated with care.
 - 2 - A tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
 - 1 - A tree in severe decline, dieback of scaffold branches and or trunk, mostly epicormic growth; extensive structural defects that cannot be abated.
5. Evaluate the vigor of each tree using the following scale:

High – Tree putting on healthy, new twig growth in quantities characteristic of the species.

Moderate – Tree putting on new twig growth but showing signs of stress.

Low – Tree putting on most of their new twig growth as epicormic shoots with signs of severe stress. There may be areas of dieback in the crown.

6. Evaluate the crown opacity of each tree using the following scale:

High – Tree with a thin crown characterized by lack of old growth and small quantities of newer growth. Visually, the sky is seen through the crown with little obstruction.

Moderate – Tree with a moderately thin crown, or with high opacity areas in the crown.

Low – Tree with a healthy, full crown that is characteristic of the species. Visually, it is difficult

to see the sky through the crown.

2.3 Terms and Conditions

The following terms and conditions apply to all oral and written reports and correspondence pertaining to consultations, inspections, and activities of RRM Design Group.

1. The scope of any report or other correspondence is limited to the trees and conditions specifically mentioned in those reports and correspondence. RRM Design Group assumes no liability for the failure of trees or parts of trees, either inspected or otherwise. RRM Design Group assumes no responsibility to report on the condition of any tree or landscape feature not specifically requested by the named client.
2. No tree described in this report was climbed, unless otherwise stated. RRM Design Group does not take responsibility for any defects, which could have only been discovered by climbing. A full root collar inspection, consisting of excavating the soil around the tree to uncover the root collar and major buttress roots was not performed unless otherwise stated. RRM Design Group does not take responsibility for any root defects, which could only have been discovered by such an inspection.
3. RRM Design Group shall not be required to provide further documentation, give testimony, be deposed, or attend court by reason of this appraisal or report unless subsequent contractual arrangements are made, including payment of additional fees for such services as described by RRM Design Group or in the schedule of fees or contract.
4. RRM Design Group guarantees no warrantee, either expressed or implied, as to the suitability of the information contained in the reports for any reason. It is the responsibility of the client to determine applicability to his/her case.
5. Any report and the values, observations and recommendations expressed therein represent the professional opinion of RRM Design Group, and the fee for services is in no manner contingent upon the reporting of a specified value nor upon any finding to be reported.
6. Any photographs, diagrams, graphs, sketches, or other graphic material included in any report, being intended solely as visual aids, are not necessarily to scale and should not be construed as engineering reports or surveys, unless otherwise noted in the report. Any reproductions of graphic material or the work produced by other persons, is intended solely for the purpose of clarification and ease of reference. Inclusion of said information does not constitute a representation by RRM Design Group as to the sufficiency or accuracy of that information.
7. Trees can be managed, but cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate risk associated with trees is to remove them.

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3 SUMMARY OF FINDINGS

On May 27, 2021, September 30, 2021, and January 10, 2022 RRM Design Group conducted a tree inventory of 75 trees located within or adjacent to the project work area. Most of the trees observed are coast live oaks. Generally, the health of the trees inspected is poor-moderate with many exhibiting signs of stress like high crown opacity, low vigor, pests, epicormic, and sucker growth. Several trees will be affected by the proposed development project and special consideration should be given to the care of these trees if they are to remain. During the initial field work, four trees were identified as potentially hazardous based on the future uses of the proposed development project. A tree risk assessment was conducted to identify potential mitigation options to reduce the risk associated with these trees (*Section 4 & Appendix B*).

Many of the trees were damaged during the original development of the property. For this reason, archival aerial photographs of the site were studied back to 1939 to determine the approximate age of the oaks, native topography, and the development history of the land. These images are compiled in *Figure 2 – Archival Aerial Photography*. Based on the photographs, it appears that the land was originally developed between 1939 and 1956. An aerial photograph from 1956 shows the newly constructed Country Club Drive Road connecting to West Carmel Valley Road and winding up the hillside. It also shows the recently graded building pads for the site structures and pool on the project site. An aerial photograph from 1961 shows the completed project as it sits today. The aerial photographs indicate that many of the oak trees assessed for this report existed well before the 1939 photograph was taken and many of the oaks onsite are at least 100 years old. The larger oaks onsite are in the range of 300-400 years old.

The original development of the property has damaged many of these centuries-old oak trees in several ways. Many of the mature trees that were impacted are declining in health and exhibit structural defects related to these impacts. Several trees have succumbed to the damage and have died as a result. Impacts to the root zone from over-excavation and compacted paving occurred over 60 years ago and cannot be mitigated. Many of the oaks have experienced one or more of these root zone impacts in the past, and several will continue to decline over the next 10-20 years. It's important to note that within a large oak woodland site like this, declining trees may not require removal depending on their location. Declining and even dead trees still perform many essential ecosystem services, such as providing habitat, shelter, and erosion control. However, a declining tree may be considered hazardous due to structural deficiencies and proximity to a target. If the hazard cannot be mitigated through prescriptive pruning, cabling, or bracing, the tree may require removal.

Conversely, many of the younger and several of the older specimens that were impacted during the original construction are showing promising signs of recovery. These trees have better chances of long-term survival onsite and extra care should be taken to ensure they are not irreparably damaged during construction.

4 TREE RISK ASSESSMENT

4.1 Introduction

During the initial site visit to gather data for this report, several trees were identified as potentially hazardous and would require a Level 1 Tree Risk Assessment to develop a mitigation strategy.

On September 30, 2021, a second site visit was made and a total of four trees with concerning structural defects were assessed individually. Trees 53, 58, 59, and 62 are discussed in detail below. Additionally, the ISA Basic Tree Risk Assessment Forms for each tree are included in *Appendix B*, attached. This tree risk assessment looks at the potential for these trees or tree parts to fail within one year of the assessment date, and takes into account the proposed project conditions when considering potential targets.

There have been several large failures in recent years that have set a precedent for some of the long declining oaks onsite. Within recent years, there were two large stem failures and two whole tree failure. Trees 37 and 66 both dropped a large stem last winter from root rot and decay at a codominant stem crotch, respectively. Tree 52 failed from basal rot 4-5 years ago. In September 2022, tree 66 succumbed to basal rot originating from rot at a codominant stem crotch and fell, demolishing a shed attached to one of the existing buildings. More recently Tree 49 fell, also succumbing to basal rot from previous root impacts and burial of the root collar during the original construction of the property.

4.2 Tree 53

Tree 53 is a coast live oak (*Quercus agrifolia*) with a 31.5" DBH. The original development of the property included a 4' tall retaining wall built approximately 6' from the root collar of the tree, and the rest of the root zone was paved with concrete. Both impacts to the root zone were severe, and it's likely the tree has been declining since the original construction. Using a 1.5-pound sounding mallet and 24" probe it was determined that about 40% of the circumference of the root collar has been compromised to a depth of at least 18" on the southeast side. There are two large cavities near the soil surface that extend underground with evidence of animal burrowing within and around the root collar. The crown is unbalanced and more heavily weighed on the southeast side. With the extent of the decay and crown weight on the southwest side of the tree and the northwesterly prevailing wind direction, it's likely the tree will fail at the root collar and fall to the southeast. The planned improvements call for a large patio area in the target zone, along with a portion of Building C. Given the likelihood of impact and the consequences of failure, this tree is rated as high risk. Risk mitigation options are limited due to the location and extent of decay at the root collar. It's recommended that tree 53 is removed, which will eliminate all risk. Tree 53 is recommended for removal to mitigate the risk associated with probable failure within the next 1 year.

4.3 Tree 58

Tree 58 is a coast live oak with a 28" DBH. The original development of the property resulted in grading impacts to the root zone, and a buried root collar. It's likely that the root damage, buried

root collar, and changes in soil hydrology have led to the tree's slow decline. There are three vertical pockets of decay measuring 5-6' in height along the main trunk. The largest decay pocket is shown on the left in the photo sequence on page 8, with a cavity about 18" in depth that extends 5-6' up through the heartwood of the tree. The trunk was sounded to confirm that all three decay pockets are connected internally, and that much of the heartwood is compromised inside the trunk. Much of the sapwood remains intact, which explains the moderate health rating of the tree. Risk mitigation options are limited due to the location and extent of heartwood rot. Removal of the pool house and proposed patio areas within 1.5 times the dripline would reduce the risk to low, while removal of the tree will eliminate all risk. Tree 58 is recommended for removal to mitigate the risk associated with possible failure within the next 1 year.

4.4 Tree 59

Tree 59 is a valley oak with a 30" DBH. Located just 12' from tree 58 and at about the same elevation, the impacts from the original development of the property are identical. Many years ago, about half of the crown of this tree was removed. Heartwood rot entered through the lowest pruning cut made just above the root collar. The decay now extends down through the root collar to a depth of approximately 24" and has compromised all of the heartwood at the base of the tree. Photos on page 9 show the location of the cavity on the tree, and a view inside the cavity. There were several inches of standing water inside the cavity during our first site visit in May 2021, even though it had not rained for months. The crown of tree 59 is unbalanced with most of the weight cantilevered to the southeast over a proposed patio area near the pool. Due to the northwesterly prevailing wind and the location of the crown weight, it's likely this tree will fail near the root collar and fall to the southeast. Risk mitigation options are limited due to the location and extent of the heartwood rot. Removal of the proposed patio areas within 1.5 times the dripline would reduce the risk to low, while removal of the tree would eliminate all risk. Tree 59 is recommended for removal to mitigate the risk associated with possible failure within the next 1 year.

4.5 Tree 62

Tree 62 is a coast live oak with a 34" DBH. It is located approximately 7' from Building C, and 5' from an existing concrete walkway. The original development of the property placed the stem wall for the raised foundation building within the critical root zone of the tree, which severed close to 1/2 of the tree's water and nutrient absorbing roots. It's likely root rot entered through the severed roots and eventually made it to the root collar. Today, approximately 50% the circumference of the root collar has been compromised to a depth of 18". The location and extent of the decay has left the southern stem of tree with little access to nutrients or water, which has caused severe crown dieback in approximately 50% of the crown. With most of the crown weight on the north side of the tree and the northeasterly prevailing winds, it's likely the tree will fail at the root collar and fall to the north or northeast. The proposed project shows a lawn area and the Building C footprint to remain largely unchanged within the target zone of the tree. Risk mitigation options are limited due to the location and extent of the root rot. Removal of the proposed lawn area within 1.5 times the dripline and a crown cleaning does not reduce the risk of the tree, while removal of the tree would eliminate all risk. Tree 62 is recommended for removal to mitigate the risk associated with probable

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failure within the next 1 year.



Tree 58: Large vertical seams and cavities are indicators of internal decay. Lack of trunk taper indicates the root collar has been buried.



Tree 53: Extent of root rot around circumference of the root collar



Tree 59: View inside large cavity that extends down to the root collar inside the trunk



Tree 59: Location of the cavity near the root collar circled in red.



Tree 62: The right half of the crown has extensive dieback due to the disruption of water and nutrient flow through the cambium due to root rot (circled)



Tree 62: The extent of root rot along the circumference of the root collar



Tree 49: Winter 2022-2023 failure of tree 49



Tree 66: September 2022 failure of tree 66

5 TREE RECOMMENDATIONS

5.1 Individual Species Recommendations

Species: *Quercus agrifolia* (coast live oak)

Quantity: 64

Observations: Many of the mature coast live oaks have been permanently damaged from the original development on this site. The most concerning damage is a result of over excavation in the root zone, and in several locations, the critical root zone. It appears the original concept for this development was to nestle the site within the oak studded hillside. There are several mature oaks located just a few feet from deep retaining walls and several others have extensive paving throughout the root zones.

Since this property was originally constructed, over six decades ago, we have studied and learned much about how different levels of impacts to existing trees during construction contribute to their overall health, lifespan, and stability. Although oak species tend to respond well to calculated construction impacts, maturity and other environmental factors weigh heavily in making an accurate determination of potential construction impacts. At the time of the original development of this property, several of the larger oaks were well over a century old and experienced severe impacts to their root zones. These trees have not responded well to the construction impacts. Generally, the younger trees were able to overcome previous impacts to the root zone and were observed in moderate health.

Recommendations: Much of the damage to the oaks was done decades ago, leaving rehabilitation efforts for these centuries' old oak trees largely out of our control. Given the steep topography of the project site, it is understandable that earthwork will, again, be a necessary requirement for the proposed development. The best approach to preserving the oaks onsite will be the development of a thoughtful, low impact site design near the mature specimens that will be preserved. Additional attention should be given to these trees during construction via a well detailed tree preservation plan and onsite arboricultural construction monitoring.

Species: *Quercus lobata* (valley oak)

Quantity: 11

Observations: The mature valley oaks have been permanently damaged from the original development on this site. The most concerning damage is a result of alterations to natural drainage patterns, compacted soil in root zones, and a history of overpruning. These changes coupled with a series of decade-long droughts over the last 60+ years have stressed these oaks into varying stages of decline. Valley oaks are more dependent on water than coast live oaks, which is why they tend to establish in low points, or valleys, in the natural landscape. The original development of this property required over excavation, soil compaction, and the placement of impermeable materials in the root zones of these trees, which has limited water availability in their root zones. Additionally, the original rough grading of the land may have impacted the natural drainage of the site, further limiting water availability.

Recommendations: Additional, infrequent watering may be necessary throughout the winter and into spring during low water years to preserve the older specimens. Limit impacts to the root zone as feasible during development to increase chances of survival.

5.2 Recommendations During Construction

Site preparation: All existing trees shall be fenced off along the extent of the drip line of the tree, as feasible. Alternatively, where this is not feasible, the trunk shall be wrapped with a straw waddle and orange snow fencing. Tree protection fencing should be a minimum of four feet high, made of pig wire with steel stakes or any material superior in quality, such as cyclone fencing. A tree protection zone sign shall be affixed to the fencing at appropriate intervals as determined by the arborist on site. If the fence is within the drip line of the trees, the crown shall be raised to offset the chance of limb breakage from construction equipment encroaching within the drip line. All contractors, subcontractors and other personnel shall be warned that encroachment within the fenced area is forbidden without the consent of the Project Arborist. This includes, but is not limited to, storage of lumber and other materials, disposal of paints, solvents or other noxious materials, parked cars, grading equipment or other heavy equipment. Penalties, based on the cost of remedial repairs and the evaluation guide published by the international society of arboriculture, shall be assessed for damages to the trees.

Grading/excavating: All grading plans that specify grading within the drip line of any tree, or within the distance from the trunk as outlined in the site preparation section above when said distance is outside the drip line, shall first be reviewed by a certified arborist. Provisions for aeration, drainage, pruning, tunneling beneath roots, root pruning or other necessary actions to protect the trees shall be outlined by an arborist. If trenching is necessary within the area as described above, said trenching shall be undertaken by hand labor and dug directly beneath the trunk of the tree. All roots 2 inches or larger shall be tunneled under and other roots shall be cut smoothly to the trunk side of the trench. The trunk side should be draped immediately with two layers of untreated burlap to a depth of 3 feet from the surface. The burlap shall be soaked nightly and left in place until the trench is back filled to the original level. An arborist shall examine the trench prior to back filling to ascertain the number and size of roots cut, to suggest the necessary remedial repairs.

Remedial repairs: An arborist shall have the responsibility of observing all ongoing activities that may affect the trees and prescribing necessary remedial work to ensure the health and stability of the trees. This includes, but is not limited to, all arborist activities brought out in the previous sections. In addition, pruning, as outlined in the “pruning standards” of the western chapter of the International Society of Arboriculture, shall be prescribed as necessary. Fertilizing, aeration, irrigation, pest control and other activities shall be prescribed according to the tree needs, local site requirements, and state agricultural pest control laws. All specifications shall be in writing. For pest control operations, consult the local county agricultural commissioner’s office for individuals licensed as pest control advisors or pest control operators.

Final inspection: Upon completion of the project, the arborist shall review all work undertaken that may impact the existing trees. Special attention shall be given to cuts and fills, compacting, drainage, pruning and future remedial work. An arborist should submit a final report in writing

outlining the ongoing remedial care following the final inspection.

5.3 Maintenance Recommendations for Trees to Remain

Regular maintenance, designed to promote plant health and vigor, ensures longevity of existing trees. Regular inspections and the necessary follow-up care of mulching, fertilizing, and pruning can detect problems and correct them before they become damaging or fatal.

Tree Inspection: Regular inspections of mature trees at least once a year can prevent or reduce the severity of future disease, insect, and environmental problems. During tree inspection, four characteristics of tree vigor should be examined: new leaves or buds, leaf size, twig growth, and absence of crown dieback (gradual death of the upper part of the tree). A reduction in the extension of shoots (new growing parts), such as buds or new leaves, is a reliable cue that the tree's health has recently changed. Growth of the shoots over the past three years may be compared to determine whether there is a reduction in the tree's typical growth pattern. Further signs of poor tree health are trunk decay, crown dieback, or both. These symptoms often indicate problems that began several years before. Loose bark or deformed growths, such as trunk conks (mushrooms), are common signs of stem decay. Any abnormalities found during these inspections, including insect activity, and spotted, deformed, discolored, or dead leaves and twigs, should be noted and observed closely.

Mulching: Mulch, or decomposed organic material, placed over the root zone of a tree reduces environmental stress by providing a root environment that is cooler and contains more moisture than the surrounding soil. Mulch can also prevent mechanical damage by keeping machines such as lawn mowers and string trimmers away from the tree's base. Furthermore, mulch reduces competition from surrounding weeds and turf. To be most effective, mulch should be placed 2 to 4 inches deep and cover the entire root system, which may be as far as 2 or 3 times the diameter of the branch spread of the tree. If the area and activities happening around the tree do not permit the entire area to be mulched, it is recommended that as much of the area under the drip line of the tree is mulched as possible. When placing mulch, care should be taken not to cover the actual trunk of the tree. This mulch-free area, 1 to 2 inches wide at the base, is sufficient to avoid moist bark conditions and prevent trunk decay. An organic mulch layer 2 to 4 inches deep of loosely packed shredded leaves, pine straw, peat moss, or composted wood chips is adequate. Plastic should not be used as it interferes with the exchange of gases between soil and air, which inhibits root growth. Thicker mulch layers, 5 to 6 inches deep or greater, may also inhibit gas exchange.

Fertilization: Trees require certain nutrients (essential elements) to function and grow. Urban landscape trees may be growing in soils that do not contain sufficient available nutrients for satisfactory growth and development. In certain situations, it may be necessary to fertilize to improve plant vigor. Fertilizing a tree can improve growth; however, if fertilizer is not applied wisely, it may not benefit the tree at all and may even adversely affect the tree. Mature trees making satisfactory growth may not require fertilization. When considering supplemental fertilizer, it is important to consider nutrients deficiencies and how and when to amend the deficiencies. Soil conditions, especially pH and organic matter content, vary greatly, making the proper selection and use of fertilizer a somewhat complex process. To that end, it is recommended that the soil be tested for nutrient content. A soil testing laboratory can give advice on application rates, timing,

and the best blend of fertilizer for each tree and other landscape plants on site. Mature trees have expansive root systems that extend from 2 to 3 times the size of the leaf canopy. A major portion of actively growing roots is located outside the tree's drip line. Understanding the actual size and extent of a tree's root system before applying fertilizer is paramount to determine quantity, type, and rate at which to best apply fertilizer. Always follow manufacturer recommendations for use and application.

Pruning: Pruning is often desirable or necessary to remove dead, diseased, or insect-infested branches and to improve tree structure, enhance vigor, or maintain safety. Because each cut has the potential to change the growth of (or cause damage to) a tree, no branch should be removed without reason. Removing foliage from a tree has two distinct effects on growth: (1) it reduces photosynthesis and, (2) it may reduce overall growth. Pruning should always be performed sparingly. Caution must be taken not to over-prune as a tree may not be able to gather and process enough sunlight to survive. Pruning mature trees may require special equipment, training, and experience. Arborists are equipped to provide a variety of services to assist in performing the job safely and reducing risk of personal injury and property damage.

Removal: There are circumstances when removal is necessary. An arborist can help decide whether a tree should be removed. Professionally trained arborists have the skills and equipment to remove trees safely and efficiently. Removal is recommended when a tree: (1) is dead, dying, or considered irreparably hazardous; (2) is causing an obstruction or is crowding and causing harm to other trees and the situation is impossible to correct through pruning; (3) is to be replaced by a more suitable specimen, and (4) should be removed to allow for construction. Pruning or removing trees, especially large trees, can be dangerous work. It should be performed only by those trained and equipped to work safely in trees.

TABLE 1 - TREE QUANTITY SUMMARY

Tree Quantity by Species		
Species	Quantity	% of Site
<i>Quercus agrifolia</i>	64	85%
<i>Quercus lobata</i>	11	15%
Total	75	100%

Tree Quantity by Protection Status		
	Quantity	% of Site
Protected Tree (6-23.9")	31	41%
Landmark Oak (24"+)	44	59%
Total	75	100%

Tree Quantity by Regional Nativity Status		
	Quantity	% of Site
Native	75	100%
Non-Native	0	0%
Total	75	100%

TABLE 2 - TREE EVALUATION SUMMARY

Preservation Suitability		
Good	Trees with good health and structural stability that have the potential for longevity at the site.	
Mod.	Trees in somewhat declining health and/or exhibits structural defects that cannot be abated with treatment.	
Poor	Trees will require more intense management and will have a shorter lifespan than those in the 'Good' category.	
Health Rating		
5	A healthy, vigorous tree, reasonably free of pests and disease, with good form typical of the species	
4	Trees with good vigor and slight signs of stress	
3	Trees with moderate vigor and moderate signs of stress	
2	Trees in decline	
1	Trees in severe decline	
Vigor		
High	Trees putting on healthy, new twig growth in quantities characteristic of the species.	
Mod.	Trees putting on new twig growth but showing signs of stress.	
Low	Trees putting on most of their new twig growth as epicormic shoots with signs of severe stress. There may be areas of dieback in the crown.	
Crown Opacity		
High	Trees with a thin crown characterized by lack of old growth and small quantities of newer growth. Visually, the sky is seen through the crown with little obstruction.	
Mod.	Trees with a moderately thin crown, or with high opacity areas in the crown.	
Low	Trees with a healthy, full crown that is characteristic of the species. Visually, it is difficult to see the sky through the crown.	
Abbreviations and Definitions		
CD	Codominant Stems	Forked branches nearly the same size in diameter, arising from a common junction and lacking a normal branch union.
CDB	Crown Dieback	Condition where branches in the tree crown die from the tips toward the center.
D	Decline	Tree shows obvious signs of decline, which may be indicative of the presence of multiple biotic and abiotic disorders.
DBH	Diameter at Breast Height	Measurement of tree diameter in inches. Measurement height varies by agency and is noted above.
EG	Epicormic Growth	Watersprouting on trunk and main leaders. Typically indicative of tree stress.
EH	Exposed Heartwood	Exposure of the tree's heartwood is typically seen as an open wound that leaves a tree more susceptible to pathogens, disease or infection.
IB	Included Bark	Structural defect where bark is included between branch attachment so wood can't join, often having a higher probability of failure.
LC	Low Crotch	Multiple central leaders originating below the DBH measurement site.
LN	Lean	Tree leaning, see notes for severity.
LS	Leaf Spot	Specific to the coast live oaks for this project, this indicates a combination of whiteflies and black sooty mold caused by the accumulation of their moist frass on leaf surfaces.
S	Suckers	Shoot arising from the roots.
SD	Structural Defects	Naturally or secondary conditions including cavities, poor branch attachments, cracks, or decayed wood in any part of the tree that may contribute to structural failure.
SE	Severe	Indicates the severity of the following term.
SL	Slight	Indicates the mildness of the following term.
TP	Topped	Poor pruning practice of main leaders. Often practiced under utility lines to limit tree height.
ST	Stress	Environmental factor inhibiting regular tree growth. Includes drought, salty soils, nitrogen and other nutrient deficiencies in the soil.
WU	Weak Union	Weak union or fork in tree branching structure.

Tree Tag	Botanical Name	Common Name	Diameter at Breast Height (in.)	Multi Leader Individual DBH (in.)	Protected Tree	Landmark Oak	Health	Pres. Suit.	Vigor	Crown Opacity	Field Notes & Recommendations
35	<i>Quercus agrifolia</i>	coast live oak	68.0	22, 14.5, 16.5, 15		X	4	Good	High	Low	SL SD
36	<i>Quercus agrifolia</i>	coast live oak	36.0	10.5, 6, 9.5, 10		X	4	Mod.	Mod.	Mod.	SD, ST, EG, LS
37	<i>Quercus agrifolia</i>	coast live oak	18.0		X		1	Poor	Low	High	ST, EG, LS, large recent failure of codominant stem
38	<i>Quercus agrifolia</i>	coast live oak	28.0	8, 8.5, 11.5		X	3	Mod.	Mod.	High	SD, ST, EG, LS, beneath crown of 37
39	<i>Quercus agrifolia</i>	coast live oak	44.5	24.5, 20		X	4	Mod.	High	Low	SL ST, EG, LS
40	<i>Quercus agrifolia</i>	coast live oak	64.5	10, 5, 10, 14.5, 5, 8, 12		X	3	Mod.	Mod.	Mod.	SD, ST, EG, LS
41	<i>Quercus agrifolia</i>	coast live oak	12.5	9.5, 3	X		2	Poor	Low	High	ST, EG, SD, EH, D, CDB, LS, decay
42	<i>Quercus agrifolia</i>	coast live oak	22.5	14, 8.5	X		2	Poor	Low	High	ST, EG, SD, D, CDB, LS, decay
43	<i>Quercus agrifolia</i>	coast live oak	11.0		X		3	Poor	Mod.	Mod.	ST, EG, SL CDB, LN, LS, decay, severe root zone impacts from original construction
44	<i>Quercus agrifolia</i>	coast live oak	15.5		X		3	Poor	Mod.	Mod.	ST, EG, LS, severe root zone impacts from original construction
45	<i>Quercus agrifolia</i>	coast live oak	116.5	15, 14.5, 17.5, 15, 18.5, 11, 11.5, 13.5		X	3	Good	Mod.	Mod.	SL ST, SL EG, SD, LS, severe root zone impacts from original construction
46	<i>Quercus agrifolia</i>	coast live oak	26.0			X	2	Mod.	Low	Mod.	ST, EG, LS, SL CDB, severe root zone impacts from original construction
47	<i>Quercus agrifolia</i>	coast live oak	15.0		X		1	Poor	Low	High	D, SD, CDB, old failure of large codominant stem
48	<i>Quercus agrifolia</i>	coast live oak	7.5		X		3	Mod.	High	Low	SD, decay, crown sprout from old failure

Tree Tag	Botanical Name	Common Name	Diameter at Breast Height (in.)	Multi Leader Individual DBH (in.)	Protected Tree	Landmark Oak	Health	Pres. Suit.	Vigor	Crown Opacity	Field Notes & Recommendations
49	Not Used										
50	<i>Quercus agrifolia</i>	coast live oak	22.5		X		2	Poor	Low	High	ST, SE EG, CDB, EH, severe root zone impacts from original construction
51	<i>Quercus lobata</i>	valley oak	48.5			X	3	Mod.	Low	High	ST, EG, LN
52	<i>Quercus agrifolia</i>	coast live oak	13.5	8, 5.5	X		2	Poor	High	Low	SD, crown sprout from old complete failure at the root collar
53	<i>Quercus agrifolia</i>	coast live oak	31.5			X	2	Poor	Low	High	D, SE EG, CDB, hazardous, extensive decay at root collar, severe root zone impacts from original construction
54	<i>Quercus lobata</i>	valley oak	41.0			X	3	Poor	Low	High	D, CDB, LN, SE EG, severe root zone impacts from original construction
55	<i>Quercus agrifolia</i>	coast live oak	13.5		X		3	Mod.	Mod.	Mod.	LN, ST, EG
56	<i>Quercus agrifolia</i>	coast live oak	23.5	13.5, 7, 3	X		3	Mod.	Mod.	Mod.	LS, LN, SL ST
57	<i>Quercus agrifolia</i>	coast live oak	7.5		X		3	Mod.	Mod.	Mod.	LS, LN, SL ST
58	<i>Quercus agrifolia</i>	coast live oak	28.0			X	2	Poor	Mod.	Mod.	ST, EG, decay at root collar and mid-trunk, hazardous
59	<i>Quercus lobata</i>	valley oak	30.0			X	2	Poor	Low	High	LN, EG, CDB, large decay pocket at root crown filled with standing water, hazardous
60	<i>Quercus agrifolia</i>	coast live oak	29.0			X	2	Poor	Low	High	ST, SE EG, severe root zone impacts from original construction

Tree Tag	Botanical Name	Common Name	Diameter at Breast Height (in.)	Multi Leader Individual DBH (in.)	Protected Tree	Landmark Oak	Health	Pres. Suit.	Vigor	Crown Opacity	Field Notes & Recommendations
61	<i>Quercus agrifolia</i>	coast live oak	9.5		X		3	Mod.	Mod.	Mod.	beneath crown of 60
62	<i>Quercus agrifolia</i>	coast live oak	34.0			X	2	Poor	Mod.	High	ST, SL CDB, EG, hazardous
63	<i>Quercus agrifolia</i>	coast live oak	41.5			X	2	Mod.	Mod.	High	ST, EG, severe root zone impacts from original construction
64	<i>Quercus agrifolia</i>	coast live oak	33.0	16, 17		X	3	Mod.	Mod.	Mod.	some decay at removal site of large limb during original construction
65	<i>Quercus agrifolia</i>	coast live oak	42.0			X	3	Mod.	Mod.	Mod.	ST, SL EG
66	Not Used										
67	<i>Quercus agrifolia</i>	coast live oak	48.0	22, 12.5, 13.5		X	3	Mod.	Mod.	Low	ST, WU, overextended stem with large cavity
68	<i>Quercus agrifolia</i>	coast live oak	19.5		X		3	Mod.	Mod.	Mod.	EG, ST, CE, SE LN, large codominant stem previously removed
69	<i>Quercus agrifolia</i>	coast live oak	44.5			X	4	Good	Mod.	Mod.	cavity at main branch union with decay
70	<i>Quercus agrifolia</i>	coast live oak	40.0		X		2	Poor	Low	High	large cavity/seam from old failure
71	<i>Quercus agrifolia</i>	coast live oak	23.0		X		3	Mod.	Mod.	Mod.	root collar buried with possible decay
72	<i>Quercus lobata</i>	valley oak	10.0		X		3	Mod.	Mod.	Mod.	under crown of tree 71
73	<i>Quercus agrifolia</i>	coast live oak	15.5	8, 7.5	X		3	Poor	Mod.	Mod.	CD, under crown nearby tree, mechanical damage to trunk
74	<i>Quercus agrifolia</i>	coast live oak	26.0			X	2	Mod.	Low	High	CDB, large cavity with buried root collar
75	<i>Quercus agrifolia</i>	coast live oak	23.5	11.5, 6, 6	X		2	Poor	Low	High	EG, ST, cavity at root collar, under crown tree 74

Tree Tag	Botanical Name	Common Name	Diameter at Breast Height (in.)	Multi Leader Individual DBH (in.)	Protected Tree	Landmark Oak	Health	Pres. Suit.	Vigor	Crown Opacity	Field Notes & Recommendations
76	<i>Quercus agrifolia</i>	coast live oak	28.0	12, 8, 8		X	3	Mod.	Mod.	Mod.	EG, ST, overpruned, dead stem
77	<i>Quercus agrifolia</i>	coast live oak	45.5	14, 13.5, 11, 7		X	2	Mod.	Low	High	CD, IB, ST, EG overpruned
78	<i>Quercus agrifolia</i>	coast live oak	19.5	7.5, 6.5, 5.5	X		3	Mod.	Mod.	Mod.	LS
79	<i>Quercus agrifolia</i>	coast live oak	10.5		X		3	Mod.	Mod.	Mod.	ST
80	<i>Quercus agrifolia</i>	coast live oak	20.0	6, 5, 5, 4	X		3	Mod.	Mod.	Mod.	CD, EG, ST
81	<i>Quercus agrifolia</i>	coast live oak	21.5	9, 7, 5.5	X		3	Mod.	Mod.	Mod.	CD, EG, ST
82	<i>Quercus agrifolia</i>	coast live oak	17.0	9.5, 7.5	X		3	Mod.	Mod.	Mod.	CD, IB, ST, EG
83	<i>Quercus agrifolia</i>	coast live oak	6.5		X		1	Poor	Low	High	CD, IB, D, cankers forming on trunk and scaffold branches
84	<i>Quercus lobata</i>	valley oak	24.5			X	3	Mod.	Mod.	Mod.	
85	<i>Quercus agrifolia</i>	coast live oak	33.0			X	3	Mod.	Mod.	Mod.	CDB, ST, buried root collar, large stem failure
86	<i>Quercus agrifolia</i>	coast live oak	39.5	10, 10, 9, 5.5, 5		X	3	Mod.	Mod.	Mod.	CD, IB, cavities at root collar
87	<i>Quercus lobata</i>	valley oak	23.0		X		2	Poor	Low	High	D, CDB, large cavities in several dead stems
88	<i>Quercus agrifolia</i>	coast live oak	27.0	14, 13		X	2	Poor	Low	High	EG, D, CDB, IB, CD, leaning over structure, root damage from retaining wall install 3' from root collar
89	<i>Quercus agrifolia</i>	coast live oak	57.0	21, 19, 17		X	3	Mod.	Mod.	Mod.	ST, EG, has overcome root damage from nearby retaining wall installation at 5' from root collar

Tree Tag	Botanical Name	Common Name	Diameter at Breast Height (in.)	Multi Leader Individual DBH (in.)	Protected Tree	Landmark Oak	Health	Pres. Suit.	Vigor	Crown Opacity	Field Notes & Recommendations
90	<i>Quercus agrifolia</i>	coast live oak	34.0	19, 15		X	3	Mod.	Mod.	Mod.	ST, EG, has overcame nearby retaining wall install at 8' from root collar
91	<i>Quercus agrifolia</i>	coast live oak	32.5	17.5, 15		X	2	Poor	Low	Mod.	ST, EG, leaning over structure, buried root collar, cavity at root collar
92	<i>Quercus agrifolia</i>	coast live oak	25.5	14, 11.5		X	2	Mod.	Low	Mod.	EG
93	<i>Quercus lobata</i>	valley oak	39.0			X	3	Mod.	Mod.	Mod.	several cavities in crown from past pruning
94	<i>Quercus agrifolia</i>	coast live oak	75.0	25, 20, 15.5, 14.5		X	3	Mod.	Mod.	Mod.	EG, small cavities at root collar
95	<i>Quercus agrifolia</i>	coast live oak	52.0	19, 19, 14		X	2	Poor	Low	High	CD X3, IB, LC, WU, cavity likely at union
96	<i>Quercus agrifolia</i>	coast live oak	49.0	17, 17, 15		X	3	Mod.	Mod.	Mod.	building pad and walkway in root zone, EG
97	<i>Quercus agrifolia</i>	coast live oak	47.0	25, 15, 7		X	3	Mod.	Mod.	Mod.	EG, overextended branches over structure, buried root collar
98	<i>Quercus agrifolia</i>	coast live oak	69.0	13, 13, 13, 13, 9, 8		X	2	Poor	Low	Mod.	LC, WU, EG, CDB, root damage from retaining wall at 6' from root collar
99	<i>Quercus agrifolia</i>	coast live oak	43.5	10, 9, 8, 8, 7, 1.5		X	2	Poor	Low	High	LC, WU, CD, CDB, EG, root damage from retaining wall at 6' from root collar

Tree Tag	Botanical Name	Common Name	Diameter at Breast Height (in.)	Multi Leader Individual DBH (in.)	Protected Tree	Landmark Oak	Health	Pres. Suit.	Vigor	Crown Opacity	Field Notes & Recommendations
100	<i>Quercus agrifolia</i>	coast live oak	48.5	29.5, 19		X	2	Poor	Low	High	LC, CD, WU, IB, EG, CDB, root damage from retaining wall, walkway, and building pad at 1' from root collar
101	<i>Quercus agrifolia</i>	coast live oak	45.0			X	3	Mod.	Mod.	Mod.	CD, IB, root damage from building pad and concrete patio at 3' from root collar, buried root collar
102	<i>Quercus lobata</i>	valley oak	14.5		X		3	Mod.	Mod.	Mod.	CD, IB
103	<i>Quercus lobata</i>	valley oak	49.5			X	1	Poor	Low	High	main stem completely hollow, failed decades ago and continues, low risk as it exists
104	<i>Quercus lobata</i>	valley oak	9.5		X		4	Mod.	Mod.	Mod.	
105	<i>Quercus lobata</i>	valley oak	7.0		X		4	Mod.	Mod.	Mod.	
106	<i>Quercus agrifolia</i>	coast live oak	17.0	7, 6, 4	X		4	Mod.	High	Mod.	
107	<i>Quercus agrifolia</i>	coast live oak	18.0		X		3	Mod.	Mod.	Mod.	close proximity to pool equipment, retaining wall, and gas meter
108	<i>Quercus agrifolia</i>	coast live oak	11.0		X		1	Poor	Low	High	D, EH, EG
109	<i>Quercus agrifolia</i>	coast live oak	24.0	17, 7		X	3	Mod.	Mod.	Mod.	CD, IB, buried root collar
110	<i>Quercus agrifolia</i>	coast live oak	39.5	16, 13, 10.5		X	2	Mod.	Low	Mod.	stress from grading, retaining wall, and building pad in root zone
111	<i>Quercus agrifolia</i>	coast live oak	46.5	12.5, 10.5, 10, 7, 6.5		X	3	Mod.	Mod.	Mod.	CD, IB

FIGURE 1 - TREE LOCATION MAP

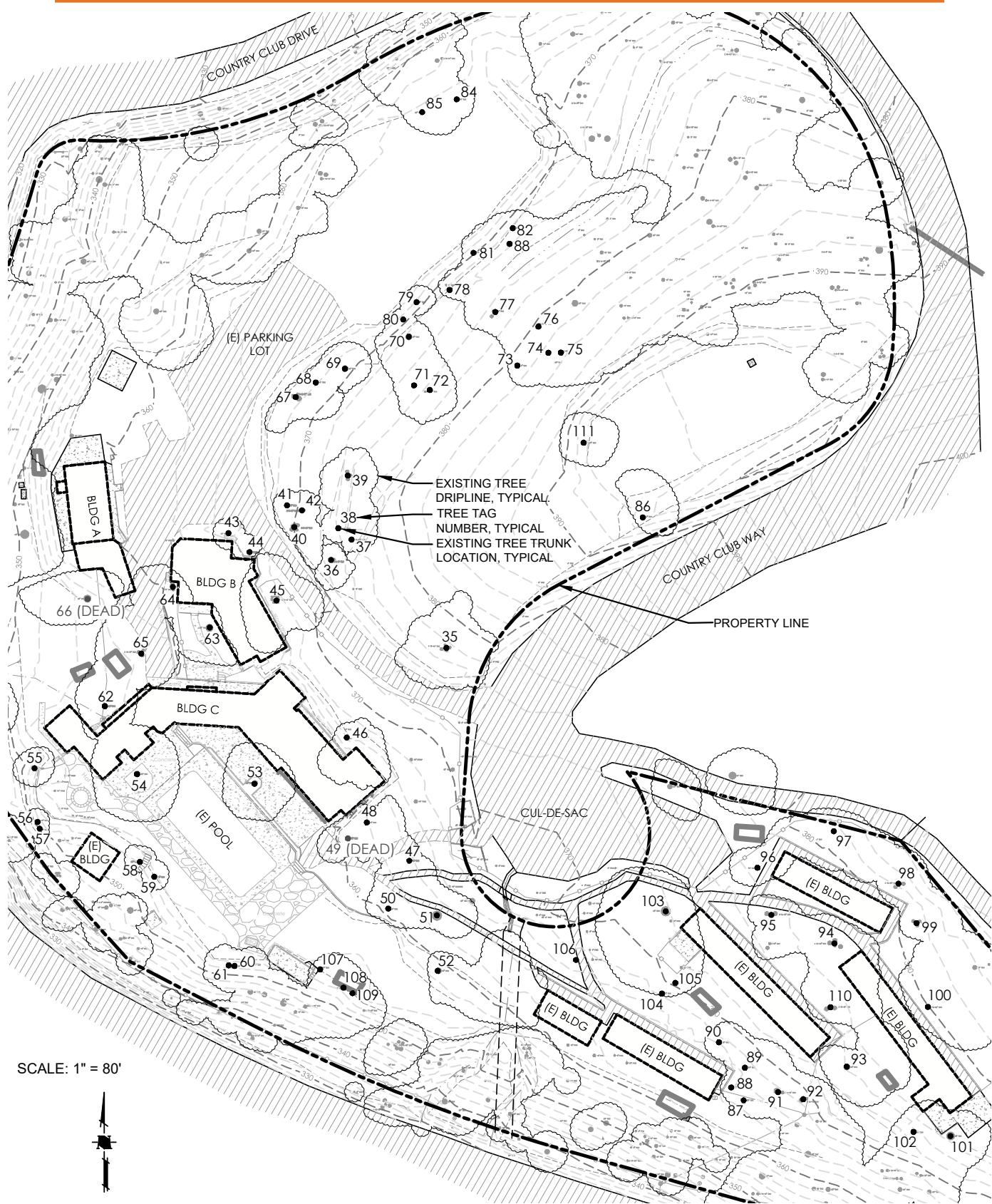
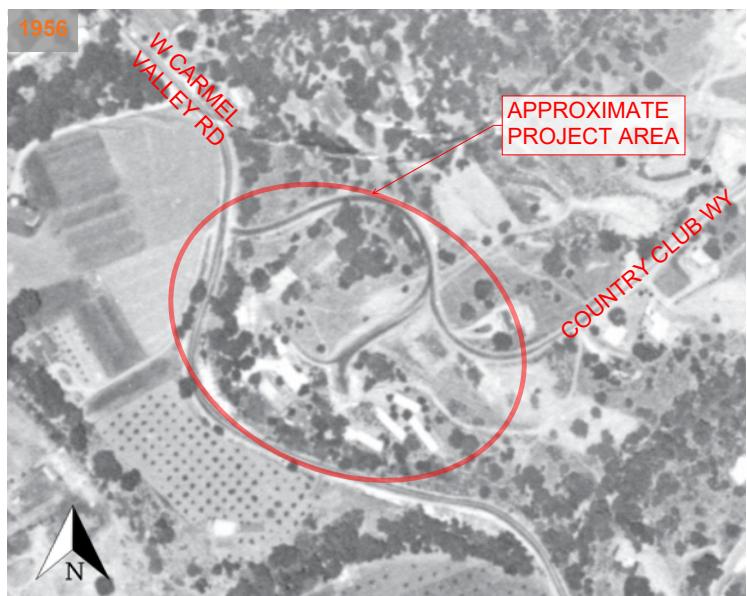
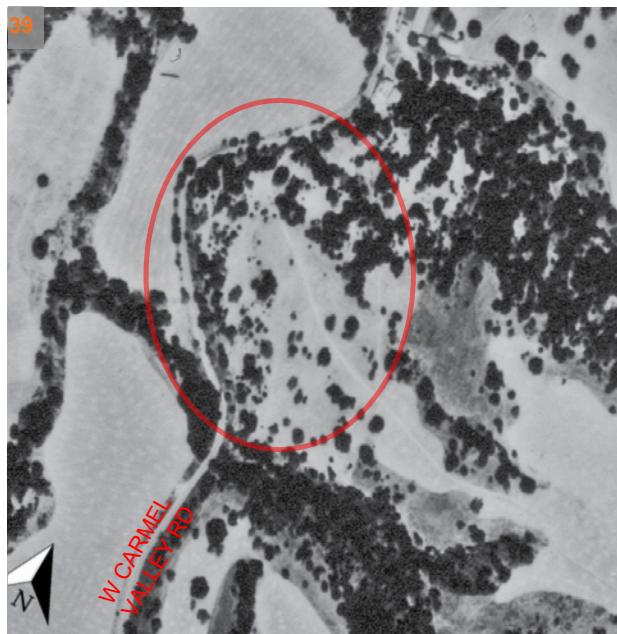


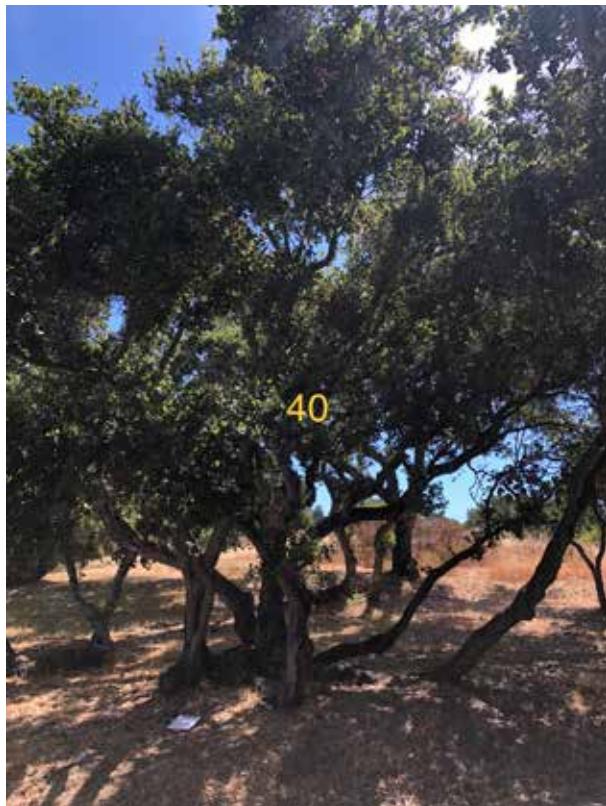
FIGURE 2 - ARCHIVAL AERIAL PHOTOGRAPHY



APPENDIX A TREE PHOTOGRAPHS



Large, recent failure at the root collar of tree 37





Large cavity in the root collar of tree 42



Severe impact to the critical root zone of tree 43 dating back to the original construction





Severe impact to the critical root zone of tree
44 dating back to the original construction





Severe impact to the critical root zone of tree 46 dating back to the original construction





Tree 49, after failure during 2022-2023 winter storms



Large uncompartmentalized limb removal from many years ago is now a source of decay for tree 51



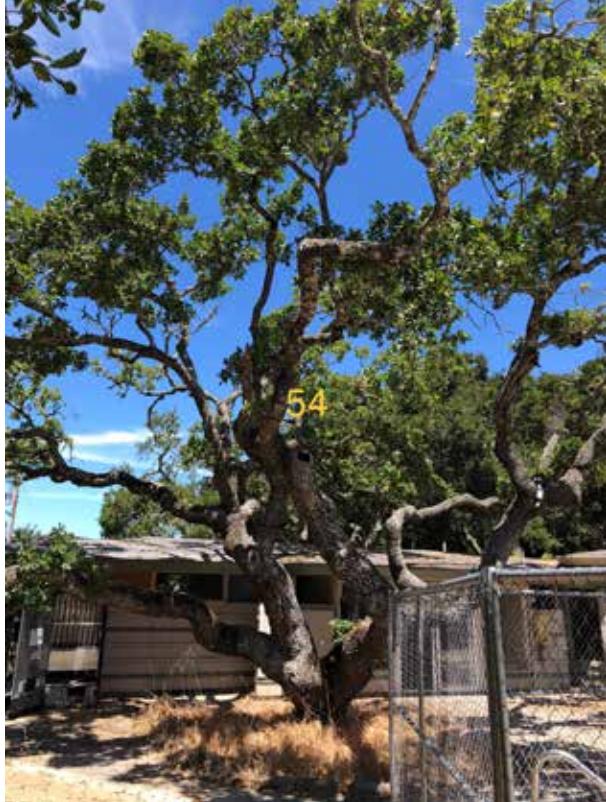
Tree 52 crown sprouting from a large tree failure years ago



Large cavity from decay at the root collar of tree 53 (1 of 2)



Large cavity from decay at the root collar of tree 53 (2 of 2)



Large area of decay on tree 54. Recommend removal of this branch

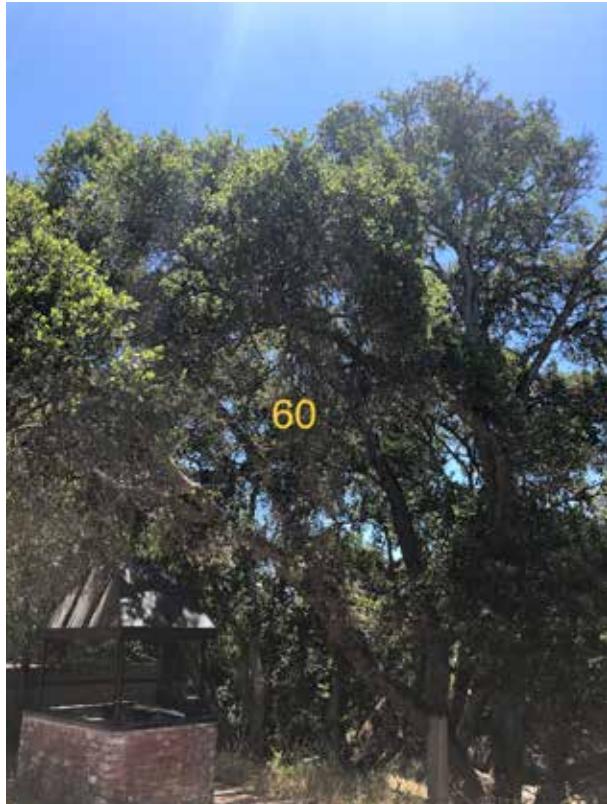




Large areas of decay on tree 58



Large cavity on tree 59 filled with standing water



Portofino



Tree 66, May 2021 prior to failure from heartwood rot



Tree 66, September 2021 after failure

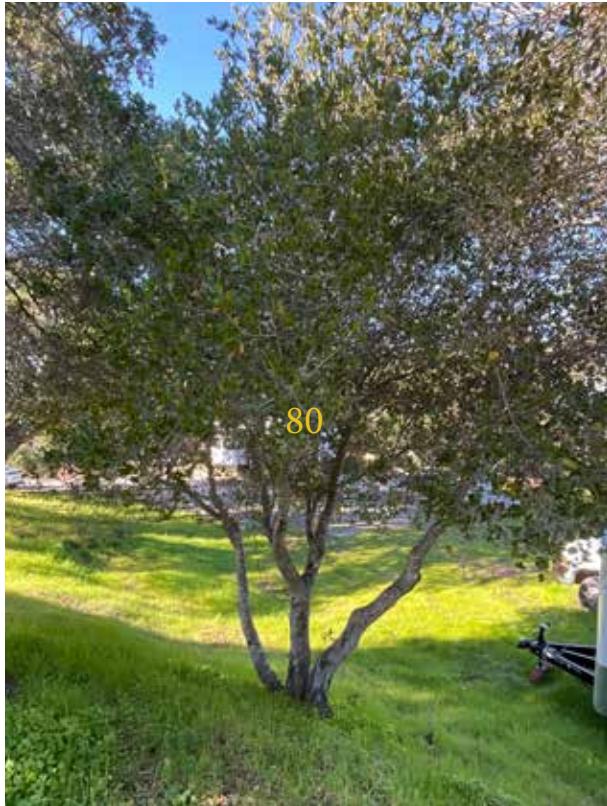
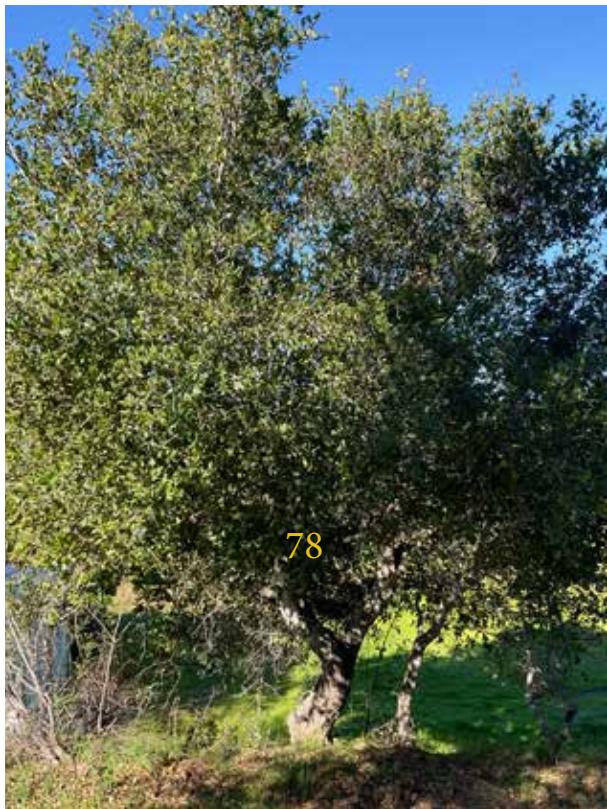


Tree 69 location of probable decay at codominant stem crotch

Portofino

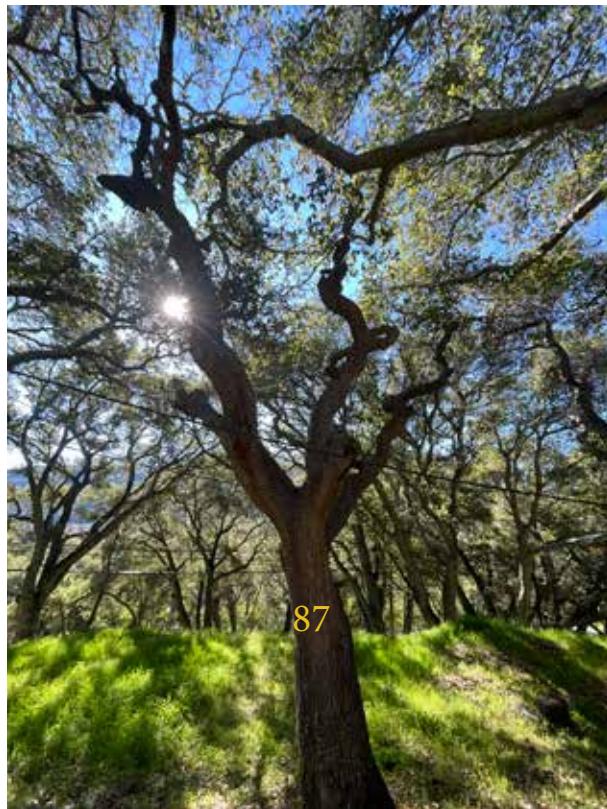


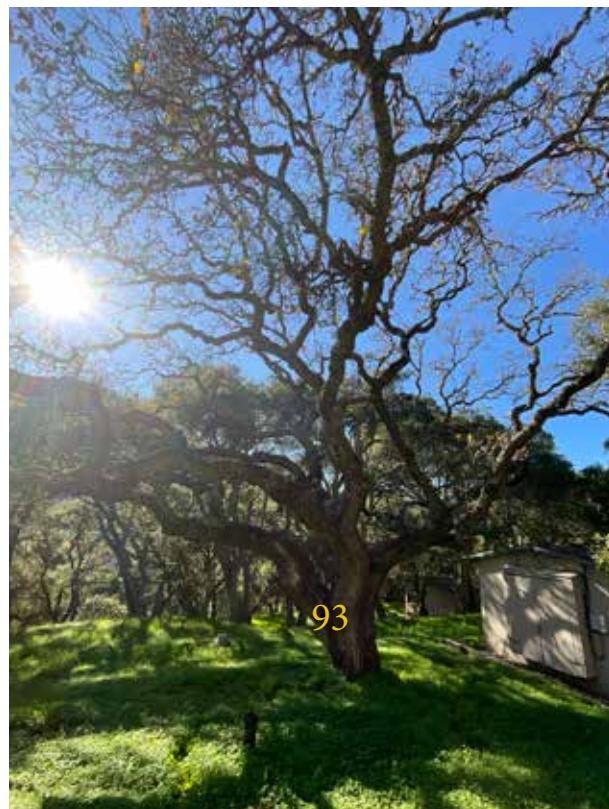
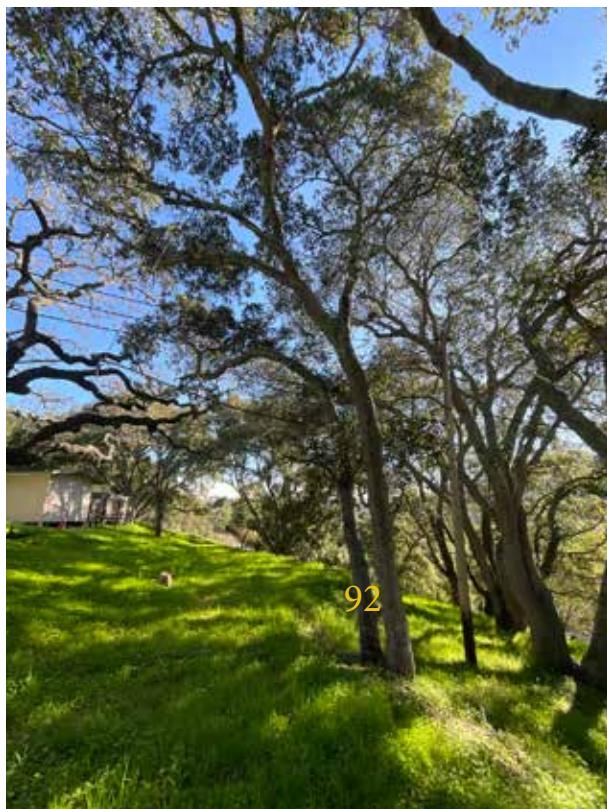




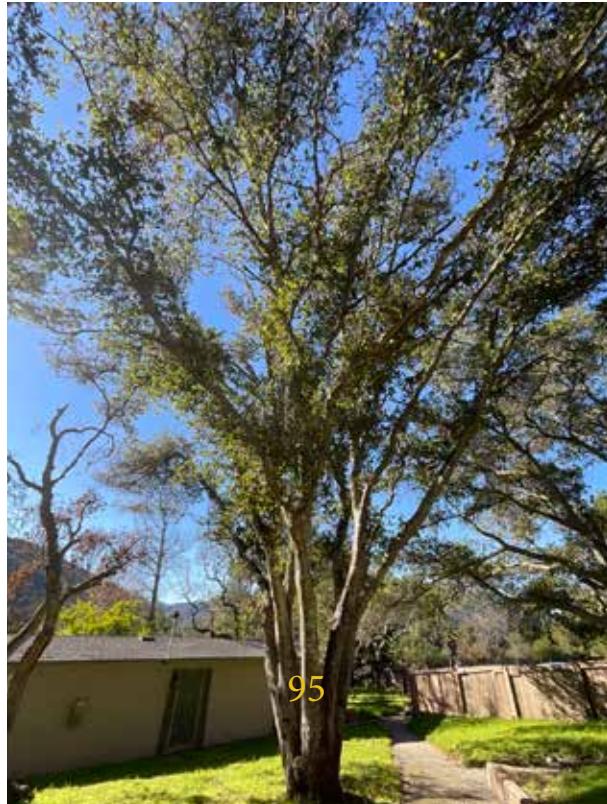


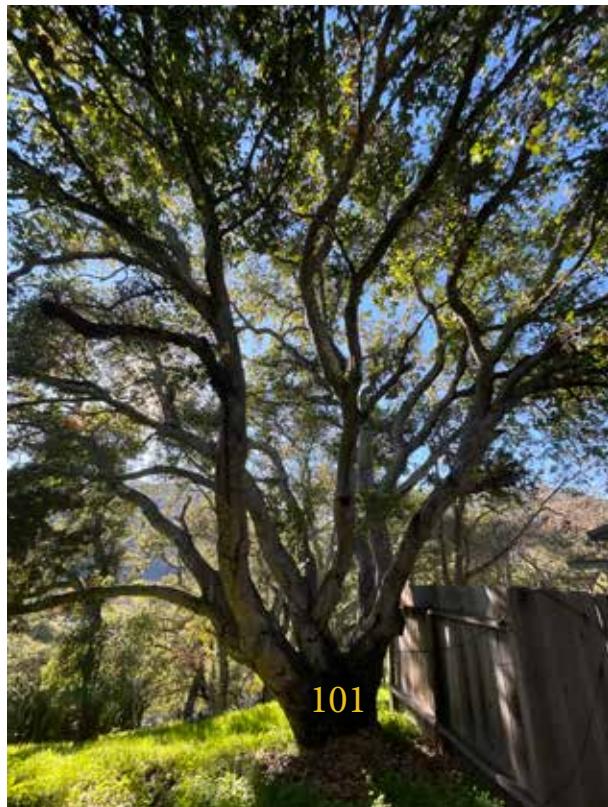
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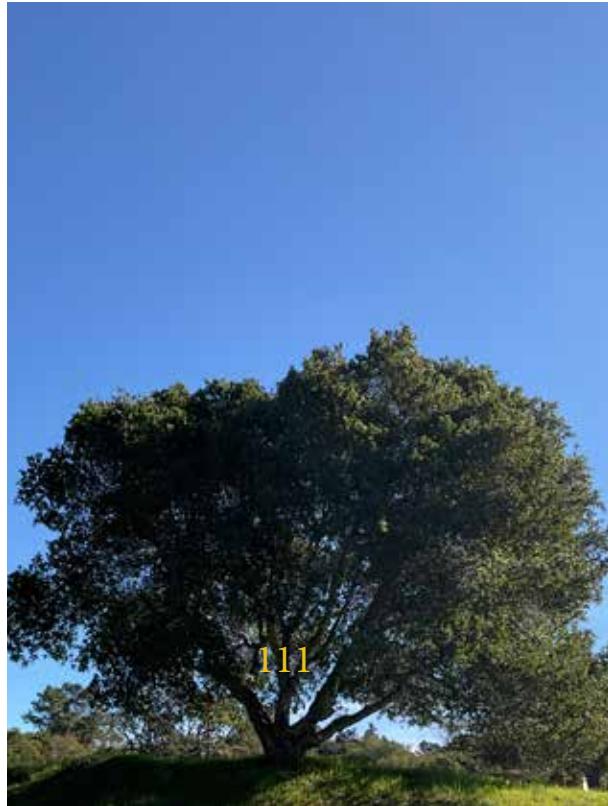


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APPENDIX B ISA BASIC TREE RISK ASSESSMENT FORMS

ISA Basic Tree Risk Assessment Form

Client Rancho Del Monte Country Club CV LP Date 9/30/21 Time 3:00pm
 Address/Tree location 10 Country Club Way Tree no. 53 Sheet 1 of 4
 Tree species Quercus agrifolia dbh 31.5" Height 35' Crown spread dia. 45'
 Assessor(s) Jake Minnick, TRAQ, WE-11830A Tools used 24" probe, 1.5 lbs rubber mallet Time frame 1 year

Target Assessment							
Target number	Target description	Target protection	Target zone			Occupancy rate	Practical to move target?
			Target within drip line	Target within 1x Ht.	Target within 1.5x Ht.		
1	Building	-	✓			4	No
2	People inside Building	Building	✓			2	No
3	Patio	-	✓			4	No
4	People on Patio	-	✓			2	No

Site Factors

History of failures Yes - 3 major tree/tree part failures within last 1 year Topography Flat Slope 0% Aspect _____

Site changes None Grade change Site clearing Changed soil hydrology Root cuts Describe Retaining wall constructed 6' from trunk

Soil conditions Limited volume Saturated Shallow Compacted Pavement over roots 90% Describe Small planter with concrete

Prevailing wind direction NW Common weather Strong winds Ice Snow Heavy rain Describe _____

Tree Health and Species Profile

Vigor Low Normal High Foliage None (seasonal) None (dead) Normal _____ % Chlorotic _____ % Necrotic _____ %

Pests/Biotic _____ Abiotic _____

Species failure profile Branches Trunk Roots Describe _____

Load Factors

Wind exposure Protected Partial Full Wind funneling Relative crown size Small Medium Large

Crown density Sparse Normal Dense Interior branches Few Normal Dense Vines/Mistletoe/Moss

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown LCR 60 % Dead twigs/branches 10 % overall Broken/Hangers Number _____ Over-extended branches Pruning history Crown cleaned Thinned Raised Reduced Topped Lion-tailed Flush cuts Other _____ None Condition(s) of concern None

Cracks Lightning damage Codominant Included bark Weak attachments Cavity/Nest hole _____ % circ. Previous branch failures Similar branches present Dead/Missing bark Cankers/Galls/Burls Sapwood damage/decay Conks Heartwood decay Response growth _____

Part Size _____ Fall Distance _____ Load on defect N/A Minor Moderate Significant Likelihood of failure Improbable Possible Probable Imminent

Part Size _____ Fall Distance _____ Load on defect N/A Minor Moderate Significant Likelihood of failure Improbable Possible Probable Imminent

— Trunk —

Dead/Missing bark Abnormal bark texture/color Codominant stems Included bark Cracks Sapwood damage/decay Cankers/Galls/Burls Sap ooze Lightning damage Heartwood decay Conks/Mushrooms Cavity/Nest hole _____ % circ. Depth _____ Poor taper Lean _____ ° Corrected? Response growth _____ Condition(s) of concern None

Part Size _____ Fall Distance _____ Load on defect N/A Minor Moderate Significant Likelihood of failure Improbable Possible Probable Imminent

— Roots and Root Collar —

Collar buried/Not visible Depth _____ Stem girdling Dead Decay Root rot Conks/Mushrooms Cavity 40 % circ. Cracks Cut/Damaged roots Distance from trunk 6' Root plate lifting Response growth Minor Condition(s) of concern Root rot

Part Size Whole Tree Fall Distance 35' Load on defect N/A Minor Moderate Significant Likelihood of failure Improbable Possible Probable Imminent

Risk Categorization																		
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood									Consequences			Risk rating (from Matrix 2)			
			Failure			Impact			Failure & Impact (from Matrix 1)									
			Improbable	Possible	Probable	Imminent	Very low	Low	Medium	High	Unlikely	Somewhat	Likely	Very likely	Negligible	Minor	Significant	Severe
1. Building	Whole tree	Root rot	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Low
2. People in BLDG			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Low
3. Patio			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	High
4. People on patio			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	High

Matrix 1. Likelihood matrix.

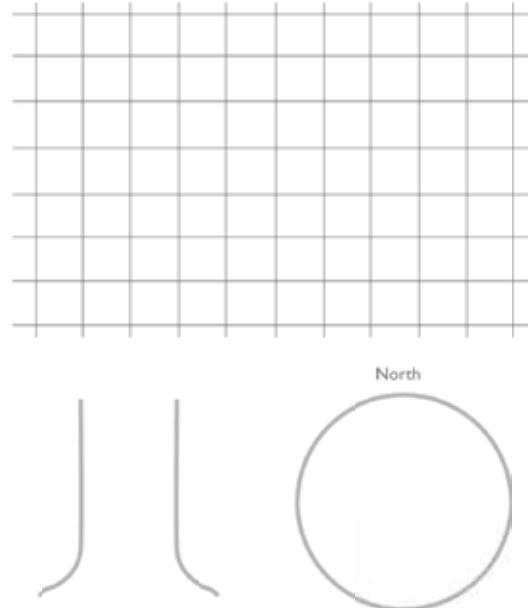
Likelihood of Failure	Likelihood of Impact			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Notes, explanations, descriptions

Significant root rot encompasses 40% of the root collar circumference with depths of 18"+. Evidence of animal burrowing in and around root collar. Prevailing wind comes from NW with root and unbalanced crown weight on SE side. Tree will fail at root collar and fall to the SE.



Mitigation options

- Remove tree
- _____
- _____
- _____

Residual risk None
 Residual risk _____
 Residual risk _____
 Residual risk _____

Overall tree risk rating Low Moderate High Extreme

Overall residual risk None Low Moderate High Extreme Recommended inspection interval Bi-annual

Data Final Preliminary Advanced assessment needed No Yes-Type/Reason _____

Inspection limitations None Visibility Access Vines Root collar buried Describe Root collar excavation needed to determine depth of cavity beyond observed 18"

ISA Basic Tree Risk Assessment Form

Client Rancho Del Monte Country Club CV LP

Date 9/30/21

Time 3:30pm

Address / Tree location 10 Country Club Way

Tree no. 58

Sheet 2 of 4

Tree species Quercus agrifolia

dbh 28"

Height 30'

Crown spread dia. 30'

Assessor(s) Jake Minnick, TRAQ, WE-11830A

Tools used 24" probe, 1.5 lbs rubber mallet

Time frame 1 year

Target Assessment

Target number	Target description	Target protection	Target zone			Occupancy rate 1 = rare 2 = occasional 3 = frequent 4 = constant	Practical to move target?	Restriction practical?
			Target within drip line	Target within 1x Ht.	Target within 1.5x Ht.			
1	Pool house	-	✓			4	No	No
2	Patio	-	✓			4	No	No
3	People on Patio	-	✓			2	No	No
4								

Site Factors

History of failures Yes - 3 major tree/tree part failures within last 1 year Topography Flat Slope 30% Aspect SWSite changes None Grade change Site clearing Changed soil hydrology Root cuts Describe Grading in 1950'sSoil conditions Limited volume Saturated Shallow Compacted Pavement over roots % DescribePrevailing wind direction NW Common weather Strong winds Ice Snow Heavy rain Describe

Tree Health and Species Profile

Vigor Low Normal High Foliage None (seasonal) None (dead) Normal % Chlorotic % Necrotic %

Pests/Biotic _____ Abiotic _____

Species failure profile Branches Trunk Roots Describe _____

Load Factors

Wind exposure Protected Partial Full Wind funneling Relative crown size Small Medium Large Crown density Sparse Normal Dense Interior branches Few Normal Dense Vines/Mistletoe/Moss Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown LCR 60% Dead twigs/branches 5% overall Broken/Hangers Number _____ Over-extended branches Cracks Lightning damage Codominant Included bark Weak attachments Cavity/Nest hole % circ.Previous branch failures Similar branches present Dead/Missing bark Cankers/Galls/Burls Sapwood damage/decay Conks Heartwood decay

Response growth _____

Pruning history Crown cleaned Thinned Raised Lion-tailed Reduced Topped Other _____

Condition(s) of concern None

Part Size _____ Fall Distance _____

Part Size _____ Fall Distance _____

Load on defect N/A Minor Moderate Significant Load on defect N/A Minor Moderate Significant Likelihood of failure Improbable Possible Probable Imminent Likelihood of failure Improbable Possible Probable Imminent

— Trunk —

Dead/Missing bark Abnormal bark texture/color Codominant stems Included bark Cracks Sapwood damage/decay Cankers/Galls/Burls Sap ooze Collar buried/Not visible Depth 6" NE side Stem girdling Lightning damage Heartwood decay Conks/Mushrooms Cavity/Nest hole 10% circ. Depth 18" Poor taper Dead Decay Conks/Mushrooms Cavity/Nest hole 10% circ. Depth 18" Poor taper Ooze Cavity % circ.

Lean 3°. Corrected? Yes

Cracks Cut/Damaged roots Distance from trunk _____

Response growth Significant

Root plate lifting Soil weakness

Condition(s) of concern Heartwood decay

Response growth None

Part Size Whole Tree Fall Distance 35'

Condition(s) of concern None

Load on defect N/A Minor Moderate Significant

Part Size _____ Fall Distance _____

Likelihood of failure Improbable Possible Probable Imminent Load on defect N/A Minor Moderate Significant Likelihood of failure Improbable Possible Probable Imminent

— Roots and Root Collar —

Collar buried/Not visible Depth 6" NE side Stem girdling Dead Decay Conks/Mushrooms Ooze Cavity % circ.Cracks Cut/Damaged roots Distance from trunk _____Root plate lifting Soil weakness

Response growth None

Condition(s) of concern None

Part Size _____ Fall Distance _____

Load on defect N/A Minor Moderate Significant Likelihood of failure Improbable Possible Probable Imminent

Matrix I. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Notes explanations descriptions

Notes, explanations, descriptions
There are three, narrow vertical areas of decay along the trunk of this specimen - each measuring 5-6' in height. Response grown has healed two into seams. A sounding mallet was used to confirm heartwood decay below seams and throughout most of the trunk. The larger cavity confirms the depth of 18' at the root collar.

Mitigation options

Mitigation options

1. Remove tree
2. Remove pool house and patio area in target zone
3. _____
4. _____

Residual risk: None

Residual risk

Residual risk

Residual risk

Overall tree risk rating

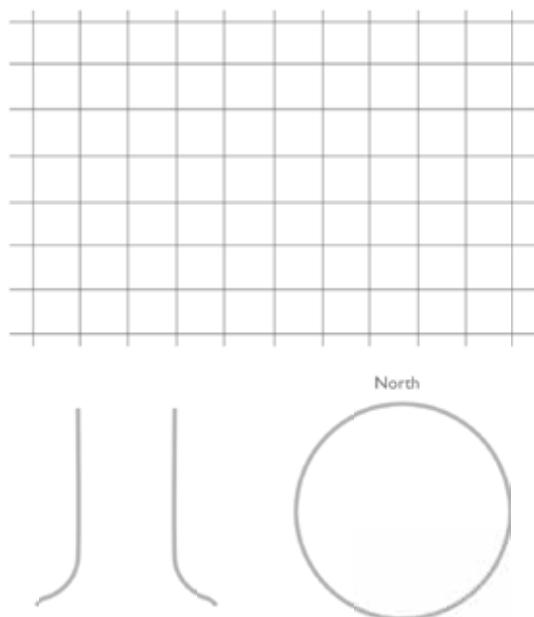
Low Moderate High Extreme

Overall residual risk: Low Moderate High Extreme Recommended inspection interval: Annual

Overall residual risk: None Low Moderate High Existing Recommended inspection interval: _____

Final Preliminary Advanced assessment needed Yes-type/Reason Root collar excavation would exceed extent of

Inspection limitations None Visibility Access Vines Root collar buried **Describe** Root collar excavation would expose extent of root collar burial and presence of response growth



ISA Basic Tree Risk Assessment Form

Client Rancho Del Monte Country Club CV LP

Date 9/30/21

Time 4:00pm

Address/Tree location 10 Country Club Way

Tree no. 59

Sheet 3 of 4

Tree species Quercus lobata

dbh 30"

Height 25'

Crown spread dia. 25'

Assessor(s) Jake Minnick, TRAQ, WE-11830A

Tools used 24" probe, 1.5 lbs rubber mallet

Time frame 1 year

Target Assessment

Target number	Target description	Target protection	Target zone			Occupancy rate 1 = rare 2 = occasional 3 = frequent 4 = constant	Practical to move target?	Restriction practical?
			Target within drip line	Target within 1x Ht.	Target within 1.5x Ht.			
1	Patio	-	✓			4	No	No
2	People on Patio	-	✓			2	No	No
3								
4								

Site Factors

History of failures Yes - 3 major tree/tree part failures within last 1 year Topography Flat Slope 30% Aspect SWSite changes None Grade change Site clearing Changed soil hydrology Root cuts Describe Grading in 1950'sSoil conditions Limited volume Saturated Shallow Compacted Pavement over roots % DescribePrevailing wind direction NW Common weather Strong winds Ice Snow Heavy rain Describe

Tree Health and Species Profile

Vigor Low Normal High Foliage None (seasonal) None (dead) Normal % Chlorotic % Necrotic %

Pests/Biotic _____ Abiotic _____

Species failure profile Branches Trunk Roots Describe _____

Load Factors

Wind exposure Protected Partial Full Wind funneling Relative crown size Small Medium Large Crown density Sparse Normal Dense Interior branches Few Normal Dense Vines/Mistletoe/Moss Vines to 12'H

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown LCR 40% Dead twigs/branches 10% overall Broken/Hangers Number _____Max. dia. 3" Max. dia. _____ Cracks Lightning damage Over-extended branches Codominant Included bark

Pruning history

Crown cleaned Thinned Raised Reduced Topped Lion-tailed Flush cuts

Other _____

Weak attachments Cavity/Nest hole % circ.

None Condition(s) of concern None

Previous branch failures Similar branches present

Part Size _____ Fall Distance _____

Part Size _____ Fall Distance _____

Load on defect N/A Minor Moderate Significant Load on defect N/A Minor Moderate Significant Likelihood of failure Improbable Possible Probable Imminent Likelihood of failure Improbable Possible Probable Imminent

— Trunk —

Dead/Missing bark Abnormal bark texture/color Codominant stems Included bark Cracks Sapwood damage/decay Cankers/Galls/Burls Sap ooze Lightning damage Heartwood decay Conks/Mushrooms Cavity/Nest hole 10% circ. Depth 24" Poor taper

Lean 20°. Corrected? No

Response growth Significant

Condition(s) of concern Heartwood decay

Part Size Whole Tree Fall Distance 25'

Collar buried/Not visible Depth 6" NE side Stem girdling Dead Decay Conks/Mushrooms Ooze Cavity % circ.Cracks Cut/Damaged roots Distance from trunk _____Root plate lifting Soil weakness

Response growth None

Condition(s) of concern None

Part Size _____ Fall Distance _____

Load on defect N/A Minor Moderate Significant Likelihood of failure Improbable Possible Probable Imminent

— Roots and Root Collar —

Risk Categorization											Risk rating (from Matrix 2)	
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood									
			Failure		Impact		Failure & Impact (from Matrix 1)					
			Improbable	Possible	Probable	Imminent	Very low	Low	Medium	High	Unlikely	
1. Patio	Whole tree	Heartwood rot	✓				✓			✓	✓	Mod
2. People on patio			✓				✓	✓		✓	✓	Mod

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

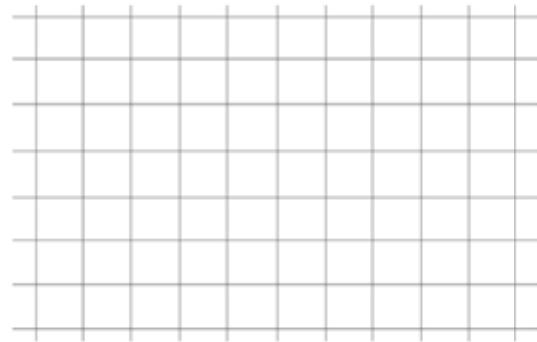
Notes, explanations, descriptions

There is a large cavity stemming from an over sized pruning cut just above the root collar that was not able to compartmentalize. The cavity extends below the root collar and holds standing water after rain events, which increases the rate of decay. There is no heartwood left in the lower 2-3' of the trunk, which makes this tree prone to failure.

Mitigation options

- Remove tree
- Remove patio area in target zone
-
-

Residual risk None
 Residual risk Low
 Residual risk
 Residual risk

Overall tree risk rating Low Moderate High ExtremeOverall residual risk None Low Moderate High Extreme Recommended inspection interval AnnualData Final Preliminary Advanced assessment needed Yes-Type/Reason _____Inspection limitations None Visibility Access Vines Root collar buried Describe _____ Root collar excavation would expose extent of root collar burial and presence of response growth. Vines impact sounding.

ISA Basic Tree Risk Assessment Form

Client Rancho Del Monte Country Club CV LP

Date 9/30/21

Time 4:30pm

Address/Tree location 10 Country Club Way

Tree no. 62

Sheet 4 of 4

Tree species Quercus agrifolia

dbh 34"

Height 35'

Crown spread dia. 50'

Assessor(s) Jake Minnick, TRAQ, WE-11830A

Tools used 24" probe, 1.5 lbs rubber mallet

Time frame 1 year

Target Assessment

Target number	Target description	Target protection	Target zone			Occupancy rate 1 = rare 2 = occasional 3 = frequent 4 = constant	Practical to move target?	Restriction practical?
			Target within drip line	Target within 1x Ht.	Target within 1.5x Ht.			
1	Building	-	✓			4	No	No
2	People inside Building	Building	✓			2	No	No
3	Lawn	-	✓			4	No	No
4	People on Lawn	-	✓			2	No	No

Site Factors

History of failures Yes - 3 major tree/tree part failures within last 1 year Topography Flat ✓ Slope □ % Aspect □

Site changes None □ Grade change □ Site clearing □ Changed soil hydrology □ Root cuts ✓ Describe Nearby stem wall foundationSoil conditions Limited volume □ Saturated □ Shallow □ Compacted □ Pavement over roots □ 40 % Describe Concrete walkway

Prevailing wind direction NW Common weather Strong winds □ Ice □ Snow □ Heavy rain □ Describe

Tree Health and Species Profile

Vigor Low ✓ Normal □ High □ Foliage None (seasonal) □ None (dead) □ Normal ____ % Chlorotic ____ % Necrotic ____ %
Pests/Biotic _____ Abiotic _____

Species failure profile Branches □ Trunk □ Roots □ Describe

Load Factors

Wind exposure Protected □ Partial □ Full ✓ Wind funneling □ Relative crown size Small □ Medium □ Large ✓

Crown density Sparse ✓ Normal □ Dense □ Interior branches Few ✓ Normal □ Dense □ Vines/Mistletoe/Moss □

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ✓ LCR 60 %
Dead twigs/branches ✓ 20 % overall
Broken/Hangers Number _____
Over-extended branches □Max. dia. 3" _____
Max. dia. _____Cracks □ Lightning damage □
Codominant □ Included bark □Pruning history
Crown cleaned □ Thinned □ Raised ✓
Reduced ✓ Topped □ Lion-tailed □
Flush cuts □ Other _____Weak attachments □ Cavity/Nest hole ____ % circ.
Previous branch failures □ Similar branches present □Dead/Missing bark □ Cankers/Galls/Burls □ Sapwood damage/decay □
Conks □ Heartwood decay □

Response growth _____

Dead branch drop Condition(s) of concern None

Part Size 3" diameter Fall Distance 15'

Part Size _____ Fall Distance _____

Load on defect N/A □ Minor □ Moderate □ Significant ✓
Likelihood of failure Improbable □ Possible □ Probable ✓ Imminent □Load on defect N/A □ Minor □ Moderate □ Significant □
Likelihood of failure Improbable □ Possible □ Probable □ Imminent □

— Trunk —

Dead/Missing bark □ Abnormal bark texture/color □
Codominant stems □ Included bark □ Cracks □
Sapwood damage/decay □ Cankers/Galls/Burls □ Sap ooze □
Lightning damage □ Heartwood decay □ Conks/Mushrooms □
Cavity/Nest hole ____ % circ. Depth _____ Poor taper □
Lean ____ ° Corrected? _____
Response growth _____
Condition(s) of concern None

Part Size _____ Fall Distance _____

Load on defect N/A □ Minor □ Moderate □ Significant □
Likelihood of failure Improbable □ Possible □ Probable □ Imminent □

— Roots and Root Collar —

Collar buried/Not visible ✓ Depth 6" _____ Stem girdling □
Dead □ Decay ✓ Conks/Mushrooms □
Ooze □ Root rot Cavity ✓ 50 % circ.Cracks □ Cut/Damaged roots ✓ Distance from trunk 6" _____
Root plate lifting □ Soil weakness □Response growth Minor _____
Condition(s) of concern Root rot

Part Size Whole Tree Fall Distance 35'

Load on defect N/A □ Minor □ Moderate □ Significant □
Likelihood of failure Improbable □ Possible □ Probable ✓ Imminent □

Risk Categorization															
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood								Consequences			Risk rating (from Matrix 2)	
			Failure		Impact		Failure & Impact (from Matrix 1)								
			Improbable	Possible	Probable	Imminent	Very low	Low	Medium	High	Unlikely	Somewhat likely	Likely	Very likely	
1. Building	Whole tree	Root rot			✓					✓			✓		High
2. People in BLDG					✓					✓			✓		Mod
3. Lawn					✓		✓			✓			✓		Low
4. People on lawn					✓		✓			✓			✓		Low
1. Building	3" dead branch	Branch drop			✓					✓			✓		Mod
2. People in BLDG					✓		✓			✓			✓		Low
3. Lawn					✓		✓			✓			✓		Low
4. People on lawn					✓		✓			✓			✓		Low

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Notes, explanations, descriptions

Significant root rot encompasses 50% of the root collar circumference on SW side of tree. Severe crown dieback on SW side of tree due to extent of decay in root zone. With root rot on SW side and heavily unbalanced crown weight on NE side, tree will fall at root collar and fall to the NE.

Mitigation options

1. Remove tree
2. Crown clean
3. _____
4. _____

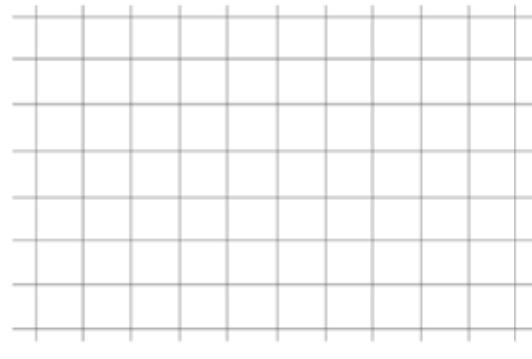
Residual risk None
 Residual risk High
 Residual risk _____
 Residual risk _____

Overall tree risk rating Low Moderate High Extreme

Overall residual risk None Low Moderate High Extreme Recommended inspection interval Bi-annual

Data Final Preliminary Advanced assessment needed No Yes-Type/Reason _____

Inspection limitations None Visibility Access Vines Root collar buried Describe _____ Root collar excavation needed to determine depth of decay and depth of burial.



Portofino Project Assessment

Arborist report

Prepared for:

Rancho Del Monte Country Club CV LP

Prepared by:

Frank Ono
Urban Forestry
Society of American Foresters member #48004
ISA Certified Arborist #536
311 Forest Avenue
Pacific Grove, CA 93950

June 16, 2022

Owner:

Rancho Del Monte Country Club CV LP
1240 Munras Avenue
Monterey, CA 93490

Forester and Arborist

Frank Ono, Society of American Foresters # 048004, Certified Arborist #536
F.O. Consulting
1213 Miles Ave
Pacific Grove, CA 93950

SUMMARY

The property is forested by both Coast live oak and Valley oak, with Coast live oak as the dominant oak species. This report discusses the effects of construction within the building envelope where construction is to occur near existing trees. The project is requesting an Administrative Permit and Design Approval to allow facility renovations to the Portofino Inn consisting of the demolition & rebuild of nine (9) existing buildings (Building A, Caretaker Residence & B, Barn, Building C, Clubhouse, Building D, Pool house/exercise room and Cabins E1.A, E1.B, E2.A, E2.B & E3), the demolition/relocation of the pool from 2,322 square feet to 420 square feet and spa from 60 square feet to 301 square feet, rehabilitation of flatwork (walkways, parking areas & hardscape), landscape rehabilitation and the removal of three (3) native Oak trees (including one [1] landmark), and upgrading of the wastewater treatment system. The property is located at 10 Country Club Way, Carmel Valley (Assessor's Parcel Number 187-252-011-000), within the Carmel Valley Master Plan.

The remodel /renovation project proposes to retain all the existing trees except for those unavoidable due to construction improvements. The RRM Design Group has prepared a very thorough and comprehensive arborist report to serve as a construction impact analysis/ tree risk assessment, prepared by Mr. Jake Minnick ISA Certified Arborist WE-11830A ISA Tree Risk Assessment Qualification and Professional Landscape Architect #6426. That report has identified four trees for removal as hazardous (the four hazardous trees warrant removal even if the project is not accepted) and proposes three trees for removal (one is landmark size) to facilitate construction.

The County of Monterey Planning Department, concerned that the project may create long-term harm to trees, has requested a County-listed arborist for a review of the site and report due to the proximity of the project development located within the canopy dripline areas. This report finds that there will be potential short-term stress to the trees but does not anticipate long-term harm to the trees that have development located within their canopy dripline areas. This report discusses the potential for suppressed tree growth concerning the design and its grading.

INTRODUCTION

This tree assessment/arborist report and site review is prepared for Rancho Del Monte Country Club CV LP, the owner of the property located at 10 Country Club Way by Ono Consulting, Urban Forestry and Certified Arborists, due to the proposed construction on this site. The Carmel Valley Land Use Plan and Monterey County Zoning Ordinance Title 21 identify oak trees (*Quercus* species) as native tree species that require protection and special consideration for management.

ASSIGNMENT/SCOPE OF PROJECT

We have been requested to provide the Monterey County Resource Agency Planning Department with a review of the Portofino Project and arborist report because the proposed development is in very close proximity to the trees and groundwork within the driplines of the canopies. To accomplish this assignment, the following tasks have been completed;

- Evaluate health, structure, and preservation suitability for each tree within or adjacent (15 feet or less) to the proposed development of trees greater than or equal to six diameter inches at 24 inches above grade.
- Review the proposed tree protection plan as provided by RRM.
- Determine the number of trees affected by construction that meet “tree” criteria as defined by the County of Monterey, utilizing the previous report and compare findings and discuss suppressed tree growth concerning the design.
- Make recommendations on forest fuel reduction and management.
- Document findings in the form of a report as required by the County of Monterey Planning Department.

LIMITATIONS

This assignment is limited to the review of a report prepared by RRM, a site visit, and the associated tree protection plan submitted to me dated March 2022 created by Jake Minnick to assess the effects of potential construction on trees within or adjacent to construction activities. The assessment is made from the site visit and plans specifically, and no other plans were reviewed. Only the grading and erosion details discussed in this report are those that relate to tree health.

PURPOSE AND GOAL

This tree Assessment/Arborist report is prepared for this parcel due to a review of the proposed construction activities located at 10 Country Club Way, Carmel Valley CA to give an independent assessment of the tree and report to determine how the trees may be affected by the proposed project. Oak trees are considered protected trees as defined by the County of Monterey, Title 21 Monterey County Zoning Ordinance (sec 21.260.260). Its goal is to protect and maintain the Carmel Valley forested resources through the adherence to development standards, which allow the protection, and maintenance of its forest resources. Furthermore, it is the intended goal of this report and site review to aid in planning to offset any potential effects of the proposed development on the property while encouraging forest stability and sustainability, perpetuating the forested character of the property and the immediate vicinity.

SITE DESCRIPTION

- 1) Assessor's Parcel Number: 187-252-011-000.
- 2) Location: 10 Country Club Way
- 3) Parcel size: Approximately 7 Acres
- 4) Existing Land Use: The parcel is developed with Visitor Accommodations and Professional Offices, zoned VO-D-S-RAZ
- 5) Slope: Slopes on the parcel vary but are less than 25%. The site is terraced for structures and parking.
- 6) Soils: The parcel is located on soils classified by the Monterey County Soils report as Xd and CbB.

Xd is Xerorthents. These are steep to extremely steep soils on bluffs along major rivers, on steep escarpments of fans and terraces. These soils consist mostly of unconsolidated or weakly consolidated alluvium that commonly contains pebbles, cobblestones, and stones. Runoff is rapid and very rapid, and the erosion hazard is high or very high. Drainage, subsoil permeability, depth of the root zone, and available water capacity all vary within short distances.

CbB-Chualar loam, 2 to 5 percent slopes. This is gently sloping soil on fans and terraces. The surface layer is loam or, in places, very fine gravelly loam, and it is 16 to 24 inches thick. The subsoil is 10 to 20 inches thick and ranges from slightly acid to mildly alkaline. Runoff is slow, and the erosion hazard is slight.

- 7) Vegetation: The vegetation on site is composed primarily of Coast live oak (*Quercus agrifolia*) and Valley Oak (*Quercus lobata*) understory present is fallow and consist mainly of grasses and/or ornamental plantings. Mortality on the site is low; however biotic stressors such as insects and disease were obvious on-site consisting of the natural occurrence of oak worm defoliation, oak borer pests, and fungal activity.

BACKGROUND

Mr. Jake Minnick ISA Certified Arborist WE-11830A ISA Tree Risk Assessment Qualification and Professional Landscape Architect #6426 has prepared a comprehensive arborist report to serve as a construction impact analysis/ tree risk assessment. The project is intended to be a remodel /renovation utilizing pre-existing building footprints and proposes to retain all the existing trees except for those unavoidable due to construction improvements. Ono Consulting was requested for a review of a report and assessment of trees located at 10 Country Club Way. To understand the scope of what has been requested for the trees adjacent to the proposed development on this property, the report was reviewed, and a visit was taken to the property to see how the project incorporates the preliminary construction location to consider the goals of the site improvement desired of the landowner.

OBSERVATIONS/DISCUSSION

The following list includes observations made while on-site of details studied during this stage of the planning process. Tree ID numbers correspond with the Minnick tree report. The trees not listed were unremarkable.

- #35 is located upslope of the existing driveway entrance.
- #37 has poor structure and may need corrective pruning.
- #40 has several limbs that are resting on the ground with some evidence of some root crown rot. The tree is located within the path of the new driveway
- #40 and #41 are upslope from a retaining wall. #40 appears to be in fair condition, but because it has a wide sprawling structure, it may need to be removed to allow clearance for fire vehicles. #41 may also need pruning for firetruck clearance.
- #43 and #44 appear to be semi-healthy and near a 3-to-4-foot wall
- #45 is healthy but has a retaining wall below it
- #46 is located upslope behind a three-foot retaining wall.
- #47 appears to be grown from sucker sprouts from a former failed coast live oak. The base of the tree where the sprouts emanate has a large Ganoderma conk (fungal body) emerging from the trunk indicating decay, however, the new sprouts appear to be healthy.
- #48 and #49 have poor structural conditions.
- #51 is a dominant Valley oak appearing to be very healthy. There have been some large limbs taken off of it in the form of heading to reduce weight. The tree is producing new wood on the trunk base. There is an asphalt walk around its northside.
- #54 is a Valley oak with some die back within the crown. The tree is encased with a cement border. The tree appears to be lifting the sidewalk on the side opposite its lean. There is one prominent lower limb leaning to the south that should be removed because of observed limb die back and to allow access around and under the tree crown.
- #58 and #59 both have evidence of decay within the center of the tree due to the accumulation of soil that's been placed against them however they both have enough surrounding reaction would they appear to be secure for now, however, the soil is accumulated at the base of the trees that will need to be removed to minimize or slow decay processes.
- #60 and #61 are along a slope with an accumulation of soil and duff against the base of the trees. The trees appear to be healthy but will benefit from having the excess soil removed that is built up around the root collar area.
- #62 is adjacent to the electrical panel. This tree has die-back in the crown. There is decay at the base of the tree, however, the decay is localized about one-third of the trunk but there is a formation of callous wood surrounding the decay. Retention of this tree appears to be risky; it should be removed.
- #63 appears to be cracking the existing foundation and more than likely has a significant root growing under the foundation.
- #64 and #65 are located adjacent to the existing building and foundations.
- #65 has asphalt on its northeast side.
- #66 is dead, the trunk has snapped at the base and leaning to the east.

- #68 has a lean to the west with some decay on the backside however it looks fairly secure. A study of the tree shows it growing and producing fresh wood.
- #74 has a small cavity in his trunk, the cavity, however, is surrounded by well-formed reaction wood.
- #85 and #84 both appear to be in fair shape or better. Live oak # 84 has some deadwood within the canopy, but other portions of the crown are producing new foliage.
- #93 is a Valley oak to be in relatively healthy condition. There is a retaining wall approximately 15 feet to the west.
- #95 is dead and with evidence of water mold fungus with asphalt on the northwest side of the tree.
- #96 has an asphalt walk along the north side of the tree.
- #97 is healthy but this tree also has excessive soil gathered around the base of the tree.
- #98 has a retaining wall to the south side of the tree. The tree appears relatively healthy; however, the soil has accumulated at the base of the tree that needs removal to its original grade.
- #99 multiple stemmed trunks appear to be a relatively healthy tree. There is a structure and retaining wall to the west side of the tree and asphalt below the retaining wall.
- #100 appears relatively healthy even though there is evidence of ground squirrel activity. There is a 2-foot retaining wall to the south side of the tree.
- #103 is relatively healthy, though it appears that it has fallen. Structurally there is some decay however its height is low, so the chances of failure are low.
- #106 is a healthy tree with an asphalt walk along its north side.
- #107, #108, and #109 are in fair condition, with #108 being the worst of the three, it has some stem decay and is a suppressed tree.
- #110 appears to be a relatively healthy tree with a retaining wall downslope to its southside.

DISCUSSION OF DEVELOPMENT OF ADJACENT TREES

The conditions of the oaks on the property vary in condition, most range from fair to poor condition on this previously disturbed site. The project intends on utilizing current footprints with recontouring of soils to incorporate ramps for accessibility, vehicular and pedestrian clearances, and drainage. The concern is that the proposed grading and removal of soil for development may harm the existing trees resulting in suppressed tree growth from root loss. The Minnick report and my observations reveal historic grading where roots have been disturbed with grades that have changed around many of the existing oak root collars.

The effect of development is dependent on the relative tolerance of a selected species to development impacts. According to documentation published by the International Society of Arboriculture (ISA) Trees and Development, a Technical Guide to Preservation of Trees During Land Development (Matheny and Clarke), Valley oaks are considered to have a moderate tolerance to development impacts but are intolerant of summer irrigation and fill soil. Coast live oak is also listed to have good tolerance to development impacts but is intolerant of frequent summer irrigation, and sensitive to fill soil around the base of the trunk.

Oaks in the landscape were extensively studied by the University of California (UC) Department of Agriculture and their findings are documented in the publication Oaks in the Urban Landscape (Costello, Hagen, Jones). The typical oak root architecture consists of a tap root, oblique root, lateral root, sinker root, and fine roots. While roots have no regular branching pattern, they have a determined specific order of development; the tap root is the first root to form as root structure develops. If the tap root is damaged, the growth of the taproot declines or ceases. In normal growth patterns, the tap root will usually be outgrown by secondary oblique and lateral rooting as the plant begins to grow larger and need additional roots for stability.

Oblique roots (heart root) and lateral roots comprise a large part of the tree's root system and heart roots may form off of a lateral root. These lateral roots and heart roots are woody support roots responsible for anchorage. The heart root is thicker and grows downward at an oblique angle and is characterized by high wood strength, playing a major role in anchorage. Sinker roots will also form off the lateral roots for added security. Fine roots are found at all ends of all the root classes, but are short-lived, dying and reforming at different times of the year depending on the available moisture. Fine roots may die back during times of low moisture with new fine roots reforming after irrigation or rainfall.

This site has a history of development where root systems have been disturbed by past grading. The root systems of coast live oak has a greater lateral component than that of a valley oak. Coast live oak is found on alluvial terraces with relatively high-water tables versus valley oak which are found in drier habitats, meaning that the valley oak has a deeper root system than coast live oak. This site has both coast live oak and valley oak that have overcome or have adapted to previous site disturbances, consistent with the findings listed in Trees and Development, a Technical Guide to Preservation of Trees During Land Development. Though fine root systems of these trees were lost initially to the previous grading, the remaining lateral roots, heart roots, and sinker roots have re-established their fine root loss; the trees are producing new radial stem and branch wood. Both oak tree species have good to moderate tolerance to the past grading but are intolerant of fill soil around the base of the trunk so maintaining the existing grade at the base of oak trees and removing excessive fill soil at the bases of existing trees is the priority. Those trees showing decline are mostly trees that have excessive fill around their trunks with decay created by the excessive fill conditions.

PROJECT ASSESSMENT

The grading site plan shows that disturbance of soils is necessary for the re-contouring of grades, where root disturbance from grading must occur. I agree with the plan to retain as much of the existing natural condition of the site, therefore, structural roots necessary for the anchorage of lateral and oblique roots must remain that will produce new fine roots. Fortunately, the soil is a deep well-drained loam (Chualar loam) where abundant roots are developed and growing deep into the soil.

Valley oaks have a moderate tolerance to development impacts and Coast live oak, have a good tolerance to development impacts, therefore, there may be a short but temporary decline from the grading, however significant and long-term decline for trees on the development is not anticipated as long as the woody roots remain intact, the trees receive infrequent summer irrigation, and the design avoids fill soil around the bases of tree trunks. The site is capable of accommodating grading without compromising stability and has deep soils sufficient for roots to provide nutrients to the trees and for new fine roots to be re-established after grading.

GENERAL STANDARDS TO OBSERVE

The trees preserved around the construction site will have the greatest chance of success if the following practices are adhered to:

- A) Do not deposit any fill around trees, which may compact soils and alter water and air relationships. Avoid depositing fill, parking equipment, or staging construction materials near existing trees. Covering and compacting soil around trees can alter water and air relationships with the roots. Fill placed within the dripline may encourage the development of oak root fungus (*Armillaria mellea*). As necessary, trees may be protected by boards, fencing, or other materials to delineate protection zones.
- B) Pruning shall be conducted so as not to unnecessarily injure the tree. General principles of pruning include placing cuts immediately beyond the branch collar, making clean cuts by scoring the underside of the branch first, and for live oak, avoiding the period from February through May.
- C) Native live oaks are not adapted to summer watering and may develop crown or root rot as a result. Do not regularly irrigate within the drip line of oaks.
- D) Root cutting should occur outside of the springtime. Late June and July would likely be the best. Pruning of the live crown should not occur from February through May.
- E) Oak material greater than 2 inches in diameter remaining onsite for more than one month that is not cut and split into firewood shall be covered with clear plastic that is dug in securely around the pile. This discourages infestation and dispersion of bark beetles.
- F) A mulch layer up to approximately 4 inches deep should be applied to the ground under selected oaks following construction. Only 1 to 2 inches of mulch should be applied within 1 to 2 feet of the trunk, and under no circumstances should any soil or mulch be placed against the root crown (base) of trees. The best source of mulch would be from chipped material generated on-site.
- G) If trees along near the development are visibly declining in vigor, a Professional Forester or Certified Arborist should be contacted to inspect the site to recommend a course of action.

Report Prepared By:



June 16, 2022

Frank Ono, SAF member #48004 and ISA Certified Arborist #536

Date

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