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# EVALUATION OF THE RISKS ASSOCIATED

# WITH TREES IN KENSINGTON, IN THE KENSINGTON PARK

## SUMMARY

On 11/25/2022 I made a site visit to the Kensington Community Center to meet Eileen Nottoli and to walk the area in the heart of the area up to the schools, to view a number of Monterey pines, an oak, and other trees that are in poor condition. The images of the trees in Appendix A were taken in the order they were observed.

The primary issue is the risk to safety and property posed by failure of any of the trees in Kensington Park. My risk assessments are based on the Tree Risk Assessment methodology used by the International Society of Arboriculture by Certified Tree Risk Assessors, by my many years of experience, and by the scientific literature. In my expert opinion, the ages, observed growth habits, wind directions as well as proximity to areas where people walk and play can pose hazards here. The height of the trees coupled with the proximity of long limbs that cannot be pruned back will result in failed branches or trunks causing harm to targets that cannot be moved. Most of the Monterey pines are so top-heavy that the they could fail in the wind. The risks to the people and property are high in this area. The other trees listed are dying due to drought; and some require pruning to reduce their tops.

A second issue is fire. These trees have very large canopies and crowns[1] and pines are explosive in fire. Flames can easily be three times the height of the vegetation; and winds could spread fire near these trees to the surrounding buildings and to the nearby neighborhoods.

[1] Please refer to the Glossary of Terms.

I recommend the removal and pruning of the trees listed below, in order to mitigate the high risk to the nearby people and properties from tree failure and fire. Pruning and/or topping[2] the pines will not work, since these trees are already very old, stressed, and are susceptible to wind-throw in the future. Some other trees that are dying from drought should be removed. And some oaks and the ornamental pear would benefit from crown reductions.

## INTRODUCTION

### BACKGROUND AND HISTORY

I was contacted by the both Eileen Nottoli and Tony Constantouros, first on 11/17/2022 and then again during the site visit and subsequent phone calls and emails. I was asked to to provide an independent professional opinion regarding the tree removal project that had been approved by the Board Directors at their meeting of October 10, 2022. I was told that a contract with Professional Tree care was approved and the work was scheduled to begin on Monday, November 21st. You both told me that a number of public concerns have been raised and they have attempted to list the major issues in a draft FAQ's. I was asked to visit the site with Eileen Nottoli and to provide my objective answers to those questions related to the trees. The questions and my answers are listed in the Analysis and Testing Section of this report. I was also told that there will be a Zoom board meeting on 11/30/2022, where I am to be present; and you asked for this report prior to that meeting. You also wrote that, in recent years, three large trees have fallen in the park. A large Monterey pine fell in 2011 with the main trunk falling between two houses on Arlmont. And another large Monterey pine below Highland recently fell, as did one near the Annex.

I told you that I would have this report prepared by 11/28/2022, and that this community is very important to me, because my children, (who are now in their early 50s,) were raised from a very young age in a house on the corner of Westminster and Windsor, where my first husband still resides. My kids also attended Kensington School, Portola Jr. High and El Cerrito High School before leaving home for college. We used the park and the library for all of those years.

I performed a site visit on 11/25/2022 and walked the area with Eileen Nottoli - to see all of the trees listed below. My opinions and conclusions are my own, based on my years of teaching and consulting.

### ASSIGNMENT

I was asked to evaluate the risk that the trees pose to the safety and property of people in the area, based on my observations, experience, expertise and by the scientific literature; and I was also asked to prepare this report, describing my observations, opinions, conclusions and recommendations regarding these trees.

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[2] Please refer to the Glossary of Terms.

LIMITS OF THE ASSIGNMENT

My report is based on my observations along with some photos of the trees and the site taken by me in Appendix A.

I have no personal interest in or bias with respect to the subject matter of this evaluation report or the parties involved. I have inspected the subject trees and, according to my knowledge and belief, all statements and information in this report are true and correct and are based on my education and experience.

PURPOSE AND USE OF THE REPORT

The purpose of this report is to document my site visit, to identify the trees and the area in question, and to describe my observations, conclusions and recommendations regarding the removal of these trees.

OBSERVATIONS

I looked at all of the trees described and have included some images of the trees in Appendix A. Eileen Nottoli and I walked through the entire area, and the plants are described as follows:

1. A very large Monterey pine infected with beetles that had been previously topped along the road above the community center near the fire road to Hilltop, where children walk. It has dead bark at the bottom.

2-3. Two dead Monterey pines below Hilltop and at the north end of the park.

4-8. Four Monterey pines infested with beetles (and previously topped) along Highland plus one below Highland with rot at the base where children play.

9-12. Four Monterey pines below Highland infested with beetles with large branches looming over areas where children play. Tree #9 has a double trunk with included bark.

13. Monterey pine infested with beetles below the southwest end of Hilltop.

14-17. Four Monterey pines infested with beetles below the southwest end of Hilltop and along the road where children walk.

18. One Monterey pine infested with beetles below Hilltop at midpoint along the back of the park with limbs looming over the Hilltop playground.

19-22. Four Monterey pines infested with beetles below Hilltop at midpoint along the back of the park and along the road where children walk.

23. A dead acacia in the picnic area by Windsor.

24-27. Four distressed acacia trees in the picnic area by Windsor.

28-29. Dying redwood trees in the picnic area by Windsor.

30. Monterey pine leaning over in the picnic area by Windsor

31. Dead Monterey pine in the picnic area by Windsor.

32. Large coast live oak along the walkway two Building E with exposed roots along an eroding hillside.

33. A Monterey pine with a double leader that is very top heavy.

34. An ornamental pear by the rest room has a double leader and is very top heavy.

ANALYSIS OR TESTING

The questions I've been asked to answer are as follows:

1. Can the trees with beetles be treated?

   My answer is "no." The trees have been drought stressed for years, and the beetles have invaded because the trees were unable to produce enough pine pitch to push them out. There is no way that any insecticide can kill them, or repair the damage that has already been done to them.

2. Are Monterey pines more prone to dropping limbs or falling over?

   My answer is "yes." As described in the Discussion and Conclusions section, Monterey pines have been found to be particularly failure prone compared to other tree species. I've had many consulting jobs involving old Monterey pines. In one case, a Monterey pine belonging to my client's neighbor fell into his house and destroyed his kitchen; and he had to move out of the house for six months while the kitchen was rebuilt. Then his insurance company cancelled his insurance policy because his neighbor still had Monterey pines. In another case, my clients were afraid to use one of their bedrooms due to a huge pine that overhung their house and had caused a lot of damage to their back deck. The neighbors, both attorneys, had refused to remove the tree until I wrote a letter describing the situation to them. The tree was subsequently removed.

3. Have the Monterey pines along Highland been topped? And are Monterey pines that have been topped more prone to falling?

   My answer is "yes," because there are some multiple trunks above the areas where they've been cut back in the past. Pines with multiple trunks and many branches emerging from one spot have major points of weakness in those locations. Trees with co-dominant trunks[3] with included bark[4] can be quite prone to failure.

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[3] Please refer to the Glossary of Terms.

[4] Please refer to the Glossary of Terms.

4. Can one predict which trees may be more at risk of dropping a limb or falling?

   My answer is “no,” because all of the trees are very old, and they can fail from many different spots - depending on the wind, the weight of tree limbs, and whether or not the crowns of the trees are unbalanced. The material in the Discussion and Conclusion describes this in greater detail.

5. Are diseased trees more at risk of falling?

   My answer is both “yes” and “no,” because Monterey pines can fail in many places - even from healthy wood. But those trees that contain fungal rot can be much weaker in those spots.

6. Why is one oak being removed? can there be some structure put around the roots to save it.

   My answer is that the tree is being removed because it is in very poor condition, due to a lack of water for years and the fact that much of the root system on one side has no soil to help the tree. There is no real way to save it; and replanting the area with new trees is the best solution.

7. Why were there differences in the bids?

   My answer is that Davey didn’t bid on some of the trees that The Professional Tree Care Company did, and companies have different methods for bidding their jobs.

8. Is there a benefit to removing trees over a longer period of time? Six months? A year?

   My answer is “no.” First, it will be much easier to have all of them removed at the same time, due to monetary concerns. Tree companies tend to charge less for removing a number of trees all at once; and removing some later will mean that they will cost more to remove. In addition, by removing all of the trees now, it will be much easier to re-landscape the areas with new trees that need full sun to grow. Leaving old trees, with shade that wouldn’t help new trees to establish, is not a good idea.

9. Can the work be deferred for a year or longer?

   My answer is “no.” Deferring the work means that it will cost more in the future, when the money may no longer be available. And, for safety concerns, the work on these plants should be done now.

10. Are other local agencies also removing Monterey pines?

    My answer is “yes.” The East Bay Regional Parks District is removing many of them as money permits. This can be seen on Grizzly Peak near the corner of South Park Drive and in other areas. In addition, my homeowner association, the Sequoyah Heights Homeowners Association in the Oakland hills, is systematically removing as many of them as possible - while they are still young. There are far better plants that can be used, and we’re converting to a mediterranean look. Also, Monterey pines are not native here - but only to coastal Monterey County, Cambria, and a few other spots. The liability of these trees far outweighs the risks.

11. When can a replanting plan be identified and implemented?

    My answer is that it should be done as soon as possible. This is described in my Recommendations section; and a committee of homeowners could work with your managers to implement replanting options.

12. Who is responsible if someone is injured or if there is any property damage by a falling tree?

    My answer is that the agency that develops your budget is probably responsible. And, if the tree work is done now, there is a much smaller chance that your insurance rates would go up. Even one more tree failure at this time could increase your insurance rates.

## DISCUSSION AND CONCLUSIONS

It is my opinion and conclusion that I am in complete agreement with The Professional Tree Care Company regarding their opinions and recommendations. The pictures in Appendix A illustrate the fact that the Monterey pines are old and in decline, and pose hazards to the people who use these areas. As an arborist,[5] it is my opinion and conclusion that they are over 60 years old, (the average life of Monterey pines in this area,) and are an undesirable species[6] in urban areas. They pose a high risk to people's safety and property - primarily from falling branches.

After the 1991 Oakland hills fire, I attended a large meeting of foresters and arborists; and we were told that the fuel load that burned in this fire was about half houses and half a combination of eucalyptus and Monterey pines. Monterey pines are known to be fast-growing and relatively short-lived. They tend to produce new growth on the ends of the new branches, with little new growth farther down the trunks and branches. On Monterey pines, the new growth shades out the old growth; and then the old growth is shed. Over time the branches become end-weight heavy and then break off.

The California Tree Failure Report Program (CTFRP), now called the Western Tree Failure Database (WTFD), was established in 1987 to collect quantitative information on the mechanical failure of urban trees (trunk breaks, branch breaks, and uprootings). This information is used to develop "failure profiles" for genera and species to more accurately assess failure probability in standing trees and thereby reduce failure potential in urban forests. According to this program, in an article on the Monterey pine structural failure profile published in the spring of 2015 in *Western Arborist* magazine, the key findings were as follows:

Branch and root failures comprise 72% of Monterey pine failure reports (37% and 35% respectively).

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[5] Please refer to the Glossary of Terms.

[6] Please refer to the Glossary of Terms.

Most branch failures (51%) occurred under moderate wind conditions (5 and 25 mph), followed by failures in low and high wind (32% and 17% respectively). trunk and root failures were both more common at high wind speeds (42% and 46% respectively).

The majority of branch (64%) and root (73) failures occurred when there was some form of precipitation, while trunk (52%) failures generally occurred during dry conditions.

Decay was associated with 11%, 51% and 27% of branch, trunk, and root failures, respectively.

The majority of the decayed portion of the cross-sectional area at the point of failures was under 25% for branch failures (65%) and under 50% for both trunk (62%) and root (81%) failures.

Branch failures were more common along the length of the branch than at the attachment (70% of cases.)

Heavy lateral limbs are the primary defect associated with branch failures, occurring in 72% of cases, followed by multiple branches and dense crown.

Trunk failures were more common above ground level (77%). Most failed trunks were between 13 to 24 inches in diameter at the point of failure.

The most common defects associated with trunk failures were dense crowns, leaning trunk, failed portion dead, and multiple trunks.

The most common defects associated with root failures are leaning trunk, unbalanced crown, and dense crowns.

In addition to this information, according to the publication entitled *Patterns of Structural Failure in Monterey Pine*, by Roger J. Edberg, Alison M. Berry and Laurence R. Costello in the Journal of Arboriculture 20(6): November 1994, Monterey pines were found to be particularly failure prone compared to other tree species in Golden Gate Park, San Francisco, CA. Close to 60% of Monterey pine failures reported in the California Tree Failure Report Program database were limb failures, rather than trunk or root failures, and most of these were considered to be heavy lateral limbs - a structural defect. The majority of limb breakage occurred away from, rather than at the point of attachment, suggesting a wood strength problem. Decay was not frequently associated with Monterey pine failures at any location on the tree. In addition, the branch failure rate for Monterey pine trees reported from other areas outside the park was significantly higher than that for all other trees in the database grouped together. Branching architecture, as well as branch strength, apparently contribute to the failure potential.

## RECOMMENDATIONS

As a consulting arborist with a master’s degree in fire ecology, I recommend the removal of all of the pines listed in The Professional Tree Company bid - in order to mitigate the high risk to people in the

park from future falling limbs or trees - since they are old, unsafe, prone to failure and are a fire hazard to the area. All of the trees are top heavy. Pruning and/or topping these trees isn't feasible due to the lack of inner growth on the side branches along the trunks. Currently some of the areas under some trees appear dark and gloomy, particularly near the school. The bid from Davey allowed for the retention of single Monterey pines in some areas, which is unwise in my opinion, since, when a solitary tree is left that has been growing in a group, it becomes more subject to wind throw in storms. If the wood from these trees is chipped, it can be spread as mulch throughout the park to cover the areas of bare soil.

I also recommend the removals of the cherry trees, liquidambers, acacias, redwood trees and the 30" live oak with the double trunk along the walkway from the parking area to Building E that are listed on The Professional Tree Company bid. Our continuing drought has caused many plants to die; and they should be removed.

In addition, I recommend the pruning of the four live oaks across from the basketball area and the one next to the swings as specified. Finally, the ornamental pear next to the restrooms should also be included with the work to be done. It should be crown reduced - as it has a double trunk, is top heavy, and is leaning to one side.

As a life member of the Mediterranean Garden Society, and as a retired landscape horticulture instructor from Merritt College, I recommend that the areas where these trees are located be replanted with "groves" of olives (*Olea europaea* 'Swan Hill', that are fruitless), or that selections of Chinese Pistache (*Pistachia chinensis* 'Red Push'), Persimmons (*Diospyros kaki* 'Fuju'), Hybrid Strawberry Tree (*Arbutus* 'Marina'), lemons (*Citrus limon*) and cork oaks (*Quercus suber*) be installed to give a more modern mediterranean look. One could also plant native shrubs in the area, such as huckleberry (*Vaccinium ovatum*,) hazelnut (*Corylus cornuta californica*,) and Pink Flowered Currant (*Ribes sanguineum glutinosum*) to attract native wildlife, or dark blue cultivars of the the non-native Blue Cape Plumbago (*Plumbago capensis*.) In addition, both native and non-native salvias could be used; and if ground covers are desired, specimens of ground cover manzanita (*Arctostaphylos uva-ursi*) and *Dymondia margaritae* could be used.

Trees in 5-15 gallon can sizes can be installed in holes between the roots of the old Monterey pines once they are removed; and small plants tend to root several times faster than large specimens. They also root faster in areas where old tree roots are left than if planted in soil where no old tree roots are found. The area definitely needs an upgrade, and these areas would then become sunny, open and inviting to people and to wildlife. If you or the homeowners contact Chris Grampp in the Landscape Horticulture Department at Merritt College, at cgrampp@peralta.edu, his landscape design students might even be willing to do designs of how the new areas could look. I took many classes of students to the Blake Estate in the past, and your park might also become a place where plant identification and design classes from Merritt College could visit.

## Glossary:

arborist…….. "Arborist" means anyone who possesses the technical competence through experience and related training to provide for or supervise the management of trees and other woody plants. A certified arborist is a person who has passed a series of tests by the International Society of Arboriculture (ISA) and is governed by ISA's professional code of ethics.

canopy or crown … This is defined as the leaves and branches of a tree, from the lowest branch on the trunk to the top of the tree.

co-dominant branches/co-dominant stems: forked branches of nearly the same diameter; arising from a common union and lacking a branch collar; may have included bark.

included bark……. is bark the becomes embedded in the union between branch and trunk or between co-dominant stems. Lacks wood connections, resulting in a weak structure.

topping…….. is eliminating the upper portion of a tree's trunk or main leader.

undesirable species… ”Undesirable species" is any tree species which possess any or all of the following characteristics: fast growth, large size, extreme flammability, poor structure, invasive roots, introduced species and relatively short life-span.

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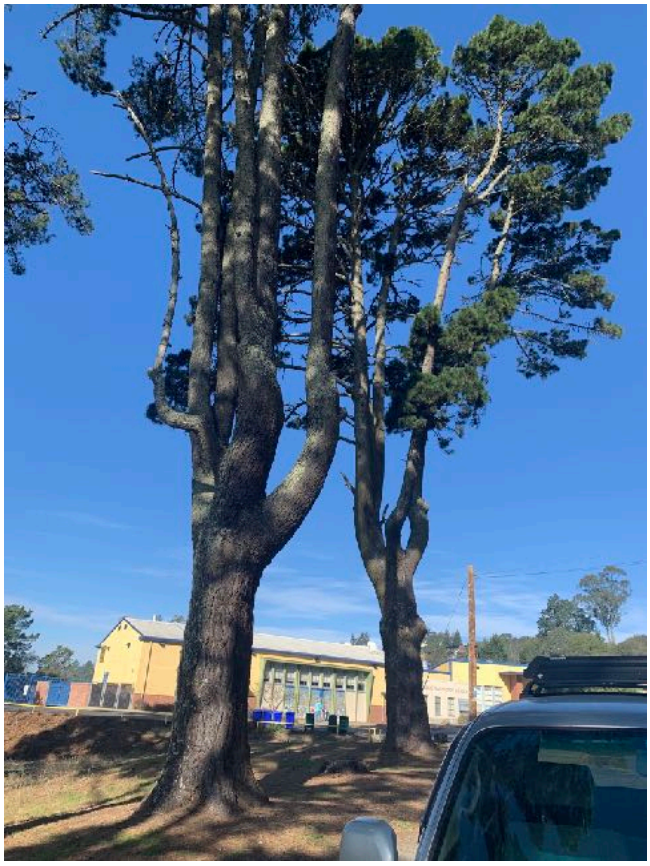
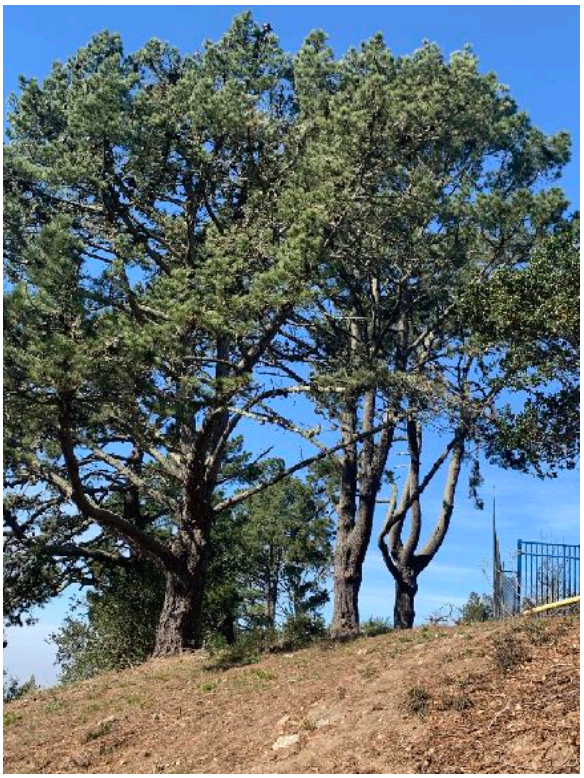
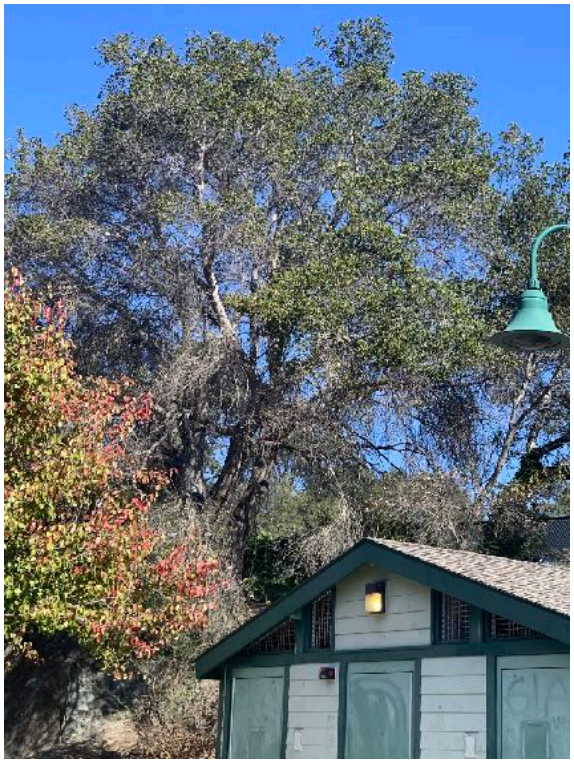
APPENDIX A Images #1- #4 Views of Monterey pines near Highland to Hilltop along the road. They are infested with beetles and have long branches that can break. Evidence of prior topping can be seen where multiple trunks have originated.



APPENDIX A Images #5- #9 Views of other top-heavy Monterey pines, a row of distressed acacias, a dying redwood, and a double-trunked, top heavy Monterey pine



APPENDIX A Images #10 - #13 Views of the double-trunked ornamental pear that needs a crown reduction by the restroom and the large oak behind it that should be removed due to its very poor condition and exposed roots. A healthy oak in the park, shown below on the bottom right, illustrates how a healthy oak should look.



Organizations and Forms:

American Society of Consulting Arborists, 1300 Piccard Drive, Suite LL 14, Rockville MD 20850, 1(301) 947-0483. ASCA members are skilled in tree and other plant identification evaluation diagnosis and repair.

International Society of Arboriculture, 270 Peachtree Street, NW Suite 1900, Atlanta GA 30303, P.O. Box 191 Annapolis Junction MD 20701.

Arborists are tree specialists who use their education, knowledge, training and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information you provide.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

I, Judy Thomas, certify that:

I have personally inspected the trees and the properties referred to in this report and have stated my findings accurately.

I have no current or prospective interest in the vegetation or the properties that are the subject of this report and have no personal interest or bias with respect to the parties involved.

The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts.

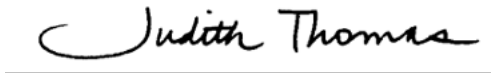
My analysis, opinions and conclusions were developed and this report prepared according to commonly accepted arboricultural practices.

No one provided significant professional assistance to me.

My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of the American Society of Consulting Arborists and the International Society of Arboriculture. I have been involved in the field of Arboriculture since 1977.

Respectfully submitted,



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## SERVICES OFFERED

### PLANT CONSULTATIONS

- Identification of Trees, Shrubs, Groundcovers, Vines and Turf Types
- Landscape Design and Plant Selection for New Landscapes with Consideration for Drought, Fire, Freeze and Ease of Maintenance
- Modification of Existing Landscape Designs
- Replacement Plant Selection for Established Gardens
- Specifications for Planting, Pruning and Long Term Care
- Specifications for Establishment of New Turf Areas
- Pre- and Post-Construction Site Preservation Measures
- Casualty Loss Assessments for Landscapes Damaged by Fire, Flood, Drought or Negligence
- Value Appraisal of Landscape Plants
- Arbitration of Tree Disputes

### LANDSCAPE MANAGEMENT

- Landscape Appraisal, Evaluation and Inventory
- Tree Hazard Evaluation
- Tree and Landscape Problem Identification
- Recommendations for Long Term Care of Plants
- Assessment of Plant Health and Site Restrictions for Plant Growth
- Tree Preservation for Construction Sites
- Tree Care Supervision

## RESUMÉ

- Board Certified Master Arborist WE-0113B and Tree Risk Assessment Qualified with the International Society of Arboriculture; Registered Consulting Arborist #484 with The American Society of Consulting Arborists; Aesthetic Pruning Certificate from Merritt College, 1998; Certified Aesthetic Pruner with the Aesthetic Pruners Assoc., 2011.

- Retired 5/26/07 as a Full-time Landscape Horticulture Instructor, Merritt College, Oakland CA (1977-2007); taught courses in Arboriculture, Forestry, Plant Diseases, Turf Management, General Horticulture, Ecology, Plant Terminology and identification courses in Trees, Shrubs, CA Native Plants, Groundcovers & Vines and Herbaceous Plants. Past President of the Northern CA Turf & Landscape Council (NCTLC), and editor of their quarterly online newsletter. Serves on the N CA Advisory and Executive committees of the Mediterranean Garden Society.

- Member of the American Society of Consulting Arborists, the California Arborist's Association, Inc., the International Society of Arboriculture, the Aesthetic Pruners Association, the CA Horticultural Society, the CA Native Plant Society, and the Diablo Firesafe Council.

- Has a Bachelor's degree in Biology from Stanford University. Holds a Master's degree in Biology from San Jose State University and a Master's Degree in Education from Stanford University. Received the 1985 Education Award from the Northern CA Turf and Landscape Council.

- Serves as a featured speaker for the East Bay Master Gardener Program, the International Society of Arboriculture, the NCTLC, the Diablo Firesafe Council, the Nevada Shade Tree Conference, the N CA Landscape Expo. and numerous garden clubs and civic groups. Has been an education chair for the I.S.A., an editor for the Ortho book *Gardening Techniques* and was a 1985 Horticultural Delegate to China. Her garden was photographed for two Sunset books and was one of those featured on the Park Day School tour in 1989. Her new garden has been described in the MGS Journal No. 57 in July 2009.