



Ed Gurka, Consulting Arborist  
 Member, American Society of Consulting Arborists

Member, International Society of Arboriculture  
 Certified Arborist, Western Chapter, # 0418

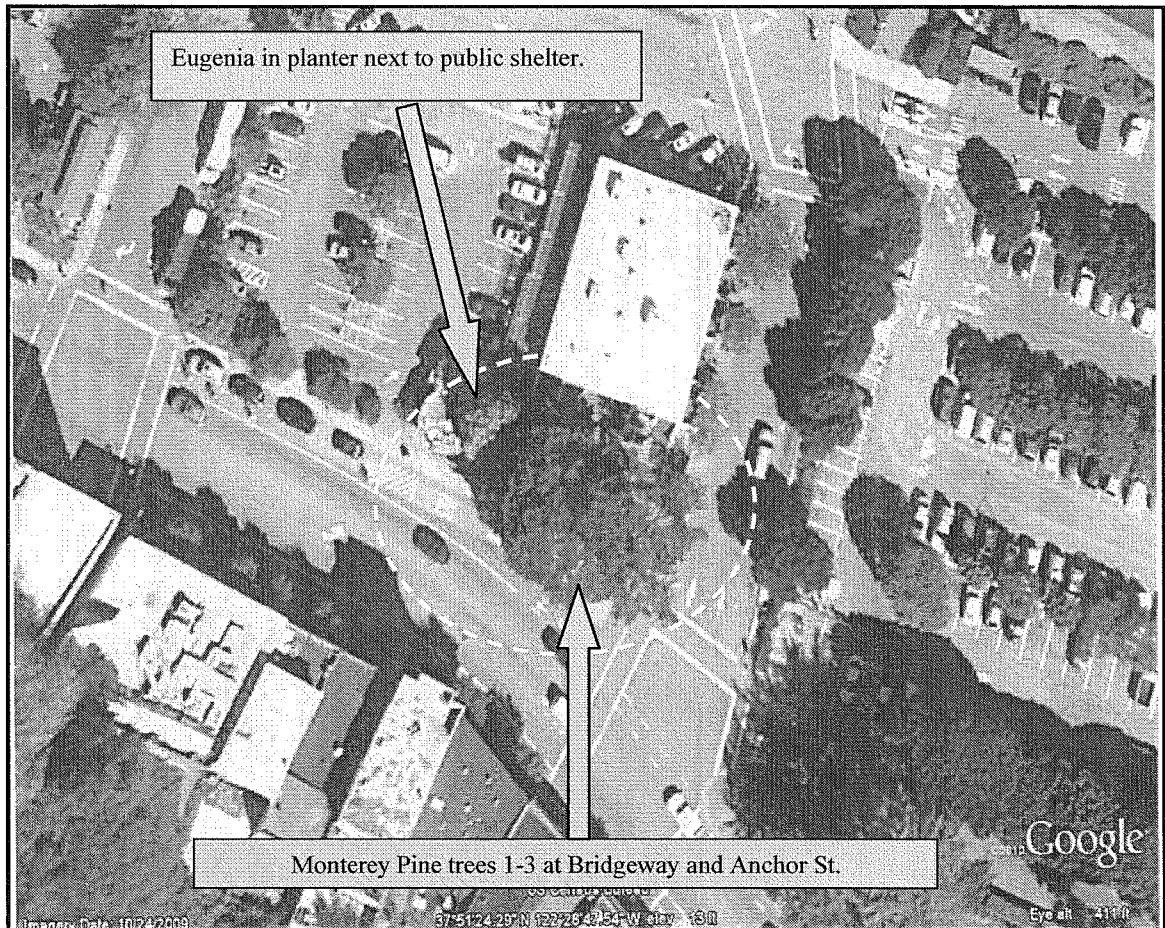
August 3, 2011

**ASSIGNMENT:**

I received a request to prepare an Arborist Report that will describe trees located within a proposed public works construction project on the public right of way in front of 750 Bridgeway, Sausalito, California. A report is necessary because the trees are located in the construction area and will affect the planning and outcome of the project. This report will provide information on the trees' condition, their compatibility for the location, and make a recommendation based on the information and knowledge of the species.

**OBSERVATIONS and DISCUSSIONS:**

There were a total of four site visits made to collect information in preparation for this report. The site visits were made July 7<sup>th</sup>, July 13<sup>th</sup>, and July 27<sup>th</sup> 2011. A preliminary appointment occurred June 27<sup>th</sup>, 2011, with the Sausalito Director of Public Works, Jonathan Goldman to provide information and trees within the project site. The second and fourth visits were on July 7<sup>th</sup> and July 27<sup>th</sup> to collect specific



information on these trees. The third visit was made July 13<sup>th</sup>, after a large limb failure on one of the trees.

The trees are identified as three mature *Pinus radiata*, Monterey Pine and a *Syzygium paniculatum*, Eugenia paniculata, Australian Brush Cherry. The three Monterey Pine trees are located in a planter area bordered by a brick plaza and Bridgeway sidewalk. The Eugenia tree is located just to the left in a small planter that is next to and below the ramp leading from the bus shelter portion of the structure to the public restrooms. See aerial photograph page 1. The circle indicates the three pine trees in the planter and the Eugenia tree by the bus stop and restrooms.

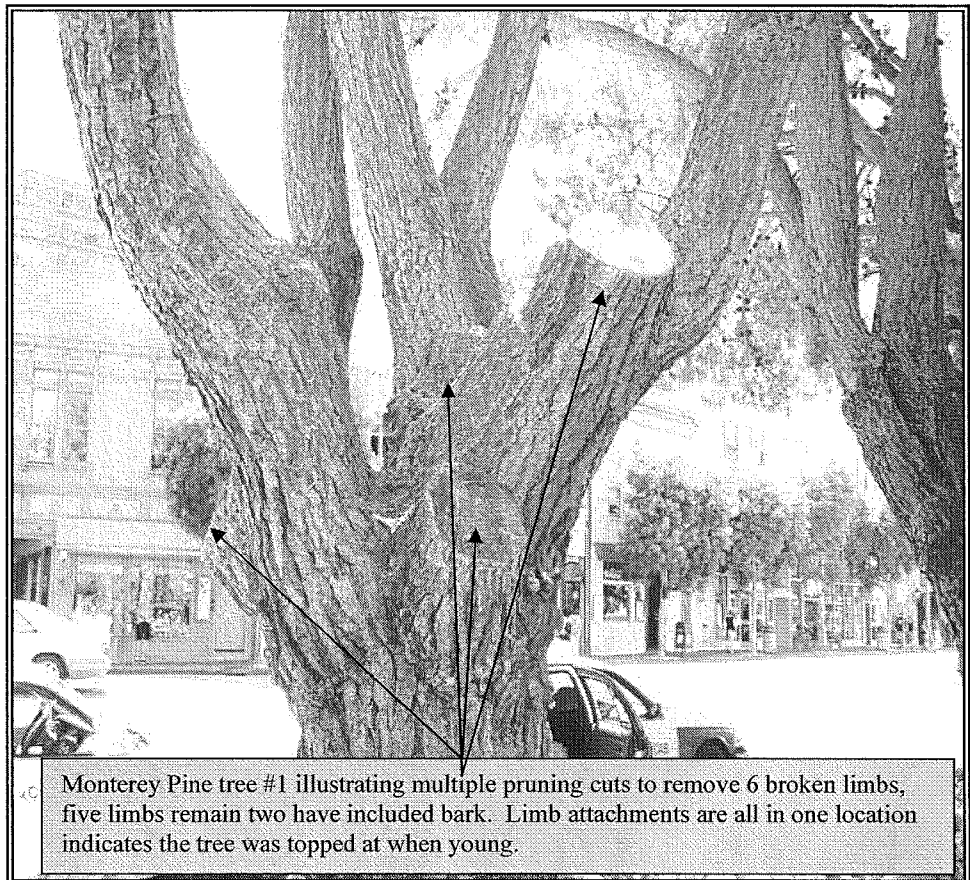
The Monterey Pine trees are numbered M. Pine 1-3 with aluminum tree tags attached to the trunks beginning from the Tree closest to Anchor Street and proceeding west towards the public restrooms and bus shelter. They are described as follows:

### Monterey Pine tree #1

Circumference measurement at just below the lowest attachment point is 12.9 feet. Measuring at this location gives a more accurate measurement of the trunk size than if taken where limb attachments are because the attachments bulge there. The status of Monterey Pine trees is described as **undesirable** in the Sausalito Trees and Views Preservation Ordinance, 11.12.030, DEFINITIONS, Undesirable Tree. The tree has several larger diameter pruning cuts including one recent event when a large-diameter limb (16 inches in diameter) fell and damaged a street tree located on Anchor Street approximately 30 feet away from the trunk of the Monterey Pine. A count of remaining and removed limbs was made during the last site visit July 27, 2011. On this tree, there are five of eleven limbs remaining. A total of six large-diameter limbs were removed because of limb breakage. Two of the remaining limbs have very acute angles at their point of attachment to the trunk.

At the point of attachment, the two limbs have a condition referred to in arboricultural terms as bark inclusion, (bark that becomes embedded in a crotch (union) between branch and trunk or between codominant stems; causing a weak structure, ISA Glossary of Arboricultural Terms.)

This condition presents a very high-risk failure of one of the two limbs because of the extreme pressure of the two limbs against each other. The brick plaza where these trees are located is a very high density of pedestrian traffic. The bank entrance is located here, and the plaza is the location of a self-service bicycle rental location.



A close examination of the lower trunk revealed Pine Bark Beetle attacks very likely to be Red Turpentine Beetle, an important pest that introduces Pine Pitch Canker especially common in Monterey Pine trees. Bark Beetle is an indication

of environmental related stress. Monterey Pine trees are more vulnerable to beetle attacks when weakened by unfavorable environmental conditions.

**Monterey Pine Tree #2**

The trunk circumference is 8.75 feet. The height is 40.5 feet with a canopy spread of 57 feet. The live crown ratio is 30 percent. The tree has very sparse foliage because it is competing with the two other Monterey Pines to either side. A rust color sap was visible on the lower trunk. The tree has signs of a fungal disease known as Western Pine Rust. This fungal disease is not treatable and will continue to reduce the health of the tree. The status of Monterey Pine trees is described as **undesirable** in the Sausalito Trees and Views Preservation Ordinance, 11.12.030, DEFINITIONS, Undesirable Tree.

**Monterey Pine Tree #3**

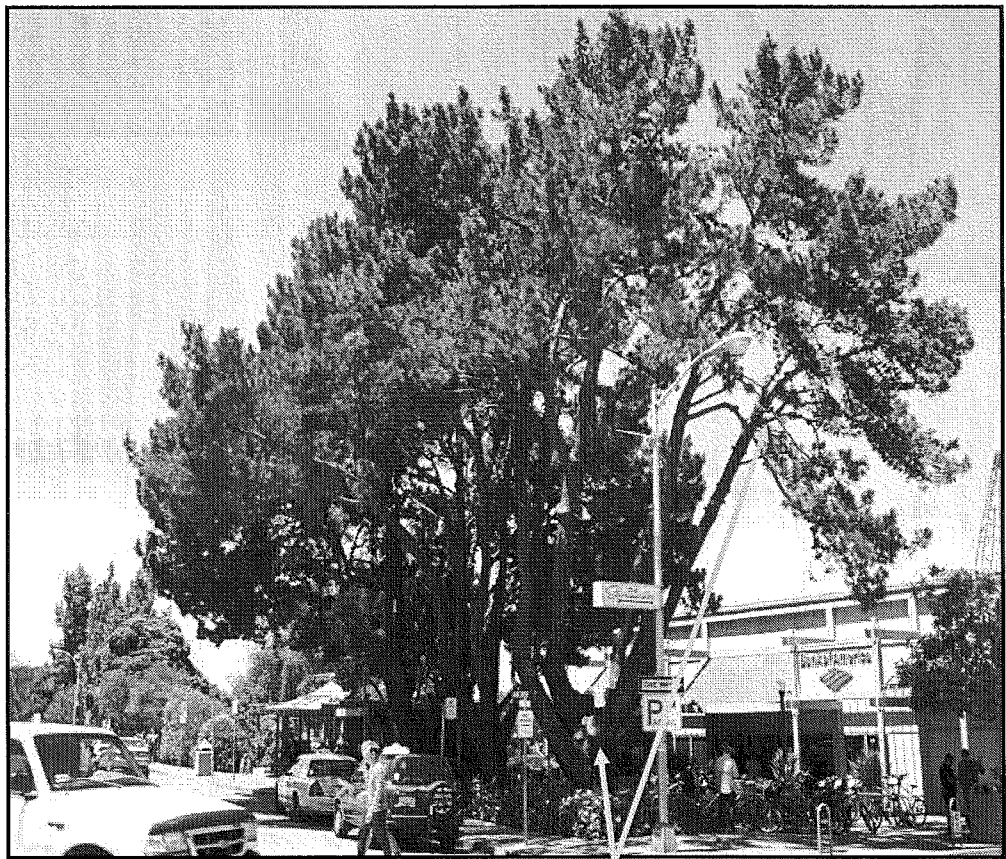
The trunk circumference is 12.6 feet measured at 24 inches above grade. Height is 44.5 feet, and canopy spread is 57 feet. The canopy structure consists of the main trunk, which divides into six main scaffold limbs attached to the main trunk beginning at 32 inches above grade to a height of 6 feet above grade. The condition rating is 50 percent of normal. The status of Monterey Pine trees is described as **undesirable** in the Sausalito Trees and Views Preservation Ordinance, 11.12.030, DEFINITIONS, Undesirable Tree.

***Syzygium paniculatum*, *Eugenia paniculata*, Australian Brush Cherry**

The tree consists of 4 main upright stems that originate at four feet above grade. The average Circumference at Breast Height (CBH) is 24 inches the combined CBH is 8.1 feet. Tree height is 35 feet and canopy spread is 26 feet. The tree is in good condition located in a small planter bed that is 26 inches in width and 16 feet in length, directly next to a walkway that leads to a multi-use building that is the Bus Shelter and Public Restrooms. The restrooms and building are planned to be renovated soon and the tree is located within the path of the proposed renovation. Removing and transplanting the tree would be a difficult labor intensive job and transplant survival is unpredictable. The impact from construction work is unknown at this point. The removal of the main root system of this tree would produce a negative impact and cause a long-term decline.

**RECOMMENDATIONS:**

The three Monterey Pine trees should be considered in the renovation plan for the area. The three trees have developed poor canopy structure because of topping cuts when they were young, Monterey Pine trees. They genetically belong to a group of trees with an excurrent pattern, (tree growth habit



Monterey Pine #1 has large extended scaffold limb leaning over a brick Plaza. This tree has several large diameter pruning cuts due to limb failures caused by poor structure the result of topping when the tree was in its early growth stage.

characterized by a central leader and a pyramidal crown.) Topping pruning cuts have created a tree with multiple leaders and all origination at the same location on the trunk.

These multiple leaders all compete for space and eventually fail because of their structure. In a location with infrequent traffic, risk would be reduced because potential for injury would be limited. The location of these Pine trees on Bridgeway in the down town business district has constant activity, the frequency of activity, the bicycle rental station, bank, bus shelter, public restrooms, and tourist traffic increase the risk of personal injury exponentially when limb failures occur. There are a poor canopy structure and history of limb failure, especially on Monterey Pine tree #1. There is very little that can be done to correct the trees' structure at this stage of the trees' growth. All three pines have either Pine pitch canker or Western Pine Rust fungal diseases most likely introduced by Pine Beetles. These compound conditions will very likely cause more limb failure that may cause personal injury if the heavy weight limbs strike a pedestrian. Monterey Pine tree #1 should be removed immediately. The Bridgeway corridor is a windy location and wind influence on heavy end-weighted limbs with poor attachments increases limb failure. The two limbs with bark inclusion are high failure potentials. These multiple factors are the basis of the recommendation for removal.

The three Monterey Pine trees are a group of trees that developed to maturity together. Removal of one will impact the remaining two trees. These two trees have the same structure and heavy end weight on each limb. Based on these factors and the fungal symptoms, removal of the two remaining trees is recommended.

The Eugenia tree would be difficult to preserve if proposed construction work requires additional space for the bus shelter and public restroom expansion. The tree is directly against the existing walkway, and any change would require removal of the tree. It would be more practical to replace the tree because relocating the tree would not have successful results.

### SUMMARY:

The information and recommendations collected for this report are made to provide an independent study to assist with the decision for the trees as a component of the project. The green space that the Monterey Pine trees create is a benefit to the Sausalito Down Town Business District. If the recommendation made in this report is accepted, and decision granted for removal the approval process should recommend replacement plants with equal mature canopy cover as a requirement for the project. Replacement trees will require additional site improvements to be successful. Soil analysis and addition to existing soil should have adequate organic matter and amendments to be compatible with the surrounding soil. Irrigation to establish newly planted trees is necessary for proper growth and development. Training young trees for structure and health is necessary to grow into maturity. Tree species, container size, and location are necessary for the tree replacement plan.

### Suggestions for Replacement Trees:

#### **In Ground Installations:**

<b>Botanical Name</b>	<b>Common Name</b>	<b>Comments</b>
<i>Tristiana laurina</i>	Tristiana	Evergreen tree, standard growth
<i>Metrosideros excelsus</i>	New Zeland Christmas Tree	Evergreen, ht. 30 ft. spread 35ft.
<i>Pinus nigra</i>	Austrian Pine	Evergreen ht. 35-50ft. spread 25-40 ft
<i>Melaleuca leucadendron</i>	Cajeput or <i>Paper</i> bark tree	Evergreen ht. 40ft. spread 15ft.
<i>Ceratonia siliqua</i>	Carob Tree	Evergreen, ht. 20-45ft. spread 20-55ft.
<i>Pyrus calleryana</i> , 'Chanticleer'	Pyrus	Deciduous ht.40 spread 16 ft.
<i>Maytenus boaria</i>	Mayten Tree	Evergreen, ht.20-30 spread 10-20

**Container Installations suitable for 24 inch box:**

<b>Botanical Name</b>	<b>Common Name</b>	<b>Comments</b>
Podocarpus gracilior	Fern Pine	Native to East Africa to 60 ft. 40 ft if in container.
Thuja occidentalis	American Arborvitae	Height 40-60 ft.
Cupressus sempervirens	Italian Cypress	narrowly columnar to 60 ft in containers 40 ft. 5 varieties depend on shade of green.
Cupressocyparis leylandii	Leyland Cypress	20-25 ft. tall x 6-8 ft wide.

**Contact Information:**

Ed Gurka  
Independent Services  
197 Coleman Drive  
San Rafael, CA. 94901  
Mobile: 415 601-5337  
Email: [Egurka1@aol.com](mailto:Egurka1@aol.com)

**Affiliations and Licenses:**

International Society of Arboriculture, Certified Arborist # 418, 1984 to present.  
American Society of Consulting Arborists, Member, 2000 to present.  
California Department of Pesticide Regulation, Pest Control Advisor PCA 74846, 1989 to present.  
City of Sausalito, Municipal Arborist, 1989-2004  
Independent Consulting Arborist Services, 2004-present.

October 18, 2011

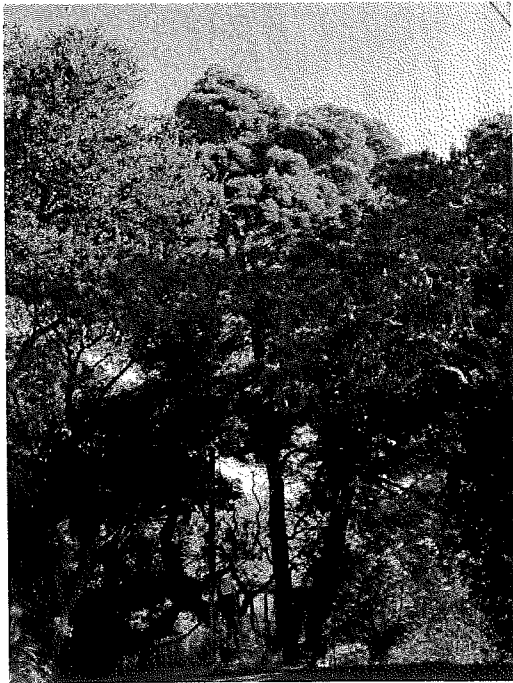
**City of Sausalito**

Attn: Kent Basso  
420 Litho St  
Sausalito, CA 94965

**RE:** Black Acacia (*Acacia melanoxylon*) located at the intersection between Sausalito Blvd and Spencer Ave, on the left side of the stairway on Cooper Lane

On Monday, October 17, 2011, I inspected the Black Acacia (*Acacia melanoxylon*) located at the intersection between Sausalito Blvd and Spencer Ave, on the left side of the stairway on Cooper Lane. The objective of the inspection was to evaluate the current safety and health condition of the tree.

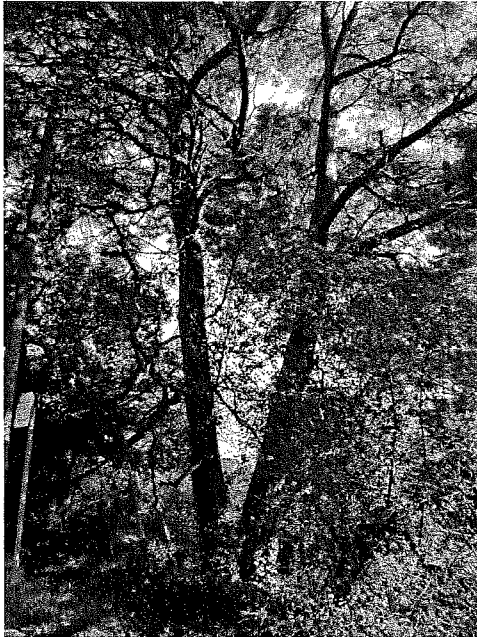
The current health condition of the tree is good, based on a visual inspection of the trunk, limbs and foliage. The canopy of the tree is full indicating good vigor (Picture 1).



Picture 1. Black Acacia on the left side of Cooper Ln with a full canopy of green leaves.



There are dead and broken branches that have accumulated in the crown of the tree that should be removed to reduce the risk of branch failure. The tree has two trunks (codominants) that seem to be solid and structurally sound. No structural problems were evident during my inspection. (Picture 2).



Picture 2. The two-trunk Acacia appears to be structurally sound regardless of its codominant condition.

The root collar area will need to be exposed to allow for inspection to determine how safely attached these stems are at the base (Picture 3).



Picture 3. Soil and ivy from the base of the tree need to be cleared to expose the root collar and to allow for a better inspection.

### Recommendations

The current condition of the tree does not allow for a proper safety inspection. Therefore, before a decision is made as to whether or not the tree be removed, I recommend that the root collar be exposed and that the tree be pruned according to the following specifications:

- Remove ivy and soil from the bottom of the tree.
- Thoroughly inspect crotches to determine the presence of included bark or other defects.

If after these procedures are performed and, if the tree is considered a hazard, the tree should be removed to eliminate the risk of failure.

If no major structural defects are detected and, if the tree is not considered a hazard, the tree should be pruned according to the following specifications to reduce the risk of failure:

- Clean to remove all dead, diseased and broken branches that are ½" in diameter and larger throughout crown to improve health and appearance and reduce risk of branch failure.
- Thin crown to remove approximately 15%-20% of live branches to reduce weight on branch ends and to allow more light penetration and air circulation throughout the crown.
- Install EHS cables to provide branch/stem support to limit branch/stem movement to reduce the risk of branch failure. Cables require periodic inspection for evidence of fatigue and to verify functionality.

If you have any questions or concerns regarding my assessment, please contact me directly.

Sincerely,

Juan M. Ochoa  
Board Certified Master Arborist WE-6480B  
Bartlett Tree Experts  
400 Smith Ranch Rd.  
San Rafael, CA 94903  
Tel: (415) 472-4300 ext. 18  
Fax: (415) 472-8650  
[jochoa@bartlett.com](mailto:jochoa@bartlett.com)



**Ed Gurka, Independent Services**  
**San Rafael, California**  
**Mobile: 415.601.5337**

**ARBORIST FIELD REPORT**

**TO: Bud Toly**  
**109 Bulkley Avenue**  
**Sausalito, CA. 94965**

**WORK PERFORMED AT:**  
**90 103 Bulkley Avenue**  
**Sausalito, CA. 94965**

**DATE: November 13, 2010**

**WORK ORDER: Authorization by Mr. Toly to compete site inspection.**

**DISCRIPTION OF WORK PERFORMED:**

Advise property owners how to proceed regarding a conflict with a Camphor tree's root system displacing a rock retaining wall at the entrance to 30-103 Bulkley Avenue.

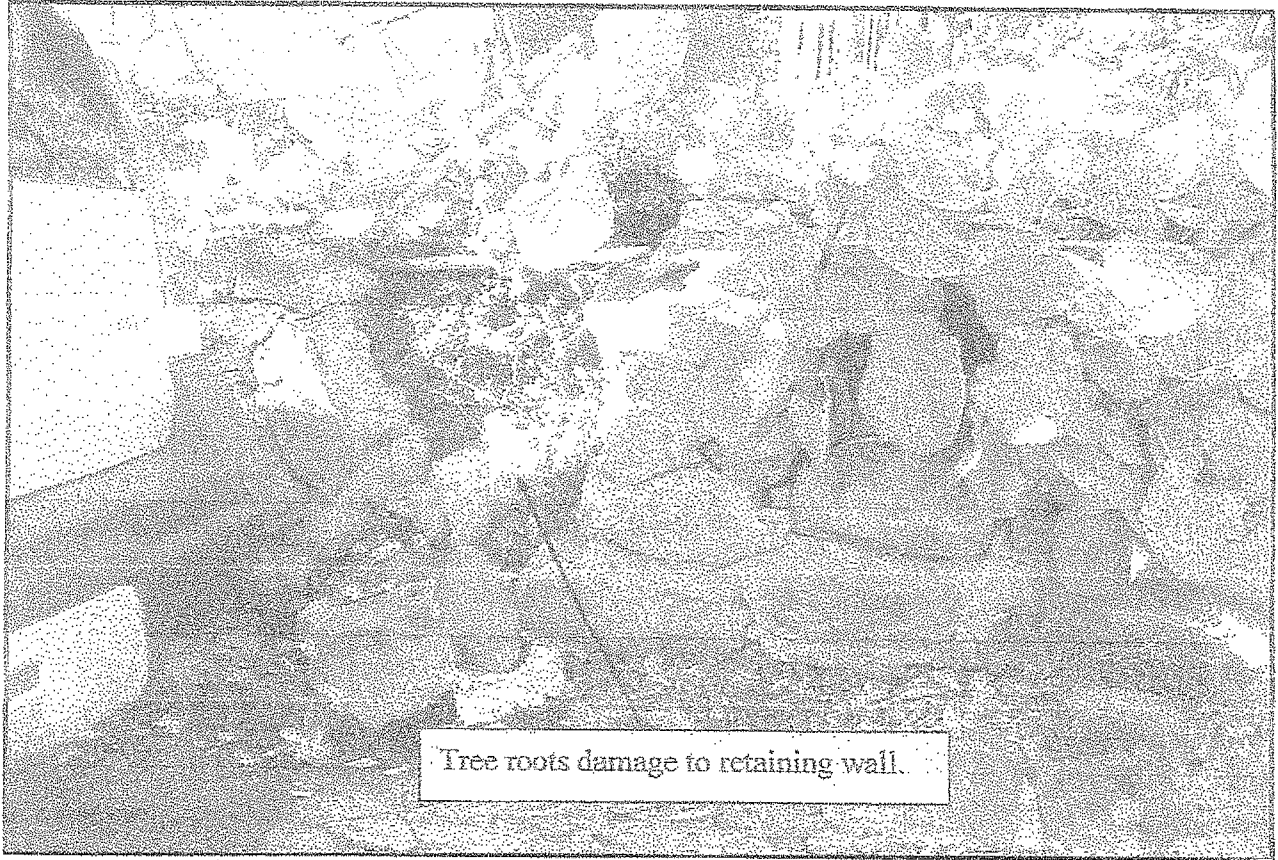
Site visit to collect information was performed on November 13, 2010 from 10:30-11:30 AM.

The tree is a *Cinnamomum camphor*. DBH is 7.0, 7.2, and 9.5 inches. This is the measurement of the three main upright branches. Tree height is 25 feet. The tree is located at the beginning of a planter strip at the entrance to 90-103 Bulkley Avenue. There is a rock wall on one side and the stairway that is the entrance to the condominium complex. The Camphor tree is growing in a small confined space that is 4 feet wide. Soil is compacted and very shallow. The tree canopy cover is estimated at 50 percent of normal. This is attributed to shallow compacted soil and height reduction for electric utility lines that supply the complex. A section of the retaining wall had separated and was lying in the street at the time of the site visit. A cluster of roots from the tree was visible where the wall had fallen into the road. The root growth has increased and separated this section of the wall where it now lay in the street. On the opposite side of the tree, tiles from the stairway were separated from the stairway. This was directly in line with the tree trunk and root system.

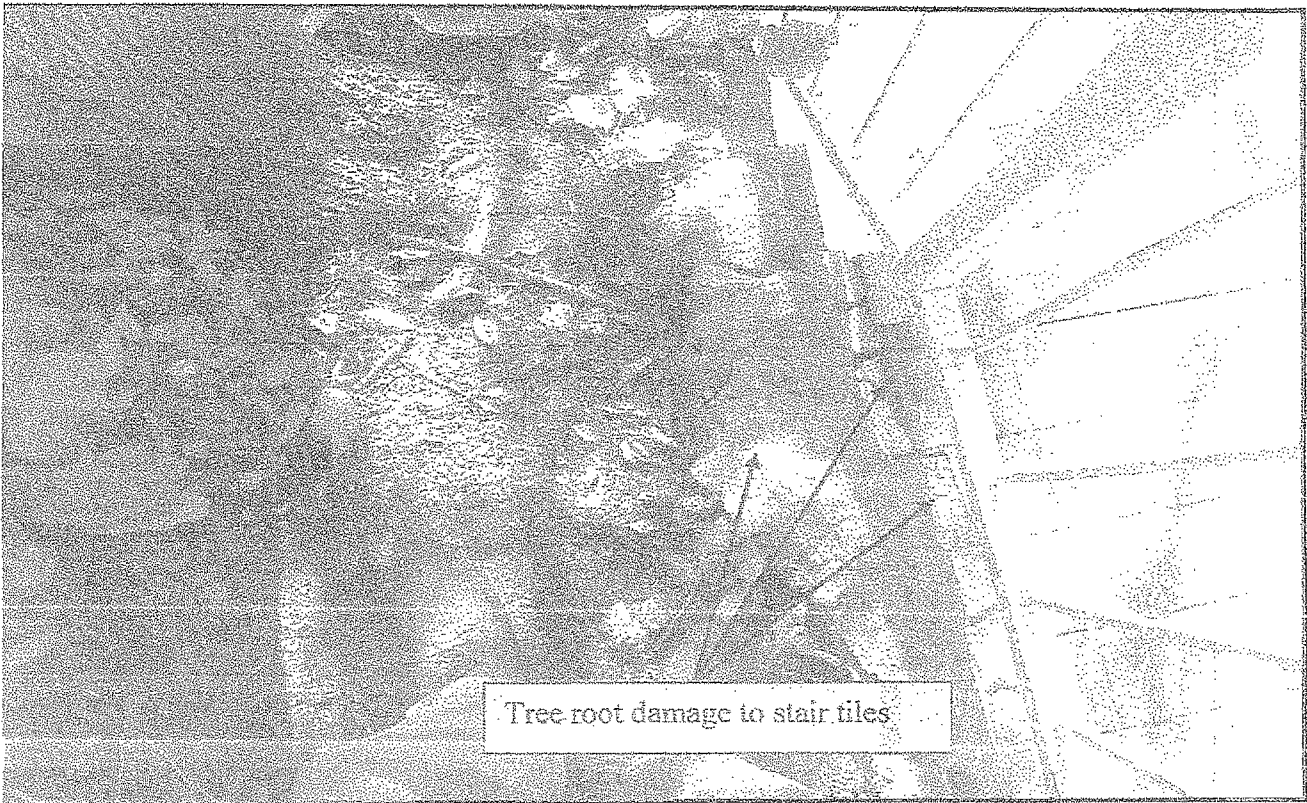
Camphor trees grow to considerable size and have competitive root systems. The space for this Camphor's development is severely limited. The conflict with the rock retaining wall and stairway entrance to the complex will come into greater conflict if the tree remains. There is no alternative to preserving the tree. It must be removed before root damage to the wall and stairway requires complete replacement. When the Camphor tree is removed, the tree roots must be removed to prevent re growth and eliminate further conflicts.

Ed Gurka, Independent Services  
San Rafael, CA. 94901  
Mobile: 415 601-5337  
Email: [Egurka1@aol.com](mailto:Egurka1@aol.com)

Member, American Society of Consulting Arborists (2000-present)  
International Society of Arboriculture Certified Arborist # 418 (1982-present)  
California Department of Pesticide Regulation, Pest Control Advisor # 074846 (1984-present)



Tree roots damage to retaining wall.



Tree root damage to stair tiles

October 10, 2011

John and Nancy Donovan  
700 Olima St.  
Sausalito, Ca. 94965.  
415.272.4398

Re: Tree report proposing pine tree removals

Dear Mr. Donovan

This letter is in response to your query about the current condition and general outlook of the four pine trees located along the PG&E high voltage power lines that run along the street side of your property. Three of the trees are Monterey pines, *pinus radiata*, starting with the down hill most tree and moving uphill the dbh measurements are 28", 25" and 17" dbh, diameter at breast height and one pine is a Canary Island pine, *pinus canariensis*, with a dbh of 17.5". The trees range from 40-60 feet in height. They have been repeatedly reduced in height with heading cuts, and drop crotch pruning, with many branches eventually dying back as a result of PG&E's line clearance and vegetation management program

Pine pitch canker is found evident by dead or dying back twig tops. There is evidence of bark beetle activity inside of the trees indicated by the presence of beetle frass or a mix of beetle excrement and sawdust. These beetles will eventually girdle and kill the tree. It's only a matter of time. The present structure of the trees are producing long heavy ended lever arms growing out towards parked cars on the street and children playing in the yard around the trees. These trees are too old and far gone for restructuring, they also pose a risk to the power lines, it would be better to remove them and plant something more suitable for overhead high voltage lines, something much shorter in stature at maturity and unlikely to interfere with the utilities.

If you have any questions please give me a call. 415.250.2012

Deva Braden  
Certified Arborist# WE-7034A  
ArborMD  
CSLB# 878691  
Licensed, Bonded and Insured.  
ArborMD.com





crotch pruning leaving long heavy limbs with poor branch attachment.

Drop





Photo 1. A General view of the pine trees as viewed from downhill on Olima St.