# Exhibit E



# Tree Assessment/ Forest Management Plan Shen Residence

Prepared for:

International Design Group

Prepared by:

Frank Ono
Urban Forester
Society of American Foresters I.D. 48004
Certified Arborist #536
1213 Miles Avenue
Pacific Grove, CA 93950

February 15, 2019

## Owner:

Mr. and Mrs. Steven and Susan Shen P.O. Box 1183 Pebble Beach, CA 93953

#### Architect:

International Design Group 721 Lighthouse Ave Pacific Grove, CA 93950

# Forester and Arborist

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

# **SUMMARY**

Development is proposed for this site located at 1651 Crespi Lane in Pebble Beach, CA. Because native oak and pine trees forest this site, a tree assessment/arborist report has been prepared that identifies and addresses the affects that the project will have to the existing tree resources on site as well as a list of recommendations for the project.

The project proposes to demolish the existing single family home and build a new single family home, attached garage and detached accessory dwelling unit near trees which require the pruning or removal of trees located on site and protection of others identified for retention. In studying the project, two (2) trees are proposed for removal with this project. Remaining trees that are adjacent to the proposed construction which are considered to be in fair condition both structurally and in health are to be protected and retained.

## ASSIGNMENT/SCOPE OF PROJECT

To ensure protection of the tree resources on site, the property owners, Mr. and Mrs. Steven and Susan Shen have requested an assessment of the trees in proximity to proposed development areas and prepare an arborist report for those trees found adjacent to construction areas on this property. 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 proposed development of trees greater than or equal to six diameter inches at 24 inches above grade.
- Review proposed building site plans as provided by International Design Group, Architects.
- Make recommendations for alternative methods and preconstruction treatments to facilitate tree retention.
- Create preservation specifications, as it relates to numbered trees keyed to an annotated Tree Location Map.
- Determine the quantity of trees affected by construction that meet "Landmark" criteria as defined by the County of Monterey, Title 20 Monterey County Coastal Zoning Ordinance; as well as mitigation requirements for those to be affected.
- 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 plans submitted to me by International Design Group dated January 4, 2019 to assess affects from potential construction to trees within or adjacent to construction activities. The assessment has been made of these plans specifically and no other plans were reviewed. Only minor grading and erosion details are discussed in this report as it relates to tree health.

# PURPOSE AND GOAL

This tree Assessment/Forest management report is prepared for this parcel due to proposed construction activities that are intent on improving the existing structure located at 1651 Crespi lane, Pebble Beach CA. The purpose of the independent assessment of the existing trees is to determine if any of the trees will be affected by the proposed project. Oak trees are considered protected trees as defined by the County of Monterey, Title 20 Monterey County Coastal Zoning Ordinance.

The goal of this plan is to protect and maintain the Del Monte Forest Area's forested resources through the adherence of development standards, which allow the protection, and maintenance of its forest resources. Furthermore, it is the intended goal of this report to aid in planning to offset any potential effects of proposed development on the property while encouraging forest stability and sustainability, perpetuating the forested character of the property and the immediate vicinity.

## INTRODUCTION

This forest management plan is prepared for Mr. and Mrs. Steven and Susan Shen owners of the lot located at 1651 Crespi Lane in Pebble Beach, CA by Frank Ono, Urban Forester and Certified Arborist, S.A.F. professional member #48004 and ISA #536 due to construction. Monterey County's Coastal Implementation Plan Sec. 20.146.060 requires a forest management plan when tree removal is necessary of native trees six inches diameter or greater so as to preserve and maintain the forest and it's beneficial uses. The County identifies Coast live oak and Monterey pine trees as native tree species that require special consideration for management.

# SITE DESCRIPTION

- 1) Assessor's Parcel Number: 008-371-018-000.
- 2) Location: 1651 Crespi Lane, Pebble Beach, CA 93953.
- 3) Parcel size: 1.74 Acres.
- 4) Existing Land Use: The parcel is developed and is zoned LDR/1.5-D(CZ) for residential use.
- 5) Slope: The parcel is on a slope bench. Slopes range from 2% to 15%.
- 6) Soils: The parcel is located on soils classified by the Monterey County Soils Report as "Elkhorn fine sandy loam" about 45 65 inches deep. Clay subsoil is found generally at a depth of 45 inches. Runoff is slow to medium and erosion hazard is moderate. This is considered a moderately productive Monterey Pine soil type. Site index averages 75, which means that on average an 100-year old tree will be 75 feet tall.
- 7) Vegetation: The vegetation is of the Monterey Pine Forest type. It is a mixture of some Monterey Pine forest with Monterey cypress and coastal live oak understory present.
- 8) Forest Condition and Health: The forest condition and health is evaluated with the use of the residual trees and those of the surrounding Monterey Pine Forest as a stand. This is an over mature Monterey Pine Forest. Pine Pitch Canker followed by opportunistic engraver beetles (Ips) is attacking many of the Monterey Pines on site as well as the presence of pitch canker, a fungal disease that is at this point incurable. In several cases this has resulted in death of the trees. In other cases the insect and disease attack is well under way and trees may or may not survive. In most cases the mature trees are not expected to survive beyond the next 20 years.

The mature trees in this stand have begun to die and will continue to do so. Since this is an urban forest, some will be removed for health and safety reasons. Natural seeding and regeneration will occur in the openings created when trees fall or are cut This may take a number of years to occur as cone crop production can be highly variable. The timing of favorable growing conditions is also variable. We can speed this natural process along by a program of tree planting.

The oaks were in general good to fair condition with only some minor cases of Hypoxylon fungus (*H. thouarsianum*). Many Hypoxylon species initiate latent (dormant or inactive) infections in healthy hosts or grow to a limited degree within host tissues without causing obvious disease symptoms. When the host is severely stressed, some Hypoxylon species become opportunistic pathogens, and may cause rapid and extensive decay of the sapwood. *H. thouarsianum* commonly fruits abundantly on or near bark cankers caused by Sudden Oak Death fungus (*Phytophthora ramorum*). It is also commonly found on dead or declining branches and on downed wood. It is unclear whether conidia and/or ascospores establish infections, but infections are probably initiated during the wet season.

# BACKGROUND/PROJECT DESCRIPTION

I (Frank Ono, F.O. Consulting) I was contacted by IDG who requested that I visit the site owned by Mr. and Mrs. Shen for an assessment of trees adjacent or within the proposed construction areas. IDG requested the findings from the review and assessment of trees that occupy the land at 1651 Crespi Lane that are adjacent to the proposed design development be prepared and documented in a report that would work in conjunction with other conditions for approval of the building permit application.

A site visit was taken to the property on February 1, 2019 where trees were assessed for health and condition at that time. The assessment focused on incorporating the preliminary location of site improvements coupled with consideration for the general goals of site improvement desired of the landowner. During this site visit, the proposed improvements assessed included preserving trees to the greatest extent feasible, maintaining the view shed and general aesthetic quality of the area while complying with county codes. A study of the individual trees was made to determine the treatments necessary to complete the project and meet the goals of the landowner. As a result trees within and immediately adjacent to the proposed development area were located, measured, inspected, and recorded. The assessment of each tree concluded with an opinion of whether the tree should be removed, or preserved, based on the extent and effect of construction activity to the short and long term health of the tree. All meetings and field review were focused on the area immediately surrounding the proposed development.

## OBSERVATIONS/DISCUSSION

The following list includes observations made while on site, and summarizes details discussed during this stage of the planning process.

- The site is forested mainly with Overstory Monterey pines and understory coast live oak.
- There are two trees proposed for removal with the design, #682 11" oak and #694-15" Mayten).
- Most of the Oak trees on the property are of moderate size (less than 24" in diameter" diameter) and compose the majority of the understory stand of trees. (These trees are spaced at 20 feet or more apart on average).
- Three (3) trees is proposed for minor pruning to accommodate construction and ingress and egress for fire vehicles. These are #677- 10" oak, #690 11" oak, and #691 Multiple stemmed 7", 11",11", and 15" stem.
- Trees #677- 10" oak and #689 7' oak may need encroachment into root zones for the driveway improvement. Trees assessed adjacent to proposed development are oaks with deep rooting in soil with little lateral root growth, consequently close excavations into root zones is allowable.
- No alternate building sites were considered for this assessment as the site constrained by pre-existing conditions and lack of available space.
- A number of trees appear to be dying or unstable outside the development area. These trees will need to be assessed with a separate hazard tree assessment for removal and not counted as part of this project.

# PROJECT ASSESSMENT/CONCLUSION

This proposal to build a single-family residence, detached ADU, and driveway is planned to maintain the existing oak/pine forest environment and allows the forest to continue to exist and regenerate over time. The majority of the property contains tree cover, which will remain undisturbed, however there is concern with trees dying from recent saturated soils and storm events; these trees will need to be assessed under a separate hazard tree assessment, as they are not part of this development study.

Whenever construction activities take place near trees, there is the potential for those trees to experience decline in the long-term as well. The greatest attempt has been made to identify and remove those trees likely to experience such a decline. No significant long-term affects to the forest ecosystem are anticipated with this design. The project as proposed is not likely to significantly reduce the availability of wildlife habitat over the long-term and have been evaluated for the following:

- Soil erosion; Slopes are gentle to moderate and can be addressed by appropriate measures
- Water Quality: The removal of the trees will not substantially lessen the ability for the natural assimilation of nutrients, chemical pollutants, heavy metals, silt and other noxious substances from ground and surface waters;
- Ecological Impacts: The removals will not have a substantial adverse impact upon existing biological and ecological systems, climatic conditions which affect

- these systems, or such removal will not create conditions which may adversely affect the dynamic equilibrium of associated systems;
- Noise Pollution: The removals will not significantly increase ambient noise levels to the degree that a nuisance is anticipated to occur;
- Air Movement: The removals will not significantly reduce the ability of the existing vegetation to reduce wind velocities to the degree that a nuisance is anticipated to occur;
- Solar shade or sunlight: The removals of trees are of smaller fewer dominant trees or of poor quality trees, and for the most case involves retention of larger healthier trees.
- Wildlife Habitat: The removals will not significantly reduce available habitat for wildlife existence and reproduction or result in the immigration of wildlife from adjacent or associated ecosystems;

# **Short Term Impacts**

Site disturbance will occur during driveway and home construction. Approximately 8992 square feet of the parcel will be occupied by the improvements planned (home site, ADU, and driveway). This is approximately 10% of the parcel size. The shallow slope upon which the construction is planned is a factor in minimizing the disturbance that must take place for the construction. Short term site impacts are confined to the construction envelope and immediate surroundings where trees will be removed and trimmed and root systems reduced. The pruning of tree crowns above 30% and reduction of root area may have a short term impact on those trees treated, including a reduction of growth, dieback, and potentially death. Every attempt has been made to recommend removing those trees likely to experience severe decline and death as a result of planned activities.

# **Long Term Impacts**

No significant long-term impacts to the forest ecosystem are anticipated due to the large amount of area designated as Scenic Easement, and the relatively small amount of area that will be occupied by the proposed residence and driveway. Approximately 10% of the parcel will be permanently altered by the project. The project as proposed is not likely to significantly reduce the availability of wildlife habitat over the long-term.

# RECOMMENDATIONS

# Pre-Construction Meeting

It is recommended that a project arborist be retained and prior to the start of construction a meeting and training session must be conducted in order to be communicate and instruct personnel about tree retention and protection. The pre-construction meeting will include required tree protection and exclusionary fencing installed prior to grading, excavation and construction procedures. Meeting attendees should be all involved parties including site clearance personnel, construction managers, heavy equipment operators, and tree service operators; a certified professional such as a Monterey County qualified forester or County qualified arborist will conduct training. A list of pre-construction attendees and the materials discussed may be maintained to be provided to the county. Meeting attendees must agree to abide to tree protection and instructions as indicated during the meeting and agree to insure tree protection will remain in place during entire construction period.

## Tree Removal

Two trees are to be removed one is a mayten and is not a protected species. The other is a 11" oak (#682)

# Tree Planting

Because it is recommended that replacement of removed trees be undertaken replacement planting is necessary. An Oak tree should be planted in the immediate area just to the west of the proposed ADU structure with the greatest opening in the stand to allow for a minimum of competition and maximum sunlight. Replacement tree should be at least five gallon stock or larger, if available. Occasional deep watering (more than two weeks apart) during the late spring, summer, and fall is recommended during the first two years after establishment. Grinding of stumps onsite is permissible.

## **Tree Protection Standards**

Prior to the commencement of any construction activity the following tree protection measures shall be implemented and approved by a qualified arborist or forester:

- Trees located adjacent to the construction area shall be protected from damage by construction equipment by the use of temporary fencing and through wrapping of trunks with protective materials. No stripping of top soil or grubbing of understory shall occur in tree preservation zones.
- Fenced areas and the trunk protection materials shall remain in place during the entire construction period. Should access to the area be necessary a Professional Forester or Certified Arborist must be contacted to inspect the site for a recommended a course of action.
- Fencing shall consist of chain link, snowdrift, plastic mesh, hay bales, or field fence. Existing fencing may also be used.
- Fencing is not to be attached to the tree but free standing or self-supporting so as not to damage trees. Fencing shall be rigidly supported and shall stand a minimum of height of four feet above grade and should be placed to the farthest extent possible from the trees base to protect the area within the trees drip line (typically 10-12 feet away from the base of a tree).
- In cases where access or space is limited for tree protection it is permissible to protect the tree within the 10-12 foot distance after determination and approval by a qualified forester or arborist.
- Soil compaction, parking of vehicles or heavy equipment, stockpiling of
  construction materials, cleaning of concrete or plaster, and/or dumping of spoils
  or materials shall not be allowed adjacent to trees on the property especially
  within or near fenced areas.

During grading and excavation activities:

- All trenching, grading or any other digging or soil removal that is expected to encounter tree roots should be monitored by a qualified arborist or forester to ensure against drilling or cutting into or through major roots. Again, no stripping of top soil or grubbing of understory shall occur in tree preservation zones.
- The project architect and qualified arborist should be on site during excavation activities to direct any minor field adjustments that may be needed.
- Trenching for retaining walls or footings located adjacent to any tree shall be done by hand where practical and any roots greater than 3-inches diameter shall be bridged or pruned appropriately.
- Any roots that must be cut shall be cut by manually digging a trench and cutting exposed roots with a saw, vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root pruning equipment.
- Any roots damaged during grading or excavation shall be exposed to sound tissue and cut cleanly with a saw.

If at any time potentially significant roots are discovered:

- The arborist/forester will be authorized to halt excavation until appropriate mitigation measures are formulated and implemented.
- If significant roots are identified that must be removed that will destabilize or negatively affects the target trees negatively, the property owner will be notified immediately and a determination for removal will be assessed and made as required by law for treatment of the area that will not risk death decline or instability of the tree consistent with the implementation of appropriate construction design approaches to minimize affects, such as hand digging, bridging or tunneling under roots, etc..

# **Tree Pruning**

It is understood that the pruning of retained trees will be expected for this site, especially where the proposed addition is to be constructed. Pruning will also include the trees that have deadwood or are exhibiting some minor structural defect or minor disease that must be compensated. Those trees that may require pruning and possible monitoring are the closest to the proposed structure improvements. Trees should be monitored on occasion for health and vigor after pruning. Should the health and vigor of any tree decline it will be treated as appropriately recommended by a certified arborist or qualified forester.

The following are offered as guidelines when pruning

- In general the trees will be pruned first for safety, next for health, and finally for aesthetics.
- Type of pruning is determined by the size of branches to be removed. General guidelines for branch removal are:

- 1. Fine Detail pruning- limbs under 2 inch diameter are removed
- 2. Medium Detail Pruning Limbs between 2 and 4 inch diameter
- 3. Structural Enhancement limbs greater than 4 inch diameter.
- 4. Broken and cracked limbs-removed will be removed in high traffic areas of concern.

Crown thinning is the cleaning out of or removal of dead diseased, weakly attached, or low vigor branches from a tree crown

- All trees will be assessed on how a tree will be pruned from the top down.
- Trimmers will favor branches with strong, U- shaped angles of attachment and where possible remove branches with weak, Vshaped angles of attachment and/or included bark.
- Lateral branches will be evenly spaced on the main stem of young trees and areas of fine pruning.
- Branches that rub or cross another branch will be removed where possible.
- Lateral branches will be no more than one-half to three-quarters of the diameter of the stem to discourage the development of codominant stems where feasible.
- In most cases trimmers will not remove more than one- quarter of the living crown of a tree at one time. If it is necessary to remove more, it will be done over successive years.

Crown- raising removes the lower branches of a tree to provide clearance for buildings, vehicles, pedestrians and vistas.

- Live branches on at least two-thirds of a tree's total height will be maintained wherever possible. The removal of many lower branches will hinder the development of a strong stem.
- All basal sprouts and vigorous epicormic sprouts will be removed where feasible.

Crown reduction is used to reduce the height and/or spread of trees and is used for maintaining the structural integrity and natural form of a tree.

- Crown reduction pruning will be used only when absolutely necessary. Pruning cuts will be at a lateral branch that is at least one-third the diameter of the stem to be removed wherever possible.
- When it is necessary to remove more than half of the foliage from a branch it may be necessary remove the entire branch.

Crown restoration is used to improve the structure and appearance of trees that have been topped or severely pruned by the use of heading cuts. One of three sprouts on main branch stubs should be selected to reform a natural appearing crown. Selected vigorous sprouts may need to be thinned to ensure adequate attachment for the size of the sprout. Restoration may require several years of pruning.

Remedial pruning should occur prior to construction. Following construction, any above ground tree pruning/trimming should be delayed until one year after completion of construction. Following construction, a qualified forester/arborist should monitor trees adjacent to the improvements area and if any decline in health that is attributable to the construction is noted, additional trees should be planted on the site.

# **Agreement by Landowner**

The following standard conditions are made a part of all Monterey County Forest Management Plans:

# A. Management Objectives

- 1. Minimize erosion in order to prevent soil loss and siltation.
- 2. Preserve natural habitat including native forest, understory vegetation and associated wildlife.
- 3. Prevent forest fire.
- 4. Preserve scenic forest canopy as located within the Critical View shed (any public viewing area).
- 5. Preserve landmark trees to the greatest extent possible as defined below.

# B. Management Measures

- 1. Tree Removal: No tree will be removed without a Forest Management Plan or an Amended Forest Management Plan.
- 2. Application Requirements: Trees proposed for removal will be conspicuously marked by flagging or by paint. Proposed removal of native trees greater than six inches will be the minimum necessary for the proposed development. Removal not necessary for the proposed development will be limited to that required for the overall health and long term maintenance of the forest, as verified in this plan or in subsequent amendments to this plan.
- 3. Landmark Trees: All landmark trees will be protected from damage if not permitted to be removed as a diseased tree, which threatens to spread the disease to nearby healthy trees or as a dangerous tree, which presents an immediate danger to human life or structures. Landmark oaks are trees that are visually, historically, or botanically significant specimens or are greater than 24 inches or more in diameter at breast height (DBH), or more than 1.000 years old.

- 4. Dead Trees: Because of their great value for wildlife habitat (particularly as nesting sites for insect eating birds) large dead trees will normally be left in place. Smaller dead trees will normally be removed in order to reduce the fire hazard. Dead trees may be removed at the convenience of the owner.
- 5. Thinning: Trees less than six inches diameter breast height may be thinned to promote the growth of neighboring trees, without first developing a Forest Management Plan.
- 6. Protection of Trees: All trees other than those approved for removal shall be retained and maintained in good condition. Trimming, where not injurious to the health of the tree, may be performed wherever necessary in the judgment of the owner, particularly to reduce personal safety and fire hazards. Retained trees which are located close to the construction site shall be protected from inadvertent damage by construction equipment through wrapping of trunks with protective materials, bridging or tunneling under major roots where exposed in foundation or utility trenches and other measures appropriate and necessary to protect the well-being of the retained trees.
- 7. Fire prevention: In addition to any measures required by the local California Department of Forestry fire authorities, the owner will;
  - A) Maintain a spark arrester screen atop each chimney.
  - B) Maintain spark arresters on gasoline-powered equipment.
  - C) Establish a "greenbelt" by keeping vegetation in a green growing condition to a distance of at least 50 feet around the house.
  - D) Break up and clear away any dense accumulation of dead or dry underbrush or plant litter, especially near landmark trees and around the greenbelt.
- 8. Use of fire (for clearing, etc.): Open fires will be set or allowed on the parcel only as a forest management tool under the direction of the Department of Forestry authorities, pursuant to local fire ordinances and directives.
- 9. Clearing Methods: Brush and other undergrowth, if removed, will be cleared through methods, which will not materially disturb the ground surface. Hand grubbing, crushing and mowing will normally be the methods of choice
- 10. Irrigation: In order to avoid further depletion of groundwater resource, prevent root diseases and otherwise maintain favorable conditions for the native forest, the parcel will not be irrigated except within developed areas. Caution will be exercised to avoid over watering around trees.

- 11. Exotic Plants: Care will be taken to eradicate and to avoid introduction of the following pest species:
  - A) Pampas grass
  - B) Genista (Scotch broom, French broom)
  - C) Eucalyptus (large types)

#### Amendments

The Monterey County Director of Planning may approve amendments to this plan, provided that such amendments are consistent with the provisions of the discretionary permit or building submittal. Amendments to this Forest Management Plan will be required for proposed tree removal not shown as part of this Plan, when the proposed removal fans within the description of a Forest Management Plan or Amendment to an existing Forest Management Plan.

Amended Forest Management Plan

- A) An amended forest Management Plan shall be required when:
  - 1. The Monterey County Director of Planning has previously approved a Forest Management Plan for the parcel.
  - 2. The proposed tree removal as reviewed as part of a development has not been shown in the previously approved Forest management plan
- B) At a minimum, the Amended Forest Management Plan shall consist of:
  - 1. A plot showing the location, type and size of each tree proposed for removal, as well as the location and type of trees to be replanted,
  - 2. A narrative describing reasons for the proposed removal, alternatives to minimize the amount and impacts of the proposed tree removal, tree replanting information and justification for removal of trees outside of the developed area if proposed.

# Compliance

It is further understood that failure to comply with this Plan will be considered as failure to comply with the conditions of the Use Permit.

# **Transfer of Responsibility**

This plan is intended to create a permanent forest management program for the site. It is understood, therefore, that in the event of a change of ownership, this plan shall he as binding on the new owner as it is on the present owner. As a permanent management program, this Plan will be conveyed to the future owner upon sale of the property.

Report Prepared By:	
Frank Ono, SAF Forester #48004 and ISA Certified Arborist #536	February 19, 2019 Date
Recommendations Agreed to by landowner:	
Landowner	Date
Forest Management Plan approved by:	
Director of Planning	Date

**Tree Chart**The following trees were identified in the filed around the construction areas:

ID	Diameter	Species	Condition	Remove	Comments
677	10	Coast live oak	Fair		Prune
678	19	Coast live oak	Fair		
679	11,13,13	Coast live oak	Fair		
680	19	Coast live oak	Fair		
681	19	Coast live oak	Fair		
682	11	Coast live oak	Poor	Χ	Stem Decay
683	21	Coast live oak	Fair		
684	15	Coast live oak	Fair		
685	9	Coast live oak	Fair		
686	25	Monterey pine	Poor		Beetles, Stem Decay
687	6,6	Coast live oak	Fair		
688	11,13,14	Coast live oak	Fair		
689	7	Coast live oak	Fair		
690	11	Coast live oak	Poor		Prune, Stem Decay
691	7,11,11,15	Coast live oak	Fair		Prune
692	6	Coast live oak	Fair		
693	19,20	Coast live oak	Fair		
694	15	Mayten	Fair	Χ	Non-native
695	13	Coast live oak	Fair		
696	22	Coast live oak	Fair		
697	11,13,17	Coast live oak	Poor		Thinning Crown
698	18	Coast live oak	Fair		
699	19	Coast live oak	Fair		

Additional tree were observed in poor condition outside the development area; these trees will require a separate hazard tree assessment.

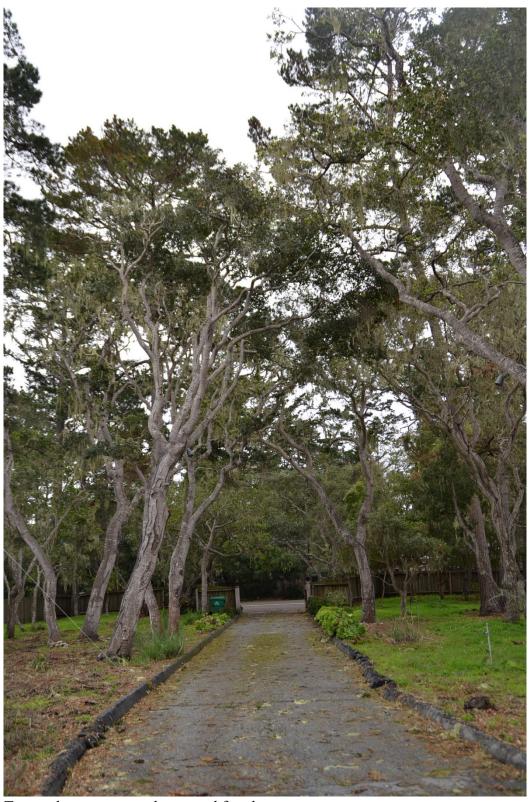
# PHOTOGRAPHS (not all trees photographed)



Tree #682 to be removed



#694 – Mayten to be removed



Tres at the entrance to be pruned for clearance



