

# Exhibit D

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## **THOMPSON**

### **WILDLAND MANAGEMENT**

Environmental Management & Conservation Services  
*International Society of Arboriculture* Certified Arborist # WE-7468A  
*Department of Pesticide Regulation* Qualified Applicator Lic. #QL50949 B  
 Environmental & Arborist Assessments, Protection, Restoration, Monitoring & Reporting  
 Wildland Fire Property Protection, Fuel Reduction & Vegetation Management  
 Invasive Weed Control, and Habitat Restoration & Management  
 Soil Erosion & Sedimentation Control  
 Resource Ecologist

October 3, 2023

Glass Residence  
 124 Fern Canyon Road  
 Carmel, CA. 93923  
 APN: 241-131-024-000

Subject: 124 Fern Canyon Road Pre-construction Tree Impact Assessment

Per *Monterey County Housing & Community Development Department-Planning Services* permit requirements, an arborist-conducted evaluation of trees located on the property at 124 Fern Canyon Road (APN: 241-131-024) in the Carmel Highlands was recently performed to assess tree health, construction impacts, and to provide tree removal, preservation and replacement recommendations in preparation for the proposed property development project. More specifically, this assessment involved performing a ground level visual inspection of trees located on this undeveloped parcel to assess general physiological health and structural condition, determine suitability for incorporating specific trees into the developed landscape, and provide recommendations for retaining, protecting and removing trees based on tree health, condition, location and construction related impacts. This assessment will assist in identifying tree characteristics and conditions, determine which trees are candidates for removal, and provide tree protection guidelines and replacement recommendations to preserve and sustain woodland health and character.

The location of the 13 trees proposed for removal, as well as trees to be retained are identified in the *Exhibit A: Tree Location Map* and project plans. For more information regarding the trees proposed for removal refer to the *Exhibit B: Tree Removal Spreadsheet*. Photos of this woodland parcel are located at the end of the report (refer to *Figures 1-14*). Findings and recommendations are provided herein.

#### **I. SITE CHARACTERISTICS & DESCRIPTION**

This vacant and undeveloped parcel is approximately 0.6 acres in size and is located in a Monterey pine dominated woodland vegetation community in the Carmel Highlands (refer to

attached photos, *Figures 1-14*). This property is located in a wildland-urban interface environment with sizable natural open space occurring in nearby areas. Proposed development includes a single family home, garage, ADU, septic system and minimal landscaping. This woodland lot is surrounded by developed residential lots to the south and east and Fern Canyon Road to the west and north.

This woodland dominated environment is significantly influenced by seasonally temperate coastal environmental conditions. Wind direction is predominantly out of the west and soils on this relatively flat to moderately sloped lot appear to be stable and sufficient for supporting property development and healthy woodland habitat.

Native tree species occurring in this mixed woodland and forest residential community primarily consist of upper-canopy Monterey pines (*Pinus radiata*), with mid- to lower-canopy coast live oak (*Quercus agrifolia*) and mid- to upper-canopy Monterey cypress (*Hesperocyparis macrocarpa*) trees occurring to a lesser extent. On this particular lot, as with the other nearby parcels, Monterey pine is the most common and dominant tree species, with several lower growing coast live oaks, one Monterey cypress and one arroyo willow (*Salix lasiolepis*) also occurring on the property. It should be noted that woodland biotic (e.g., pathogens) and abiotic disorders currently appear to be absent in levels that are harmful or detrimental to sustaining the health, viability and character of woodland habitat.

The upper-canopy Monterey pines (a coniferous cone and needle bearing evergreen) and mid- to lower-canopy coast live oaks that dominate this parcel have a crown class ranging from suppressed to co-dominant, with a co-dominant canopy class being the most common. Pine and oak tree density and canopy cover is low to moderate with a few small woodland clearings occurring on the lot. Woodland understory vegetation consist of a variety of native flora, such as poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), coyote brush (*Baccharis pilularis*), sticky monkey flower (*Mimulus aurantiacus*), Pacific blackberry (*Rubus ursinus*), California huckleberry (*Vaccinium ovatum*), silk tassel (*Garrya elliptica*), Douglas iris (*Iris douglasiana*), hedge nettle/wood mint (*Stachys bullata*), common yarrow (*Achillea millefolium*) and a few species of native perennial grasses, sedges (*Carex spp*) and rushes (*Juncus spp*), among others, as well as non-native invasive plant species, such as annual grasses and exotic broadleaf weeds (e.g., French broom [*Genista monspessulana*], acacia [*Acacia longifolia*], jubata grass [*Cortaderia jubata*] and Italian thistle [*Carduus pycnocephalus*]). Non-native invasive weeds are degrading to habitat and increase combustible fuel loads, and, where possible, should be controlled, managed and eradicated.

It should be noted that natural recruitment and regeneration of native species trees (e.g., primarily Monterey pine trees) is occurring on the subject lot; however, additional planting will be necessary to further assist in sustaining the health and character of this mixed woodland vegetation community and to satisfy *Monterey County Housing & Community Development Department-Planning Services* tree removal permit conditions. Special status plant and animal species, sensitive habitat, and actively nesting birds that have protection status were not observed

on the property during the site assessment; however, an additional nesting bird assessment should be conducted if tree removal operations occur during the nesting season, which in Monterey County may begin as early as February and continue through August.

## II. METHODOLOGY

For this report, a ground level visual assessment of mixed woodland habitat was recently conducted. In regards to inspecting trees, no aerial (climbing) inspections, woody tissue testing and/or root excavations were performed or requested as part of this evaluation.

Per *Monterey County* requirements, native specie trees that are 6 inch DBH (diameter at breast height) or larger at 48 inches above grade are required to be recorded for removal. For this project 13 trees that are protected by *Monterey County* ordinances are proposed for removal in preparation for home construction and property development activities.

Recommendations are based on the overall general health, vigor and condition of subject trees and habitat; the impact that site development activities may have on trees and natural resources; the hazard level trees present to proposed occupied structures and/or areas with human traffic; and the impacts that tree removal and management activities may have on sensitive natural resources, wildlife habitat and nearby healthy trees.

In regards to attachments and exhibits included in this report, *Exhibit A* is a property map and project site plan that shows the location of trees in relation to proposed structures and other property features. *Exhibit A* identifies the location of trees proposed for removal, as well as trees that will be retained and protected. The *Exhibit B: Tree Removal Spreadsheet* identifies the 13 trees that are proposed for removal in preparation for property development activities. The *Exhibit B* spreadsheet provides general tree information and characteristics, such as the tree number, species, diameter (DBH), and general physiological health and structural condition. Additionally, photographs depicting property features, characteristics and trees impacted or proposed for removal are located at the end of the report (refer to attached photos, *Figures 1-14*).

## III. TREES PROPOSED FOR REMOVAL & CONSTRUCTION IMPACTS

In regards to tree removal, a total of thirteen (13) native specie trees that are 6 inch DBH (diameter at breast height) or larger are proposed for removal. These 13 trees consist of 8 Monterey pines and 5 coast live oaks and are located within or in close proximity to the proposed construction footprint (refer to *Figures 6-14*). These trees are marked with orange flagging tape and are identified as *Tree#s 1-13* on the corresponding *Exhibit A: Tree Location Map* and *Exhibit B: Tree Removal Spreadsheet*. The overall health and condition of these 13 trees ranges from poor to good, with a majority of these trees being in fair health and condition. Eleven of the 13 trees planned for removal are located within or directly adjacent to the proposed construction footprint and will need to be removed in order for property development activities to proceed. Trees located directly adjacent to or in close proximity to proposed grading and construction

activities should often be removed due to significant and unavoidable root system impacts that will compromise the health and structural integrity of the trees. Several of the trees proposed for removal (i.e., mostly senescing pines) are in poor and declining health and condition (refer to the *Exhibit B: Tree Removal Spreadsheet*). Two of the 13 trees are large, aging and declining pines (identified as *Tree#s 6 & 9*) located outside of the construction footprint, but still in fairly close proximity to the proposed home, that should be removed due to hazard concerns (refer to *Figures 9 & 12*). These 2 senescing and declining pines have structural deficiencies that are compromising structural integrity and, if not removed, would pose a hazard concern to planned construction activities, eventual property settlement and to the neighboring home.

The ecological impacts of the proposed removal of 13 native specie trees will be mitigated by the planting of 18 replacement trees to assist in sustaining the health and character of woodland habitat and to comply with *Monterey County* permit conditions (refer to replacement planting recommendations provided in this report).

Some of the aging Monterey pine trees located on the lot are exhibiting symptoms of physiological and structural decline, and are at higher risk of mortality and structural failure that could adversely affect nearby healthier trees and property development activities. Biotic disorders that affect pine trees and woodland habitat in this area include Pine Pitch Canker (*Fusarium circinatum*; a frequently deadly fungal born disease); *Diplodia pinea* (fungal disease blight that can cause significant branch die back); Red Turpentine Beetle, Pine Bark Beetle, Engraver Beetle(*Ips*) and other wood boring bark beetle activity (secondary insect pests that attack stressed and weakened trees [e.g., drought stressed] that can potentially transmit fungal born diseases [e.g., Pitch Canker] to other trees); and Western Gall Rust (a fungus that often results in large and conspicuous cankers that can cause significant structural defects). These biotic disorders are often related to and exacerbated by severe drought (an abiotic condition), which has contributed to a large number of various tree species in the region (particularly Monterey pines) declining and dying directly or indirectly from drought related factors.

Additionally, some pines on the property and several in the surrounding areas have problematic structural defects and disorders, such as prominent cankers, decay features, bows, crooks, leans and co-dominant attachments in the trunks and stems, which increases the probability of physiological decline and structural failure. It should be noted that numerous pine trees in the Carmel Highlands and greater Monterey Peninsula area have fallen over the past few years due to high intensity storm events that have impacted the central coast region.

During project operations the trees on the lot will be routinely monitored and adequately protected, and in the event that large primary roots are encountered the project arborist should be notified and consulted to assist in providing guidance and recommendations to minimize impacts to protected trees. If trees exhibit any signs or symptoms of stress and decline due to possible construction related impacts or any other factors (e.g., biotic and/or abiotic disorders) specific treatments can be performed (e.g., supplemental deep watering, radial or vertical mulching,

growth regulator treatments, among others) to assist in mitigating adverse impacts and to aid in the recovery of impacted trees, but none of these treatments are anticipated to be necessary.

Landscaping activities associated with property development will be designed and implemented in manner that will avoid or minimize impacts to nearby trees. For example, landscaping should be avoided or limited within the critical root zone area (i.e., canopy dripline) of trees, with minimal soil disturbance, grading, irrigation, planting and introduction of soil or other landscaping materials. Landscaping plants should be drought tolerant and lower combustibility vegetation that is appropriate to woodland habitat.

As previously noted, 13 native specie trees are proposed for removal prior to the beginning of property development activities (refer to the *Exhibit A: Tree Location Map* and *Exhibit B: Tree Removal Spreadsheet*). Removal of these trees is necessary in order for home construction activities to proceed. Per *Monterey County* tree preservation ordinances and resource protection best management practices (BMP's), the remaining trees on the property will be retained and protected from development activities (refer to tree protection BMP's provided in this report). Tree and resource protection measures will assist in preserving and sustaining ecological resources and minimizing harmful impacts to trees and woodland habitat.

Additionally, several trees that are located in relatively close proximity to the proposed project site will be pruned to maintain and preserve tree health, provide adequate clearance around structures, reduce tree hazards, improve aesthetics, reduce combustible fuel loads (i.e., ladder fuels) and improve defensible space for wildland fire protection. Pruning operations should occur during the proper time of year (preferably fall through early winter) and will utilize proper pruning BMP's to minimize impacts to retained trees.

It should be noted that groups of trees and individual trees vary in their suitability for retention and preservation on a development site. Species tolerance, along with tree health and condition will assist in determining the type or level of impact a tree or group of trees can tolerate with minimal adverse affect, and will assist in determining which trees should be removed or retained. Based on the health, condition and location of the trees proposed for removal, it is clear that these trees should be removed prior to grading and construction activities beginning.

#### **IV. RECOMMENDATIONS**

##### **A. Tree Removal & Replacement:**

For the reasons provided in this report, permission is being requested to remove a total of thirteen (13) living 6 inch DBH or larger native specie trees (i.e., 8 Monterey pines and 5 coast live oaks that are identified as *Tree#s 1-13*) that are located within or in close proximity to the proposed construction footprint (refer to the *Exhibit A: Tree Location Map* and *Exhibit B: Tree Removal Spreadsheet*). More specifically, 11 of these 13 trees will need to be removed due to their location within or directly adjacent to the proposed construction footprint (i.e., unavoidable

construction related impacts that require removal), and 2 large and aging pines located in fairly close proximity to construction activities should be removed due to declining physiological health and structural condition that is increasing hazard concerns. Tree removal will address the following: 1) Project related construction impacts; 2) Tree defects and disorders that compromise health and structural integrity; 3) Protecting nearby younger and healthier trees; 4) Reducing combustible fuel loads and wildland fire hazard concerns; and 5) Providing a safer environment for construction activities and property settlement.

Per *Monterey County RMA-Planning Department* tree preservation ordinances and resource protection best management practices (BMP's), the remaining trees on the property will be retained and protected. Tree and resource protection measures will assist in preserving and sustaining ecological resources and minimizing harmful impacts to trees and woodland habitat.

In regards to tree replacement, a total of 18 replacement plantings (i.e., 11 one to fifteen-gallon native coast live oaks and 7 one to fifteen-gallon Monterey pine and/or Monterey cypress seedlings or saplings [container size depends on availability and quality of nursery stock]) shall be planted in appropriate and suitable locations on the subject parcel to mitigate tree removal impacts associated with property development activities and hazard abatement, as well as to comply with *Monterey County* tree removal permit conditions. Coast live oak (*Quercus agrifolia*), Monterey pine (*Pinus radiata*) and Monterey cypress (*Hesperocyparis macrocarpa*) trees are native to the region and appropriate to this mixed woodland environment, and planting oaks, pines and/or cypress is advised and should be acceptable to improve, support and sustain habitat and tree diversity on the subject lot. The proper implementation of this tree replacement and mitigation action will address tree removal impacts and will assist in preserving and sustaining the health and character of this woodland and forest environment. Successful completion of this *Monterey County Housing & Community Development Department-Planning Services* tree removal permit condition shall be achieved when the replacement plantings survive a one-year monitoring period.

The 18 replacement plantings should be acquired from a local native plant nursery that has a good selection of specimens that are free from harmful pathogens, insect pests and/or structural disorders. The planting of young seedlings and/or saplings should ideally be performed during the appropriate time of year (i.e., fall through winter wet season following sufficient precipitation) using proper tree planting techniques and best management practices, and should be planted in suitable locations that will support healthy establishment and maturation. Young plantings should be properly cared for (e.g., mulched and adequately irrigated) and protected until successfully established and shall survive a minimum one-year monitoring period.

In the event there are young seedlings and/or saplings located within the building footprint that can be relocated and transplanted to a safe and undeveloped area on the property, these seedlings and/or saplings should ideally be transplanted during the wet season following sufficient rainfall. It should be noted, there are a few areas outside of the building footprint on the lot where there

are healthy seedlings, saplings and other young trees that should be protected and preserved during construction operations.

Prior to any tree removal or disturbance that is performed during the bird nesting season, which in Monterey County may begin as early as February and continue through early August, a nesting assessment is advised to determine if any nesting birds are present. A recent tree and site inspection determined there are currently no actively nesting birds occurring within or directly adjacent to the proposed property development site; however, depending on when construction activities begin (i.e., February-August) it may be necessary to perform an additional assessment.

When tree removal operations commence, removal should be performed by licensed and insured tree workers trained in accordance with ANSI Z133.1 safety regulations, as required by OSHA. If necessary, tree protection measures should be installed to nearby trees that could potentially be damaged during removal operations. Additionally, if substantial soil disturbance occurs at the removal site it may be necessary to install erosion and sedimentation control measures to effectively stabilize exposed soil surfaces and contain sediment runoff. Furthermore, best management practices (BMP's) involved with tree removal, disposal, and the cleaning and sterilization of tools and equipment should be implemented to minimize the chance of biotic disorders that may be present spreading to other areas.

#### B. Construction Tree Protection Measures:

Per *Monterey County* requirements and resource preservation BMP's, the following tree and resource protection measures shall be implemented for this property development project that is planned for 124 Fern Canyon Road in the Carmel Highlands. Not all of these tree protection measures may be necessary or applicable to this specific project, but may come in useful at some point during project operations and should be provided in case they are needed. The proper implementation of tree and resource preservation BMP's and regular construction site monitoring will assist in protecting and preserving the health and welfare of trees, habitat and surrounding ecological resources. The location of tree protection measures will be determined on-site by the project arborist and project design team, and tree and resource preservation measures will be regularly inspected and properly maintained for the duration of the project to ensure they are functioning effectively:

- 1) Prior to commencing with grading and construction activities install high visibility exclusionary fencing that clearly defines the work area, limits unnecessary disturbance to surrounding areas, and protects the critical root zone (i.e., CRZ area defined by the outermost portion of the canopy dripline, 360 degrees around the tree, or a 10 to 12 distance from the base of the tree, whichever is greater) of individual trees and tree groupings. For protecting the canopy dripline and critical root zone (CRZ) areas of trees use a more durable and heavier duty orange exclusionary fencing (e.g., *Resinet Heavy Duty Square Mesh Access Control Barrier Fence*) anchored in with steel T-posts, or in some cases consideration should be given to using a much stronger and more durable chain link fencing to protect the most valuable and important

trees located in the vicinity of proposed construction activities (refer to the project plans that shows the location of tree protection fencing). Where possible, tree protection fencing will be installed along the outer portion of the canopy dripline (i.e., the CRZ area) or beyond the canopy dripline of trees located within and/or adjacent to the project site to avoid impacting critical roots. Perform necessary repairs, modifications and maintenance on a as needed basis for the duration of the project.

**2)** Install appropriate sedimentation control measures (e.g., silt fence) along downslope perimeter of construction site and, if necessary, apply soil stabilization and source control measures (e.g., rice straw mulch, erosion control blankets, all-weather surfaces) to exposed soil surfaces to prevent erosion problems and sediment runoff during rain events. Perform routine monitoring, as well as the necessary maintenance, modifications and improvements on a as needed basis to ensure that erosion & sedimentation control and resource protection measures are functioning effectively. It should be noted that erosion problems and sediment deposition around trees can adversely affect tree health and stability.

**3)** If it's necessary to perform grading activities within the canopy dripline and critical root zone (CRZ) area of trees the following practices should be implemented: 1) Try to maintain natural grade as much as possible; 2) Where feasible use permeable surface materials at final grade; and 3) Avoid cut (i.e., lowering grade) and fill (i.e., raising grade with fill material) operations (particularly lowering grade) within the CRZ that could result in significant root loss or damage to large primary roots that are important to supporting and sustaining tree health and structural stability.

**4)** If it is necessary to perform grading and construction activities within 5 feet of trees install trunk and stem protection measures (e.g., 2x4 lumber forming protective barrier around circumference of trunk and lower stem of tree). Tree protection measures should be securely installed to trees with rope and high visibility exclusionary fencing. If it is necessary to perform any pruning use proper tree pruning practices to minimize impacts and maximize wound healing.

**5)** If it is necessary to temporarily store construction materials or equipment within the canopy dripline (i.e., critical root zone [CRZ]) of nearby trees (which will be avoided), apply 2 to 4 inches of clean and properly sourced woodchip mulch to limit soil disturbance and prevent soil compaction within the critical root zone area. In some cases a deeper and more protective mulch layer may be necessary.

**6)** Where possible, avoid damaging or cutting roots located within the critical root zone (i.e., canopy dripline) of trees, especially roots that are 2 inches diameter or larger, and to the extent possible avoid grading or significant soil disturbance within a radius that is a minimum five times (5X) the diameter (DBH) of the subject trees, which is the most sensitive portion of a tree's critical root zone (CRZ) area. It should be noted that, where possible, root zone disturbance should ideally be avoided within the entire CRZ and canopy dripline area (i.e., the outer most portion of the canopy dripline 360 degrees around the tree) and even expanded to the area

beyond the canopy dripline and primary root zone. Construction footings should be designed and excavation activities performed in a manner to minimize impacts to primary roots, or alternative foundation designs (e.g., pier and grade beam) that are less impactful to critical root systems should be considered. If significant roots are encountered efforts should be made to carefully excavate (e.g., tunnel or dig) under or around primary lateral roots. Grading or trenching operations that may occur within the critical root zone of retained trees should be performed under the guidance and monitoring of the project arborist. Tree roots severed or significantly damaged during grading and excavating operations should be cleanly cut and promptly covered with moist burlap fabric or equivalent until roots are permanently covered with backfill material or until the exposed grading cut and soil profile is permanently stabilized and protected. If burlap covered cut roots are exposed to the outside environment for an extended period of time a project attendant shall be assigned the task of regularly wetting burlap covered roots to prevent root desiccation. Additionally, in the absence of rain during the wet season it may be necessary to perform supplemental watering (i.e., regular deep irrigating throughout the remaining portions of the critical root zone) to construction impacted trees. Frequency, quantity and duration of supplemental watering should be determined by the project arborist or a qualified landscape professional or tree care professional with similar experience.

**7)** Healthy oaks and pines can be fairly tolerant of low to moderate levels of root system impacts; however, they are generally less tolerant to increases (i.e., introduction of fill material) or decreases (i.e., cut slopes) in natural grade. Where possible, avoid altering the natural grade (particularly lowering grade) within the CRZ to reduce the likelihood of causing root loss and tree stress, decline and/or mortality. Lowering natural grade can result in significant root loss or damage and raising the grade (i.e., introducing fill material, particularly around the lower trunk and root crown) can lead to trunk and root decay disorders that are detrimental to the health and structural integrity of trees. Where possible, root loss and root system impacts should be avoided and minimized to the greatest extent possible, and this important factor should be considered when developing a construction design plan. It should be noted that root loss or root system impacts does not always result in an immediate or significant decline in tree health, but instead often occurs slowly and gradually over a period of several years or decades. Per the site assessment and analysis of the project plans, it appears that trees in the vicinity of proposed construction operations will likely tolerate grading activities with minimal to moderate impacts and are suitable for being retained, protected and preserved..

**8)** Avoid storing construction tools, materials and equipment within the critical root zone (i.e., canopy dripline) of trees, and do not wash out or dispose of excess materials (e.g., paint, plaster, concrete, or other potentially harmful substances) within critical root zone areas. As previously noted, if it is unavoidable and necessary to temporarily store or stockpile materials and equipment within the CRZ of trees, apply 2 to 4 inches of clean and properly sourced woodchip mulch to prevent soil compaction and root zone disturbance.

**9)** If tree pruning is necessary it is important to utilize proper pruning BMP's that will assist in minimizing harmful impacts to trees. In most cases, tree pruning should ideally be performed

during the fall through early winter months when the trees are at a lower level of physiological activity, the exception being deadwood removal or minor pruning, which can occur during any time of year. A general principle to follow is that it is important to make proper pruning cuts, keeping them as small as possible while removing as few living branches as necessary to achieve the objective. Large pruning wounds often do not completely heal over with wound wood callus tissue, which creates a permanently exposed entry point for decay, disease and insect pests. Excessive pruning can stress, injure and harm trees by depleting energy reserves and reducing food making processes (i.e., photosynthesis), which can compromise a trees ability to perform essential physiological functions and to recover and replenish essential reserves during periods of stress (e.g. root disturbance and drought conditions). As noted above, excessive pruning can create an abundance of exposed wounds providing entry points for potentially harmful biotic disorders (e.g., disease, decay and/or insect pests) that can adversely affect the health and structural integrity of trees. It should be noted that pruning involving the removal of 30% or more of living canopy material requires a County permit. Additional pruning BMP's and guidelines are available upon request.

**10)** The primary objective of pruning operations should be as follows: To remove dead and unhealthy limbs and branches (i.e., deadwood removal); improve canopy balance and symmetry and maintain natural form; thin out overly dense and heavy portions of the canopy; and, if necessary, perform targeted and selective weight reduction pruning of the canopy and large limbs (i.e., end weight reduction pruning) to assist in preventing significant structural failures that could be detrimental to tree health and potentially hazardous to property and areas with human activity. As suggested in the previous sentence, perform necessary pruning to reduce and mitigate hazard concerns to occupied structures and areas with human activity; and perform necessary pruning to reduce wildland fire hazards and combustible fuel loads, and to improve property protection and defensible space around structures.

**11)** Perform pre-construction meeting with contractor to ensure that tree and resource protection measures are properly located, positioned and installed. Additionally, perform regular construction site inspections for the duration of the project to monitor the condition of tree and resource protection measures, and to determine if any repairs, adjustments or modifications are necessary. Trees impacted by site development should be periodically monitored and assessed during and following the project to determine if any tree care and management actions are necessary, and to make certain trees do not present a hazard to property and/or nearby structures.

As previously noted, any landscaping activities associated with project operations will be designed and implemented in manner that will avoid and minimize impacts to nearby trees. For example, landscaping should be avoided or limited within the critical root zone area (i.e., canopy dripline) of trees, with minimal soil disturbance, grading, irrigation, planting and introduction of soil or other landscaping materials. Landscaping plants should be drought tolerant and lower combustibility vegetation that is appropriate to woodland habitat. Lower density, lower growing and properly irrigated, spaced and maintained plants and planting configurations should be used that are less flammable and more fire resistant.

Additionally, several oak and pine trees that are located in relatively close proximity to the proposed project site will need to be pruned to maintain and preserve tree health, provide adequate clearance around structures, improve aesthetics, reduce combustible fuel loads (i.e., ladder fuels) and improve defensible space for wildland fire protection. Pruning operations should occur during the proper time of year (preferably fall through early winter) and will utilize proper pruning BMP's to minimize impacts to trees.

As stated earlier, during project operations the trees on the property will be routinely monitored and adequately protected, and in the event that large primary roots are encountered the project arborist will be notified and consulted to assist in providing guidance and recommendations to minimize impacts to protected trees. If trees exhibit any signs or symptoms of stress and decline due to possible construction related impacts or any other factors (e.g., biotic and/or abiotic disorders) specific treatments can be performed (e.g., supplemental deep watering, radial or vertical mulching, growth regulator treatments, among others) to assist in mitigating adverse impacts and to aid in the recovery of impacted trees, but none of these treatments are anticipated to be necessary.

Per *Monterey County Housing & Community Development Department-Planning Services* tree preservation ordinances and resource protection best management practices (BMP's), the trees on the property will be retained and protected from construction activities for the duration of the property development project (refer to tree protection BMP's provided in this report, as well as the project site plans that show the location of tree protection fencing). Tree and resource protection measures will assist in preserving and protecting ecological resources and minimizing impacts to trees and mixed woodland habitat.

#### C. Tree Repair & Replacement:

Per tree care and preservation BMP's, if any trees are damaged during construction operations they should be promptly repaired and/or treated per arborist specifications. Remedial or mitigation treatments may vary and will depend largely on the damage or injury sustained, as well as the condition of a specific tree at the time of injury. As previously noted, trees impacted by project operations should be periodically monitored and assessed by the project arborist during and following the project to determine if any tree care and management actions are necessary that will assist in preserving and improving tree health and preventing tree hazards. Prescribed treatments will be determined on a case by case basis.

## V. CONCLUSION

In conclusion, the thirteen (13) 6 inch DBH or larger native specie trees (i.e., 8 Monterey pines and 5 coast live oaks) addressed in this report that are located on the vacant lot at 124 Fern Canyon Road in the Carmel Highlands are proposed for removal in preparation for property development activities (refer to the *Exhibit A: Tree Location Map* and *Exhibit B: Tree Removal*

*Spreadsheet*). These trees will be impacted by home construction operations or have physiological and/or structural deficiencies that are compromising the health and structural integrity of the subject trees. More specifically, 11 of these trees require removal due to their location within the proposed construction footprint, and 2 large and aging pines should be removed due to declining health and hazard concerns. Additionally, the necessary tree and resource protection measures shall be installed prior to construction activities commencing and properly maintained for the duration of the project.

Lastly, in the interest of complying with *Monterey County Housing & Community Development Department-Planning Services* permit conditions and preserving and sustaining the health and character of this mixed woodland environment, 18 replacement trees (i.e., 11 one to fifteen-gallon native coast live oaks and 7 one to fifteen-gallon Monterey pine and/or Monterey cypress seedlings or saplings) shall be planted on the subject parcel and survive a one-year monitoring period.

Best regards,

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ISA Certified Arborist # WE-7468A  
Resource Ecologist

*October 3, 2023*  
Date

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THIS REPORT IS BASED ON A LIMITED VISUAL INSPECTION FOR OBVIOUS DEFECTS AND OF TREE CONDITION FROM GROUND LEVEL. IT IS NOT A COMPLETE HEALTH AND HAZARD EVALUATION, AS SOME HEALTH AND HAZARD CONDITIONS ARE NOT VISIBLE AND CANNOT BE CONFIRMED BY SUCH LIMITED INSPECTION. A COMPREHENSIVE HEALTH AND HAZARD ASSESSMENT WOULD INCLUDE OTHER INVESTIGATION MEASURES INCLUDING, BUT NOT LIMITED TO, CORE SAMPLES, TISSUE ANALYSIS, ROOT COLLAR EXCAVATION, SOIL ANALYSIS, AND VISUAL INSPECTION OF THE ENTIRE TREE VIA CLIMBING. ESTIMATES FOR THIS WORK ARE AVAILABLE UPON REQUEST.

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ALTHOUGH OPINIONS MAY BE OFFERED REGARDING THE RESULTS OF THE SUBJECT MATTER, TWM CANNOT GUARANTEE ANY PARTICULAR RESULT. CLIENT ACKNOWLEDGES THAT TWM HAS MADE NO PROMISE ABOUT THE OUTCOME AND THAT ANY OPINION OFFERED IN THE FUTURE WILL NOT CONSTITUTE A GUARANTEE.



Figure 1. View of subject lot from Fern Canyon Rd that is dominated by mature and aging Monterey pine trees. A few large pine trees fell last winter.



Figure 2. Lower growing coast live oaks seen in center and right foreground are also occurring on the property.



Figure 3. View from proposed homesite looking northwest towards Fern Canyon Road. Understory shrubs primarily consist of native toyon.



Figure 4. Another view from homesite looking towards Fern Canyon Road.



Figure 5. Mixed upper-canopy Monterey pine and lower growing coast live oak is occurring on lot.



Figure 6. More mixed pine and oak looking towards homesite. Pines identified as Tree#s 4 & 5 (red arrows) are proposed for removal due to construction impacts.



Figure 7. Three pines identified as Tree#s 1-3 are proposed for removal due to location with proposed driveway.



Figure 8. Closer view of pines identified as Tree#s 4 & 5 that are located within proposed building footprint and need to be removed.



Figure 9. Pine in foreground identified as Tree#6 is located outside of building footprint, but is in declining condition and should be removed due to hazard concerns. Smaller pine in background is Tree#7 and needs to be removed due to construction impacts.



Figure 10. Pine identified as Tree#7 is proposed for removal due to location with building footprint.



Figure 11. Oak identified as Tree#8 is proposed for removal due to construction impacts.



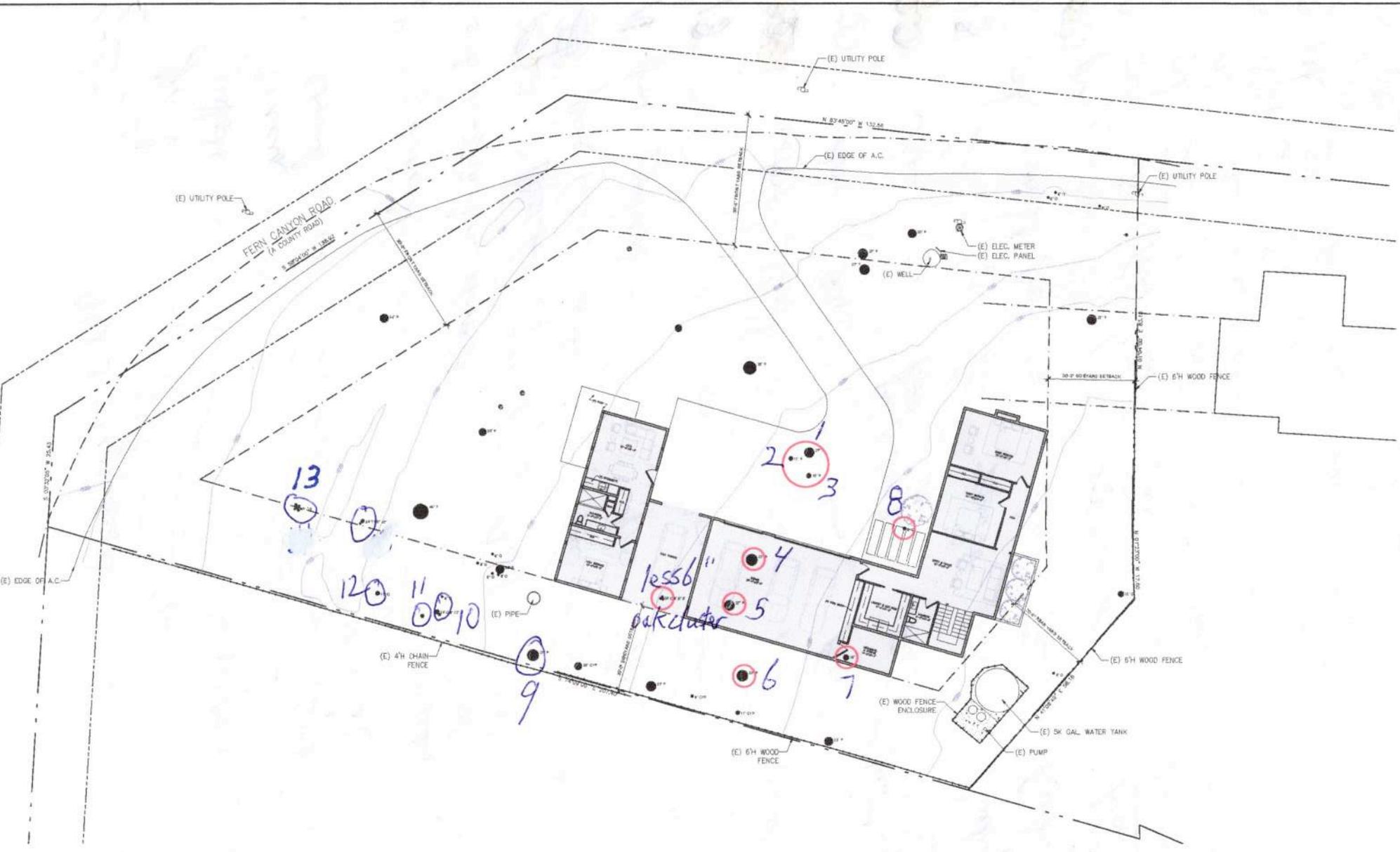
Figure 12. Large and aging pine identified as Tree#9 is in declining health and condition and is recommended for removal due to hazard concerns.



Figure 13. Three oaks identified as Tree#s 10-12 are located within driveway footprint and will need to be removed. Other nearby trees are less than 6" diameter.



Figure 14. Multi-trunk oak identified as Tree#13 is proposed for removal due to construction impacts.



1 PROPOSED SITE PLAN - OPTION 1  
SCALE 3/32"=1'-0"



**Exhibit B: 124 Fern Canyon Road Tree Removal Spreadsheet**

Date: October 3, 2023

Prepared by Rob Thompson, ISA Certified Arborist

**Note:** Thirteen 6 inch DBH trees are recommended for removal. 11 due to construction impacts and 2 due to poor and declining health and hazard concerns.

| <b>Tree &amp; Tag #s</b>   | <b>Tree Specie</b> | <b>DBH (inches)</b> | <b>Crown Class</b> | <b>Balance &amp; Symmetry</b> | <b>Physiological Condition</b> | <b>Structural Condition</b> | <b>Overall Health</b> | <b>Reason for Removal</b> | <b>Replacement Ratio</b> | <b>Comments</b> |
|--|--------------------|---------------------|--------------------|-------------------------------|--------------------------------|-----------------------------|-----------------------|---------------------------|--------------------------|-----------------|
| 1  | Monterey Pine      | 27                  | Codominant         | Good                          | Fair                           | Fair                        | Fair                  | Construction              | 2:1                      |                 |
| 2  | Monterey Pine      | 11                  | Suppressed         | Poor                          | Poor                           | Poor                        | Poor                  | Construction              | 1:1                      |                 |
| 3  | Monterey Pine      | 13                  | Intermediate       | Poor                          | Poor                           | Poor                        | Poor                  | Construction              | 1:1                      |                 |
| 4  | Monterey Pine      | 31                  | Codominant         | Good                          | Fair                           | Fair                        | Fair                  | Construction              | 2:1                      |                 |
| 5  | Monterey Pine      | 27                  | Codominant         | Fair                          | Fair                           | Fair                        | Fair                  | Construction              | 2:1                      |                 |
| 6  | Monterey Pine      | 30                  | Codominant         | Fair                          | Poor-Fair                      | Poor-Fair                   | Poor-Fair             | Hazardous                 | 2:1                      |                 |
| 7  | Monterey Pine      | 15                  | Intermediate       | Poor                          | Poor                           | Poor                        | Poor                  | Construction              | 1:1                      |                 |
| 8  | Coast Live Oak     | 8                   | Suppressed         | Poor                          | Poor                           | Poor                        | Poor                  | Construction              | 1:1                      |                 |
| 9  | Monterey Pine      | 31                  | Codominant         | Fair                          | Poor                           | Poor                        | Poor                  | Hazardous                 | 2:1                      |                 |
| 10   | Coast Live Oak     | 13                  | Intermediate       | Fair                          | Good                           | Fair                        | Fair                  | Construction              | 1:1                      |                 |
| 11   | Coast Live Oak     | 9                   | Intermediate       | Poor                          | Fair                           | Poor                        | Fair                  | Construction              | 1:1                      |                 |
| 12   | Coast Live Oak     | 9                   | Intermediate       | Fair                          | Fair                           | Fair                        | Fair                  | Construction              | 1:1                      |                 |
| 13   | Coast Live Oak     | 22                  | Intermediate       | Fair                          | Fair                           | Fair                        | Fair                  | Construction              | 1:1                      |                 |
| Total of 13 trees are proposed for removal (8 Monterey Pines and 5 Coast Live Oaks).                                 |                    |                     |                    |                               |                                |                             |                       |                           |                          |                 |
| Mitigation plantings: Based on 1:1 and 2:1 Monterey County replacement requirements, plant 18 replacement plantings. |                    |                     |                    |                               |                                |                             |                       |                           |                          |                 |
|  |                    |                     |                    |                               |                                |                             |                       |                           |                          |                 |
|  |                    |                     |                    |                               |                                |                             |                       |                           |                          |                 |
|  |                    |                     |                    |                               |                                |                             |                       |                           |                          |                 |
|  |                    |                     |                    |                               |                                |                             |                       |                           |                          |                 |
|  |                    |                     |                    |                               |                                |                             |                       |                           |                          |                 |