# Attachment G





MAR 0.4 2015

MONTE BY DOUNTY
PLANNING DEPARTMENT

August 10, 2014

To:

Tina Hannas-De Freitas Permit Coordinator 831.620.0622

RE:

Robert Ching Property, Biological Resource Analysis for Well Site

APN 241-191-005

161-B Sprindrift Road, Carmel Highlands, CA

Dear Tina,

Per your request for biological consultation, on July 28 and August 6, 2014, I conducted a biological resource site analysis of the proposed well site for the Robert Ching parcel in the Carmel Highlands.

The analysis included a general survey of the well site including plant and wildlife surveys. The proposed well drilling access and well location were analyzed for impacts to existing resources on site.

Please contact me with any questions or comments. Thank you.

Sincerely,

Fred Ballerini

Per 140483

### 1. Objective

This biological resource assessment has been prepared to provide information regarding existing habitats, plant and wildlife species, and potential impacts to biological resources resulting from the proposed well drilling activities found on the subject property located at 161-B Spindrift Road in Carmel Highlands (APN 241-191-005).

## 2. Existing Conditions

The parcel supporting the well site location is located at 161-B Spindrift Road in Carmel Highlands. The proposed well location is situated within Monterey Cypress understory east of Spindrift Road. The lot had been recently mowed and trees pruned for fire clearance. Wood mulch chips from clearance activities were broadcast on site and plant species were beginning to re-sprout. Mixed native habitats surround the parcel including coastal scrub, Monterey cypress forest, and Monterey pine forest. The Ching site vegetation has been disturbed from past impacts and the plant community is predominately exotic species. The topography of the parcel is a flat terrace sloping westward toward the Pacific Ocean located approximately 300' west. The topography east and uphill of the lot indicates the subject parcel is a main drainage corridor from the upland watershed above Hwy 1. A road culvert capturing Spindrift Road runoff, draining directly to the Pacific Ocean, is located approximately 75-feet west of the proposed well site.

## 3. Plant and Wildlife Species

The existing vegetation within the impact area of the proposed well consists of mostly perennial exotic species including several listed by the California Invasive Plant Council as having adverse impacts to native ecosystems. The dominant species observed within the well impact location and throughout the parcel include golden wattle (*Acacia longifolia*), poison hemlock (*Conium maculatum*), cape ivy (*Delairea odorata*), and periwinkle (*Vinca major*).

Sparse native plants including poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), and coffeeberry (*Rhamnus californica*) are found within the access area and throughout the parcel. Monterey Cypress, a recognized rare tree species by the California Native Plant Society, of varying ages (seedlings to < 40 year old specimens) are found interspersed throughout the parcel with two of the larger specimens located near the proposed well site.

The wildlife species analysis included surveys for several special-status wildlife species occurring within the vicinity of the United States Geological Survey Monterey 7.5' quadrangle, none were observed and the lack of native plant communities provides low habitat potential for the majority of the listed species. Observations were made for potential nesting and bird species were documented near the site including stellar jay (*Cyanocitta stelleri*), dark-eyed junco (*Junco hyemalis*), chestnut-backed chickadee (*Parus ruflescens*), and pygmy nuthatch (*Sitta pygmaeapygmy*). Pocket gopher (*Thomomys bottae*) mounds are pervasive throughout the parcel.

#### 4. Special-Status Species

There were no individual State or Federally Listed plants or wildlife identified on the site at the time of the survey. The California Natural Diversity Data Base (CNDDB) maintained by the State of California Depart of Fish and Game (DFG) reports several special-status native plant and wildlife species occurring within the vicinity of the property within the Monterey Quadrangle, however I found no evidence of any state or federally-listed native plant or wildlife species. No nesting behavior or occurrences were observed within a 100' radius of the proposed well site.

EMAIL: fred@fredballerini.com

### 5. Potential Impacts and Recommendations

The potential impacts to significant biological resources on and surrounding the well plot were evaluated based on the field investigations and conversations with project team members.

No adverse or incidental impacts from the proposed well installation should occur within any of the habitat zones, off-site areas, or to the wildlife if control measures are put in place and maintained during installation. The proposed well location lies well beyond the 100' setback from the edge of any coastal wetland, marine habitat, or natural vegetation designated as environmentally sensitive habitat.

A. In order to protect and retain off-site habitat values, with special regard to the coastal habitat within the Marine Bay National Marine Sanctuary, the well drilling process should be carried out with the following work schedule:

- 1. Install tree protection measures around trees near impact and staging zones.
- 2. Prune the flagged cypress limbs to accommodate access for the drilling rig.
- 3. Install erosion & sediment control devices.
- 4. Mobilize drilling and excavation equipment into project location.
- Develop staged retention pit using earthen berm, filter fabric fencing (or silt fencing), sterile rice straw wattles and bales. Use of sterile rice straw and rice straw wattles will reduce the risk of importing invasive grass seed.
- 6. Drill well and deposit well spoils (approximately 7 to 8 cubic yards) into staged retention pit.
- 7. Spoils can be deposited onto the heavily impacted area within the future building envelope location or hauled off to a receiver site.
- There is a road culvert 75-feet directly west and downslope of the proposed well location.
   This culvert flows unimpeded to the Pacific Ocean, 300-feet to the west into the Monterey
   Bay National Marine Sanctuary. ALL SPOILS AND FLUIDS ARE TO REMAIN ON SITE AND
   NOT ALLOWED TO DISCHARGE OFF THE PARCEL OR INTO THE STORM DRAIN ON
   SPINDRIFT ROAD.
- 9. Dismantle retention pit, remove straw wattles, drainrock, filter fabric (or silt fence), and tree protection measures. All exposed soils can be mulched with the sterile rice straw or wood mulching at a 2" minimum depth.
- B. The following Best Management Practices (BMP's) should be incorporated and installed prior to and maintained during the well-drilling activities:
  - a. Tree protection measures should be installed prior to equipment mobilization. To prevent inadvertent damage by construction equipment, tree protection measures should include wrapping of trunks with protective materials. Soil compaction, parking of vehicles or heavy equipment, stockpiling of excavation materials, and/or dumping of tailings should not be allowed immediately adjacent to the trunks of protected Monterey cypress trees. All tree protection measures should remain in place until all well-drilling activities are complete.
  - b. Silt fencing should be installed down-slope of the retention pit and stockpile area to keep any well-tailings from migrating off site.
  - c. There is a slight possibility of root impact to the Monterey cypress nearest the access road point of entry. Root intrusion at the point of entry at the access location should be kept to a minimum with any small feeder roots <1" flush-cut immediately, roots >1" should be kept intact and covered with moist burlap during operations.
  - d. Of the seven tree limbs proposed for removal, most are lower-hanging and <6" diameter, with one 8" diameter limb slated for removal. This pruning should have insignificant impacts to the Monterey cypress and should not affect its long-term sustainability. Limb pruning should occur with sterile pruning devices and flush-cut near the trunk.

## Well Site Photographic Documentation

Aug 8, 2014





P.O. Box 1023

Proposed well site access point, facing East direction.



Flagged tree limbs proposed for pruning to accommodate drill rig.



P.O. Box 1023

FRED BALLERINI
PACIFIC GROVE, CA 93950
EMAIL: fred@fredballerini.com

PHONE/FAX: 831-333-9009

Spindrift Road culvert <75' west of proposed well location.



Exotic understory cape ivy species resprouting throughout the parcel.



**END** 

P.O. Box 1023 EMAIL: fred@fredballerini.com

PHONE/FAX: 831-333-9009



May 4, 2015

To:

Tina Hannas-De Freitas Permit Coordinator 831.620.0622

RE:

Robert Ching Property, Biological Resource Analysis APN 241-191-005

161-B Sprindrift Road, Carmel Highlands, CA

Dear Tina,

Per your request for biological consultation, on April 20, 2015, I conducted a secondary biological resource site analysis of the Robert Ching parcel in the Carmel Highlands. This memo serves as an addendum to the Biological Letter dated August 10, outlining the existing habitats and species found on the subject parcel.

The analysis included a spring biotic survey of the parcel and analysis in relation to vegetation removal activities previously conducted on the parcel.

Please contact me with any questions or comments. Thank you.

Sincerely,

Fred Ballerini

#### 1. Introduction

This biological resource addendum has been prepared to address vegetation removal activities conducted on the Ching parcel located at 161-B Spindrift Road in Carmel Highlands (APN 241-191-005). The Monterey County Planning Department requested a biologist determine if the vegetation removal affected any habitat that may have been present prior to the activities.

2. Existing Vegetation Conditions

As documented in the previous biological reporting (Ballerini, August 10, 2014), the lot had been recently mowed, including the pruning and removal of non-native *Acacia longifolia* (golden wattle) trees pruned for fire clearance. Wood mulch chips from clearance activities were broadcast on site. Since the initial fire clearance activities conducted in 2014, additional pruning of Monterey Cypress low-hanging limbs occurred in 2015 to accommodate well-drilling access for a proposed well. In addition, several golden wattle limbs were pruned as they had been blown over from seasonal high wind events.

Within the project vicinity on neighboring parcels, mixed native habitats are found, including coastal scrub, Monterey cypress forest, and Monterey pine forest.

The Ching parcel vegetation has been disturbed from past impacts prior to the fire clearance activities and the plant community is predominately exotic invasive species including several listed by the California Invasive Plant Council as having adverse impacts to native ecosystems. The dominant species observed throughout the parcel include golden wattle (*Acacia longifolia*), poison hemlock (*Conium maculatum*), cape ivy (*Delairea odorata*), and periwinkle (*Vinca major*), veldt grass (*Erharta erecta*), and field mustard (*Brassica rapa*). Other less dominant non-native, exotic species include Hottentot fig (*Carpobrotus edulis*), pampas grass (*Contaderia jubata*), watsonia species (*Watsonia sp*), ripgut brome (*Bromus diandrus*), wild radish (*Raphanus sativus*), new seedling sprouts of golden wattle (*Acacia longifolia*) and others.

Sparse native plants including poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), and hedgenettle (*Stachys bullata*), with less dominant wild cucumber (*Marah fabaceus*), and coffeeberry (*Rhamnus californica*) are found within the access area and throughout the parcel, mostly located in higher densities along the southerly portion of the parcel growing in the shade of the Monterey cypress. Monterey cypress, a recognized rare tree species by the California Native Plant Society, of varying ages (seedlings to < 40 year old specimens) are found interspersed throughout the parcel with two of the larger specimens located near the proposed well site.

The wildlife species analysis included surveys for several special-status wildlife species occurring within the vicinity of the United States Geological Survey Monterey 7.5' quadrangle, none were observed and the lack of native plant communities provides low habitat potential for the majority of the listed species.

3. Special-Status Species

There were no individual State or Federally Listed plants or wildlife, or ESHA habitat identified on the site at the time of the survey. The California Natural Diversity Data Base (CNDDB) maintained by the State of California Depart of Fish and Game (DFG) reports several special-status native plant and wildlife species occurring within the vicinity of the property within the Monterey Quadrangle, however I found no evidence of any state or federally-listed native plant or wildlife species. No nesting behavior or occurrences were observed within a 100' radius of the proposed well site.

#### 4. Conclusions

No adverse or significant incidental impacts to native vegetation or native habitat have occurred as a result of the vegetation clearance activities. The parcel is predominately vegetated with non-native, exotic, invasive plant species. Mowing regimes and exotic species control measures using hand removal methods should continue in an effort to suppress the exotics and prevent them from spreading to neighboring sites.

Lower limb (crown-raising) pruning on several Monterey cypress near the proposed well location are considered to have less than significant impacts to the overall health of the cypress trees. The pruning cuts are clean and occur immediately beyond the branch collar, with less than 1/3 (one third) of the lateral branching removed. This pruning will provide clearance for buildings, vehicles, pedestrians and vistas, in addition to adhering to fire-safe landscaping protocol.

Soils are stable as no grading has occurred and topsoils are covered with wood chip mulching from the fire clearance activities.

## Well Site Photographic Documentation

Proposed well site, facing south direction (August 8, 2014).



EMAIL: fred@fredballerini.com

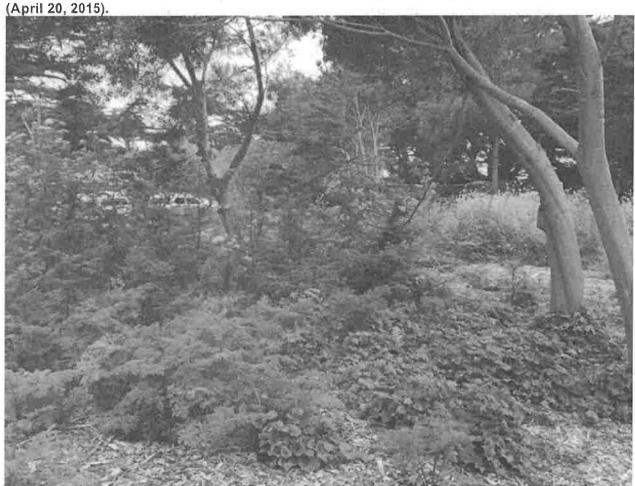
Proposed well site, facing south direction (April 20, 2015), showing Monterey Cypress limbs pruned at the proposed well site and understory vegetation resprouting.



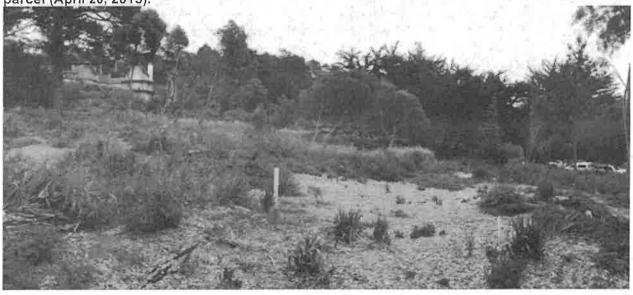
PHONE: 831-333-9009

P.O. Box 1023

Exotic poison hemlock, cape ivy and field mustard along the northwest area of the parcel



Exotic, non-native vegetation along the parcel, facing south from the northern border of the parcel (April 20, 2015).



P.O. Box 1023

FRED BALLERINI
PACIFIC GROVE, CA 93950
EMAIL: fred@fredballerini.com

Non-native field mustard located on the parcel (April 20, 2015).



Exotic pampas grass growing on the parcel (April 20, 2015).



P.O. Box 1023 EMAIL: fred@fredballerini.com Non-native watsonia bulbs sprouting along the northwest section of the parcel (April 20, 2015).





**END** 

P.O. Box 1023

UB150297

# THOMPSON WILDLAND MANAGEMENT

Environmental Management & Conservation Services

International Society of Arboriculture Certified Arborist # WE-7468A

Department of Pesticide Regulation Qualified Applicator Lic. #QL50949 B

Arborist & Environmental 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

May 19, 2015

Ching Property Spindrift Road Carmel Highlands, CA APN: 241-191-005

Subject:

Arborist assessment for Spindrift Road property

Dear Ms. Hannas,

Per your request, an arborist evaluation was recently conducted for five mature Monterey Cypress (*Cupressus macrocarpa*) trees and one aging Monterey Pine (*Pinus radiata*) located on the undeveloped Spindrift Road property in the Carmel Highlands (APN: 241-191-005). The purpose of the assessment was to evaluate the impacts of pruning operations that occurred last January involving the removal several lower to mid-stem limbs from the 5 cypress trees. It should be noted that pruning operations were performed during the proper time of year to minimize impacts related to pruning activities. A majority of the limbs were removed due to structural and/or health deficiencies, as well as damage sustained during severe storm events that occurred in December 2014; and to a lesser extent 2 of the cypress trees were trimmed to assist in providing safe access and adequate clearance for proposed well drilling operations.

The five (5) subject Monterey Cypress trees are identified by tag#s 818-822, and the subject Monterey Pine tree is identified by tag number 827. These trees are depicted in the photographs located at the end of the report (refer to *Figures 1-10*), as well as the site plans that have been prepared by *Central Coast Surveyors* (refer to *Exhibit A*).

The mature Monterey Cypress tree identified by tag#818 has a DBH (Diameter at Breast Height) of 43 inches and is approximately 35 feet in height (refer to *Figure 1*). This roadside tree is located towards the northwest end of the lot. In regards to limb removal and pruning impacts, a total of 4 sizable limbs (all over 8 inches diameter) were removed from the east side of the tree (facing away from the road) during January pruning

operations due to structural defects and storm damage. It should be noted that over the years this tree has been significantly impacted by improper pruning practices (e.g., topping/heading cuts) associated with PG&E utility powerline maintenance and clearing operations that has resulted in structural deficiencies, such as an overly dense canopy with poor symmetry and form (refer to *Figures 1&2*). Unfortunately improper pruning practices associated with utility powerline maintenance operations is not uncommon, and in this case has resulted in problematic structural characteristics that contributed to recent limb failure and removal operations that was necessary to mitigate storm related damage and to preserve tree health.

The mature cypress tree identified by tag#819 has a DBH of 50 inches and is approximately 50 feet in height (refer to Figures 3&4). This roadside tree is located towards the southwest end of the lot. Overall the tree is in good physiological and structural condition, and biotic disorders are presently absent in levels that are detrimental to the health of the tree. In regards to pruning impacts, 3 limbs were removed from the east side of the tree (facing away from the road) during January pruning operations. This included the removal of 1 large lower scaffold limb that was removed due to structurally unsound deficiencies (i.e., internal decay) that had been further compromised by a utility line cable embedded around the lower collar of the limb (refer to Figure 5). There is no reason to believe that pruning operations will have a negative impact on tree health. Conversely, removal of structurally and/or physiologically problematic limbs and canopy material is generally advised as a tree care and management practice that is important to sustaining and preserving tree health.

The mature cypress tree identified by tag#820 has a DBH of 33 inches and is approximately 60 feet in height (refer to Figures 3&6). Overall the tree is in good physiological and structural condition, and biotic disorders are presently absent in levels that are harmful to the health of the tree. In regards to pruning impacts, a total of 8 limbs were removed from the lower quarter section of the stem during January pruning operations. Pruning activities involved the removal of structurally deficient and storm damaged limbs, as well as to provide adequate clearance for proposed well drilling operations. There is no evidence or indication that pruning activities will compromise or have a negative impact on the health and well-being of this or other cypress trees that were pruned in January.

The mature cypress tree identified by tag#821 has a DBH of 42 inches and is approximately 60 feet in height (refer to Figures 7&8). Overall the tree is physiologically and structurally sound, and biotic disorders are presently absent in levels that are harmful to the health of the tree. In regards to pruning impacts, a total of 17 limbs were removed during the January pruning event. Most of these pruning cuts (i.e., approximately 10) occurred in the mid-stem section of the tree, however the limbs removed in this mid-section were generally smaller in diameter. Most of the larger limbs removed were in the lower quarter section of the stem, and were primarily removed to

address concerns related to structurally deficiencies and damage sustained during the storms of December 2014. At the time these lower limbs were removed during post-storm property clean up and maintenance operations, it was decided that some midsection limbs would also be removed to provide safe access and clearance for proposed well drilling activities. In my professional opinion, these pruning operations are not substantial enough to have any adverse affect on tree health. Conversely, proper removal of some of the larger structurally defective and storm damaged limbs in the lower stem of the tree may assist in further protecting and preserving tree health by reducing the likelihood of substantial or catastrophic injury that would result from significant uncontrolled failure of large structurally deficient and unsound limbs.

The mature cypress tree identified by tag#822 has a DBH of 43 inches and is also approximately 60 feet in height (refer to *Figures 7&9*). Overall the tree is in good physiological and structural condition, and biotic disorders are presently absent in levels that are detrimental to the health of the tree. In regards to pruning impacts, 8 moderately sized limbs were removed during January pruning operations due to storm damage and structural deficiencies. As with the other trees, pruning impacts are likely inconsequential to the long-term health and well-being of the tree.

The large and aging Monterey Pine tree identified by tag#827 has a DBH of 44 inches and is approximately 70 feet in height (refer to *Figure 10*). This tree was not subjected to any pruning activities last January, however this senescing pine is in decline and would benefit from proper pruning to remove large dead limbs and to improve canopy symmetry and balance.

A few recommendations that may assist in preserving and maintaining the health of the subject trees are as follows: 1) Non-native invasive weeds are prolific on the property, including within the critical root zone (i.e., drip line) of the trees addressed in this report. These trees would benefit from invasive weed control measures to contain and reduce noxious weeds that compete for vital resources; and 2) Treat exposed pruning cuts that serve as entry points to biotic disorders (e.g., decay, disease and/or insect pests) with a biologically active wound dressing to assist in protecting trees from such disorders.

In conclusion, there is no evidence or indication that pruning operations that occurred last January are going to adversely affect or compromise the health of the 5 mature Monterey Cypress trees that are addressed in this report. Currently, the subject trees are physiologically and structurally sound, and limb removal operations appear to have had a minimal and inconsequential affect on the health of the trees. Conversely, removal of some of the larger unhealthy and structurally deficient limbs will benefit the long-term health and welfare of the trees by reducing the probability of structural failure of unsound limbs that would otherwise inflict significant damage and injury should uncontrolled structural failure occur. Additionally, the senescing Monterey Pine tree should be pruned to remove large deadwood material and to improve canopy balance and symmetry.

Thank you and please let me know if you have any questions or need additional information.

Best regards,

Rob Thompson ISA Certified Arborist # WE-7468A Resource Ecologist

Thompson Wildland Management (TWM) 57 Via Del Rey Monterey, CA. 93940 Office (831) 372-3796; Cell (831) 277-1419; Fax (831) 655-3585 Email: <a href="mailto:thompsonwrm@gmail.com">thompsonwrm@gmail.com</a> Website: <a href="mailto:www.wildlandmanagement.com">www.wildlandmanagement.com</a>

Date



Figure 1. Recent pruning cuts in Monterey Cypress with tag#818.



Figure 2. Tree#818 has structurally defective and damaged limbs that were recently removed, and utility lines passing through canopy are very problematic.



Figure 3. Cypress with tag#819 is right of center and cypress with tag#820 is left of center.

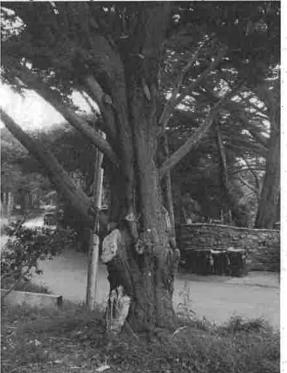


Figure 4. Tree#819 with pruning cuts resulting from the removal of structurally defective limbs.



Figure 5. Tree#819 with evidence of internal decay in large limb that was removed, as well as impacts associated with girdling and embedded utility line cable.



Figure 6. Cypress with tag#820 was also pruned last January.



Figure 7. Cypress with tag#821 is right of center and cypress with tag#822 is left of center.



Figure 8. Cypress with tag#821 has several pruning cuts resulting from the removal of structurally defective and storm damaged limbs. A few additional smaller mid-stem limbs were removed to provide adequate clearance for proposed well drilling operations.

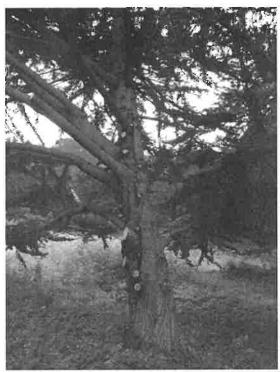


Figure 9. Cypress with tag#822 has several pruning cuts resulting from the removal of structurally defective and storm damaged limbs.



Figure 10. Monterey Pine with tag#827 is aging and in decline and should be pruned to remove large dead wood material and to improve canopy balance.

Thank you and please let me know if you have any questions or need additional information.

Best regards,

Rob Thompson

ISA Certified Arborist # WE-7468A

Resource Ecologist

Thompson Wildland Management (TWM)

57 Via Del Rey

Monterey, CA. 93940

Office (831) 372-3796; Cell (831) 277-1419; Fax (831) 655-3585

Email: thompsonwrm@gmail.com Website: www.wildlandmanagement.com

# Maureen Hamb-WCISA Certified Arborist WE2280 Professional Consulting Services

July 14, 2015

Highlands Covenant Group

c/o Pamela H. Silkwood Horan Lloyd Attorneys At Law 26385 Carmel Rancho Blvd, Suite 200 Carmel, CA 93923

Project: 161-B Spindrift/Proposed Well Site

As requested, I completed an inspection of a proposed well installation project located at 161-B Spindrift Road, Carmel Highlands

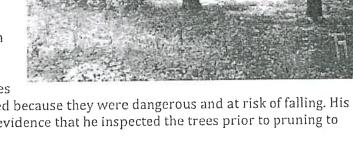
I viewed the site from the public roadway (Spindrift Road), as the project location is private property. In addition to inspecting the staking for the proposed well site, I also reviewed an Arborist Assessment prepared by Rob Thompson of Thompson Wildland Management.

The portion of the site I inspected is forested with mature Monterey cypress (Hesperocyparis macrocarpa).

The trees appear to range from 30 to 50 inches in trunk diameter. The upper foliar canopies are thinning, and indication of a tree in fair health. Small to medium size dead branching were observed.

Large diameter lower to mid height branching has been recently removed from the trees as evidenced by pruning cuts along the main trunks.

Mr. Thompsons report states that the limbs were removed because they were dangerous and at risk of falling. His report does not document evidence that he inspected the trees prior to pruning to support his findings.



849 Almar Ave. Suite C #319 Santa Cruz, CA 95060 email: maureenah@sbcglobal.net Telephone: 831-763-6919 Fax: 831-763-7724 831-234-7735 Mobile:

Additionally, there can be no risk rating assigned to trees that are standing on an undeveloped property. Risk analysis must include a "target" component to be consistent with the accepted professional standards for hazard evaluations.

The removal of multiple, large diameter branches should be avoided. Pruning wounds of the size present on these trees are susceptible to decay causing organisms that can eventually join and spread into the main stem.

Although it does not appear that more than 30% of the canopy was removed, I would define this type of pruning as excessive and without rationale. It can affect long-term tree health and structural integrity.

A single lath type stake was observed adjacent to the trees. It can be assumed that is

indicates the location of the proposed well (at arrow).



Location of Stake

From offsite, it appears to be approximately 10 feet from the base of one tree and 30 feet from the other.

Well construction requires a large drill rig, which produces an abundance of debris that consists of soil and/or rock that can be either saturated or dry. The material is concentrated around the work area, in this case under the tree canopies and over the root zone.

Sites where protected resources could be impacted by development or site changes typically require an analysis that defines the impact and provides recommendations for eliminating the impact. A critical omission in Mr. Thompsons report is the failure to address the potential impacts to the trees related to the installation of the proposed well. Arborists are responsible for reporting accurate, thorough and objective facts when inspecting trees and circumstances involving trees. The lack of discussion related to the well installation project is inconsistent with professional practices utilized throughout the industry.

When analyzing potential impacts to trees on development sites establishing the Critical Root Zone (CRZ) is essential. This is the area around a single tree or group of trees in which no excavation, grading or construction activity should occur. The zone should be large enough to retain sufficient root and crown area to maintain tree health and stability. The size of this zone depends on a number of factors (Matheny, Clark & Harris 1999)

Tree structure, the architecture of the branch system and trunk are taken into account when defining the CRZ. A tree that has a single trunk with a rounded symmetrical canopy may have a similarly shaped CRZ, trees with multiple stems or a leaning structure may have a zone that is less symmetrical and may need to encompass more of the trees canopy to protect lower branching that is essential for tree stability.

Defining the "optimum" CRZ is calculated using the British Standards Institute method developed in 1991. It is based on ranges in trunk diameter, tree age and vigor. This method can be modified to include the characteristics discussed above, including species tolerances, tree architecture and existing site constraints. Using this information the consultant can find the distance from the trunk that should be protected per unit of trunk diameter.

I would estimate that the optimum CRZ for the two trees adjacent to the proposed well site would be a radius of at least 35 feet. This radius is established using the accepted professional methods described above.

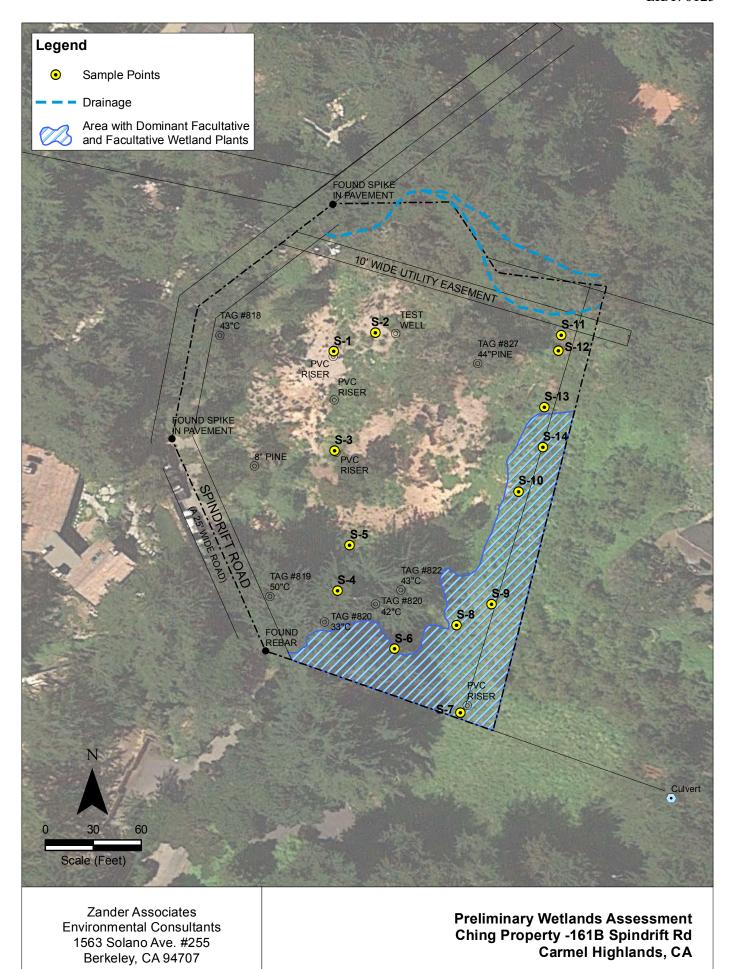
The potential impacts based on the location of the stake include:

- Damage or removal of structural roots that could destabilize the trees
- · Removal of absorbing roots needed to provide moisture and nutrients to the tree
- Suffocation of absorbing roots by the by soil and rock by-products that would cover the root zones.
- Modifications to natural soil moisture or oxygen absorption.
- Damage to remaining tree canopy by large equipment

Ideally, the well site proposed for this property should be relocated outside the Critical Root Zone of all protected trees.

Please call my office with any questions. Respectfully submitted,

Maureen Hamb-Certified Arborist WE2280



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 161B Spindrift Road	(	City/County	: Carmel F	lighlands/Monte	rey Samplin	ig Date:	10/1/15
Applicant/Owner: Robert Ching				State: <i>C/</i>	A Samplin	g Point:	S-1
Investigator(s): L. Zander, M. Zander	;	Section, To	wnship, Raı	nge:			
Landform (hillslope, terrace, etc.): terrace		Local relief	(concave,	convex, none): <u>no</u>	ne	Slope (	(%): <u>10</u>
Subregion (LRR): C-Mediterranean California	Lat: <u>36</u> º	29' 43.07	" N	Long: 121º 56' 1	18.31" W	Datum:	UTM Z 10N
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to 15				_			
Are climatic / hydrologic conditions on the site typical for this t			,				
Are Vegetation, Soil, or Hydrologysig	-			Normal Circumstan			No
Are Vegetation, Soil, or Hydrology nat				eded, explain any a			
SUMMARY OF FINDINGS - Attach site map sl	howing	samplin	g point le	ocations, trans	ects, impor	rtant featı	ıres, etc.
Hydrophytic Vegetation Present? Yes No	<b>√</b>						
Hydric Soil Present? Yes No			e Sampled in a Wetlar		No	/	
Wetland Hydrology Present? Yes No	_ ✓	With	iii a vveiiai	iu! Tes	NO		
Remarks:							
Lower on slope near perc test station #1							
VEGETATION – Use scientific names of plants	<b>5.</b>						
		Dominant		Dominance Test	worksheet:		
		Species?		Number of Domin		4	(4)
1				That Are OBL, FA	CVV, or FAC:	1	(A)
2				Total Number of D		3	(B)
4				Species Across A	ii Stiata.		(D)
		= Total Co		Percent of Domina That Are OBL, FA		33%	(A/R)
Sapling/Shrub Stratum (Plot size: 10 ft. dia )							(A/D)
1. Acacia longifolia		<u>Yes</u>		Prevalence Index			
2. Toxicodendron diversilobum					er of:		
3. <u>Cortaderia selloana</u>		<u>No</u>		OBL species _ FACW species _			
4.       5.				FAC species _			
J		= Total Co	ver	FACU species _			
Herb Stratum (Plot size: 10 ft dia )		. 10101 00	•••		х		
1. Conium maculatum	10	Yes	FACW	Column Totals: _			
2				Danielana	In alone D/A		
3					Index = B/A =		
4				Hydrophytic Veg Dominance T		itors:	
5				Prevalence Ir			
6				Morphologica		(Provide sur	porting
7				data in Re	marks or on a	separate she	eet)
		= Total Co	ver	Problematic I	Hydrophytic Ve	getation <sup>1</sup> (Ex	kplain)
Woody Vine Stratum (Plot size:)				1			
1				<sup>1</sup> Indicators of hydrony be present, unless			gy must
2				, ,			
		= Total Co		Hydrophytic Vegetation			
% Bare Ground in Herb Stratum 65 % Cover of	of Biotic Cr	rust		Present?	Yes	_ No <u> </u>	_
Remarks:							
Ground covered with wood chips/mulch about	out 6 in	ches thi	ck.				

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SOIL Sampling Point: S-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix			x Features					
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u></u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
16"	10 YR 3/2						sandy	mulch layer 4" thick	
	-								
		<del></del>					-	-	
		·							
							·		
<del></del>		<del></del>		<del> </del>					
							·	_	
	•	· — -		· — — –					
	oncentration, D=Dep					Sand G		cation: PL=Pore Lining, N	
_	Indicators: (Applic	able to all L	RRs, unless other	wise noted.	.)			for Problematic Hydric	Soils":
Histosol			Sandy Redo					Muck (A9) ( <b>LRR C</b> )	
	oipedon (A2)		Stripped Ma					Muck (A10) ( <b>LRR B</b> )	
	stic (A3)			ky Mineral (F			Reduc	ced Vertic (F18)	
	en Sulfide (A4)			ed Matrix (F	2)			arent Material (TF2)	
	d Layers (A5) ( <b>LRR</b> (	<b>C</b> )	Depleted M	atrix (F3)			Other	(Explain in Remarks)	
	ıck (A9) ( <b>LRR D</b> )			Surface (F6					
	d Below Dark Surfac	e (A11)		ark Surface (					
	ark Surface (A12)			ressions (F8)	)			of hydrophytic vegetation	
	lucky Mineral (S1)		Vernal Pool	s (F9)				hydrology must be prese	nt,
	Bleyed Matrix (S4)						unless	disturbed or problematic.	
Restrictive	Layer (if present):								
Type:									
Depth (in	ches):						Hydric Soi	I Present? Yes	No <u></u>
Remarks:									
IYDROLO									
Wetland Hy	drology Indicators:								
Primary Indic	cators (minimum of c	ne required;	check all that appl	y)			<u>Seco</u>	ndary Indicators (2 or mor	re required)
Surface	Water (A1)		Salt Crust	(B11)			\	Vater Marks (B1) (Riverin	ie)
High Wa	ater Table (A2)		Biotic Crus	st (B12)			8	Sediment Deposits (B2) (F	Riverine)
Saturation	on (A3)		Aquatic In	vertebrates (	(B13)		[	Drift Deposits (B3) (Riveri	ne)
	larks (B1) (Nonriver	ine)	Hydrogen					Orainage Patterns (B10)	•
	nt Deposits (B2) (No		<u> </u>		` '	ivina Ro		Ory-Season Water Table (	C2)
<del></del>	posits (B3) (Nonrive	•		of Reduced I	_	-		Crayfish Burrows (C8)	<i></i> /
	Soil Cracks (B6)	· · · · · · · · · · · · · · · · · · ·		n Reduction				, ,	I Imagany (C0)
<del></del>	, ,	(D7)	· · · · · · · · · · · · · · · · · · ·			Solis (Co	,	Saturation Visible on Aeria	ii iiiiagery (C9)
	on Visible on Aerial	magery (B7)		Surface (C7	,			Shallow Aquitard (D3)	
	tained Leaves (B9)		Other (Exp	olain in Rema	arks)		t	FAC-Neutral Test (D5)	
Field Obser			. / 5	- I \					
Surface Wat			o <u>√</u> Depth (in						
Water Table			o <u>✓</u> Depth (in						
Saturation P (includes cap	oillary fringe)		o ✓ Depth (inc					y Present? Yes	_ No <u>√</u> _
Describe Re	corded Data (stream	gauge, mon	itoring well, aerial p	ohotos, previ	ious insp	ections),	if available:		
Remarks:									
Sandy so	oils on slope wi	th no wat	ter source oth	er than d	lirect r	ainfall			
,	•								

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 161B Spindrift Road		City/Coun	ty: <u>Carmel I</u>	Highlands/Monterey	/_ Sampling Date: _	10/1/15
Applicant/Owner: Robert Ching				State: CA	Sampling Point: _	S-2
Investigator(s): L. Zander, M. Zander		Section, T	ownship, Ra	nge:		
Landform (hillslope, terrace, etc.): terrace		Local reli	ef (concave,	convex, none): none	Slop	oe (%): <u>10</u>
Subregion (LRR): <u>C-Mediterranean California</u>	Lat: <u>36</u> º	29' 43.0	)7" N	Long: 121º 56' 18.	31" W Datui	m: <u>UTM Z 10</u> ľ
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to	15 percent	slopes		NWI class	sification:	
Are climatic / hydrologic conditions on the site typical for th						
Are Vegetation, Soil, or Hydrology	-			'Normal Circumstances		/ No
Are Vegetation, Soil, or Hydrology				eeded, explain any ans		
SUMMARY OF FINDINGS – Attach site map						atures, etc.
Hydrophytic Vegetation Present? Yes N	No _ <b>√</b> _	lo d	the Sampled	I Aroa	<u> </u>	<u> </u>
Hydric Soil Present? Yes N			thin a Wetlaı		No <u>√</u>	
Wetland Hydrology Present? Yes N	lo <u>√</u>					
Remarks:						
Lower on slope near old test well site and	in area c	leared	of Acacia	in recent past.		
VEGETATION – Use scientific names of plan	nts.					
Tree Stratum (Plot size: 10 ft dia )			nt Indicator ? Status	Dominance Test we		
1				Number of Dominan That Are OBL, FAC		(A)
2.						(-1)
3.				Total Number of Dor Species Across All S		(B)
4				Percent of Dominant	Snecies	
Continue/Chrish Stratum (Diet size) 10 ft die		= Total C	Cover		N, or FAC: <u>33</u>	% (A/B)
Sapling/Shrub Stratum (Plot size: 10 ft. dia )  1. Toxicodendron diversilobum	30	Yes	FACII	Prevalence Index w	vorksheet:	
2					of: Multiply	y by:
3.				OBL species	x 1 =	
4				FACW species	x 2 =	
5				· ·	x 3 =	
Herb Stratum (Plot size: 10 ft dia )	30	= Total C	Cover	*	x 4 =	
Herb Stratum (Plot size: 10 ft dia )   1. Vinca major	30	Yes	NL		x 5 =	
Conium maculatum				Column Totals:	(A)	(B)
3. Helminthotheca echioides				Prevalence Inc	lex = B/A =	
4				Hydrophytic Vegeta		
5				Dominance Tes		
6				Prevalence Inde		
7					daptations <sup>1</sup> (Provide arks or on a separate	
8					drophytic Vegetation <sup>1</sup>	•
Woody Vine Stratum (Plot size:)		= Total C	over			
1					soil and wetland hydr	
2				be present, unless d	isturbed or problemat	.IC.
		= Total C	Cover	Hydrophytic Vegetation		
% Bare Ground in Herb Stratum 10 % Cove	er of Biotic C	rust			Yes No	✓
Remarks:				1		
Ground somewhat disturbed from excava	tion of ol	d test v	vell			
			-			

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SOIL Sampling Point: S-2

Depth Matrix	Redox F	eatures		the absence of	
(inches) Color (moist) %	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
12" 10 YR 3/2				sandy	
				-	
	<del></del>				
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, CS=C	Covered or Coate	d Sand Gr	ains. <sup>2</sup> Loca	ation: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all I					for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Sandy Redox (			1 cm M	uck (A9) ( <b>LRR C</b> )
Histic Epipedon (A2)	Stripped Matrix				uck (A10) ( <b>LRR B</b> )
Black Histic (A3)	Loamy Mucky I				ed Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed			Red Pa	rent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix	x (F3)			Explain in Remarks)
1 cm Muck (A9) ( <b>LRR D</b> )	Redox Dark Su	ırface (F6)			
Depleted Below Dark Surface (A11)	Depleted Dark	, ,			
Thick Dark Surface (A12)	Redox Depress				of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F	<del>-</del> 9)			nydrology must be present,
Sandy Gleyed Matrix (S4)				unless di	sturbed or problematic.
Restrictive Layer (if present):					
Type:					
Depth (inches):				Hydric Soil	Present? Yes No <u>√</u>
Remarks:					
Very dry					
Very dry					
Very dry HYDROLOGY					
Very dry  HYDROLOGY  Wetland Hydrology Indicators:					
Very dry  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required					dary Indicators (2 or more required)
Very dry  HYDROLOGY  Wetland Hydrology Indicators:	Salt Crust (B1	,		W	ater Marks (B1) (Riverine)
Very dry  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)	Salt Crust (B1 Biotic Crust (B	312)		W: Se	ater Marks (B1) ( <b>Riverine</b> ) ediment Deposits (B2) ( <b>Riverine</b> )
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)	Salt Crust (B1 Biotic Crust (E Aquatic Invert	B12) tebrates (B13)		W: Se Dr	ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) ift Deposits (B3) (Riverine)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul	B12) tebrates (B13) fide Odor (C1)		W. Se Dr Dr	ater Marks (B1) ( <b>Riverine</b> ) ediment Deposits (B2) ( <b>Riverine</b> ) ift Deposits (B3) ( <b>Riverine</b> ) rainage Patterns (B10)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul	B12) tebrates (B13) fide Odor (C1)	Living Roo	W. Se Dr Dr	ater Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) ift Deposits (B3) (Riverine)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F	B12) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C4)	<b>!</b> )	W. Se Dr Dr ots (C3) Dr Cr	ater Marks (B1) ( <b>Riverine</b> ) ediment Deposits (B2) ( <b>Riverine</b> ) ift Deposits (B3) ( <b>Riverine</b> ) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz	B12) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C4)	<b>!</b> )	W. Se Dr Dr ots (C3) Dr Cr	ater Marks (B1) ( <b>Riverine</b> ) ediment Deposits (B2) ( <b>Riverine</b> ) rift Deposits (B3) ( <b>Riverine</b> ) rainage Patterns (B10) ry-Season Water Table (C2)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R	B12) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C4) teduction in Tille	<b>!</b> )	W Se Dr Dr Dr Cr Cr Si) Sa	ater Marks (B1) ( <b>Riverine</b> ) ediment Deposits (B2) ( <b>Riverine</b> ) ift Deposits (B3) ( <b>Riverine</b> ) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R	B12) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C4) Reduction in Tille	<b>!</b> )	W Se Dr Dr Dr Cr Cr Si) Se	ater Marks (B1) ( <b>Riverine</b> ) adiment Deposits (B2) ( <b>Riverine</b> ) airif Deposits (B3) ( <b>Riverine</b> ) airinage Patterns (B10) ay-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R	B12) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C4) Reduction in Tille	<b>!</b> )	W Se Dr Dr Dr Cr Cr Si) Se	ater Marks (B1) ( <b>Riverine</b> ) adiment Deposits (B2) ( <b>Riverine</b> ) adiment Deposits (B3) ( <b>Riverine</b> ) adinage Patterns (B10) adversary ayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) adlow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7  Water-Stained Leaves (B9)  Field Observations:	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Other (Explain	a12) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C4 Reduction in Tille rrface (C7) in in Remarks)	d Soils (C6	W Se Dr Dr Dr Cr Cr Si) Se	ater Marks (B1) ( <b>Riverine</b> ) adiment Deposits (B2) ( <b>Riverine</b> ) adiment Deposits (B3) ( <b>Riverine</b> ) adinage Patterns (B10) adversary ayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) adlow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes N	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Other (Explain	atebrates (B13) fide Odor (C1) cospheres along Reduced Iron (C4) deduction in Tille riface (C7) in in Remarks)	d Soils (C6	W Se Dr Dr Dr Cr Cr Si) Se	ater Marks (B1) ( <b>Riverine</b> ) adiment Deposits (B2) ( <b>Riverine</b> ) adiment Deposits (B3) ( <b>Riverine</b> ) adinage Patterns (B10) adversary ayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) adlow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes N	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Other (Explain	at 2) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C4) teduction in Tille trace (C7) in in Remarks)  as):	H)  d Soils (C6	W Se Dr Dr Dr Cr Cr Si) Se FA	ater Marks (B1) ( <b>Riverine</b> ) adiment Deposits (B2) ( <b>Riverine</b> ) airif Deposits (B3) ( <b>Riverine</b> ) airinage Patterns (B10) ay-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) allow Aquitard (D3) AC-Neutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes N	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Other (Explain	at 2) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C4) teduction in Tille trace (C7) in in Remarks)  as):	H)  d Soils (C6	W Se Dr Dr Dr Cr Cr Si) Se FA	ater Marks (B1) ( <b>Riverine</b> ) adiment Deposits (B2) ( <b>Riverine</b> ) adiment Deposits (B3) ( <b>Riverine</b> ) adinage Patterns (B10) adversary ayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) adlow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes None of the present of the pre	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Other (Explain No ✓ Depth (inche	at 2) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C4) Reduction in Tille trace (C7) in in Remarks)  as):	d Soils (C6	W Se Dr Dr Cr Si) Sr FA	ater Marks (B1) ( <b>Riverine</b> ) adiment Deposits (B2) ( <b>Riverine</b> ) airif Deposits (B3) ( <b>Riverine</b> ) airinage Patterns (B10) ay-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) allow Aquitard (D3) AC-Neutral Test (D5)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes No Saturation Present? Yes No S	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Other (Explain No ✓ Depth (inche	at 2) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C4) Reduction in Tille trace (C7) in in Remarks)  as):	d Soils (C6	W Se Dr Dr Cr Si) Sr FA	ater Marks (B1) ( <b>Riverine</b> ) adiment Deposits (B2) ( <b>Riverine</b> ) airif Deposits (B3) ( <b>Riverine</b> ) airinage Patterns (B10) ay-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) allow Aquitard (D3) AC-Neutral Test (D5)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes No Saturation Present? Yes No S	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Other (Explain No ✓ Depth (inche	at 2) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C4) Reduction in Tille trace (C7) in in Remarks)  as):	d Soils (C6	W Se Dr Dr Cr Si) Sr FA	ater Marks (B1) ( <b>Riverine</b> ) adiment Deposits (B2) ( <b>Riverine</b> ) airif Deposits (B3) ( <b>Riverine</b> ) airinage Patterns (B10) ay-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) allow Aquitard (D3) AC-Neutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7 Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes N Saturation Present? Yes N Saturation Present? Yes N (includes capillary fringe)  Describe Recorded Data (stream gauge, mo	Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Sul Oxidized Rhiz Presence of F Recent Iron R Thin Muck Su Other (Explain No ✓ Depth (inche No ✓ Depth (inche No ✓ Depth (inche	at 2) tebrates (B13) fide Odor (C1) tospheres along Reduced Iron (C4) teduction in Tille urface (C7) in in Remarks) s): s): tos, previous ins	Wetla	W Se Dr Dr Cr Cr Sh Sh FA  and Hydrology  if available:	ater Marks (B1) ( <b>Riverine</b> ) adiment Deposits (B2) ( <b>Riverine</b> ) airif Deposits (B3) ( <b>Riverine</b> ) airinage Patterns (B10) ay-Season Water Table (C2) ayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) allow Aquitard (D3) AC-Neutral Test (D5)
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# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: 161B Spindrift Road		City/Count	y: <u>Carmel I</u>	Highlands/Monterey	_ Sampling Date: _	10/1/15
Applicant/Owner: Robert Ching				State: CA	_ Sampling Point: _	S-3
Investigator(s): L. Zander, M. Zander		Section, To	ownship, Ra	nge:		
Landform (hillslope, terrace, etc.): terrace		Local relie	ef (concave,	convex, none): none	Slop	oe (%): <u>10</u>
Subregion (LRR): <u>C-Mediterranean California</u>						
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to				_		
Are climatic / hydrologic conditions on the site typical for th			,			
Are Vegetation, Soil, or Hydrology	-			'Normal Circumstances"		, No
Are Vegetation, Soil, or Hydrology				eeded, explain any answ		
SUMMARY OF FINDINGS – Attach site map						atures etc
			. <del>9</del> po		o,portant 100	
Hydrophytic Vegetation Present? Yes I Hydric Soil Present? Yes I			he Sampled		,	
Wetland Hydrology Present? Yes 1		wit	hin a Wetlaı	nd? Yes	No <u>√</u>	
Remarks:						
Lower on slope near perc test station #3.	In area cl	eared o	f Acacia			
VEGETATION - Use scientific names of plan	nts.					
Tree Stratum (Plot size: 10 ft dia )			t Indicator Status	Dominance Test wor		
1				Number of Dominant : That Are OBL, FACW		(A)
2.						(^)
3.				Total Number of Dom Species Across All Str		(B)
4.						(5)
				Percent of Dominant S That Are OBL, FACW		% (A/B)
Sapling/Shrub Stratum (Plot size: 10 ft. dia )	4.5	.,	= A O. I			\
Toxicodendron diversilobum     Assis longifolis (spedlings)	_			Prevalence Index wo		, by:
2. Acacia longifolia (seedlings)				Total % Cover of:		-
3				OBL species		
4				FAC species		
5	20	= Total C	over	FACU species		
Herb Stratum (Plot size: 10 ft dia )		_ rotar o	0101	UPL species		
1. Hirschfeldia incana	50	Yes	NL	Column Totals:		
2. Conium maculatum			FACW			
3. Vinca major		No	NL		ex = B/A =	
4. <u>Delairea odorata</u>	5	No	NL	Hydrophytic Vegetat		
5				Dominance Test		
6				Prevalence Index		<i>(</i> ·
7					aptations <sup>1</sup> (Provide s	
8				Problematic Hydr		•
Woody Vine Stratum (Plot size:)	85	= Total C	over			
1				<sup>1</sup> Indicators of hydric s		
2.				be present, unless dis	turbed or problemat	ic.
		= Total C		Hydrophytic		
% Bare Ground in Herb Stratum % Cove	er of Biotic C	rust		Vegetation Present? Y	es No	✓
Remarks:						
	oio troos					
Thick mulch from chipping of cleared Acad	cia trees.					
I .						

US Army Corps of Engineers Arid West – Version 2.0

SOIL Sampling Point: S-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

(inches)		Color (moiot) 0/ Turne1 1	2 Toytuna Damania
12"	Color (moist) %	Color (moist) % Type <sup>1</sup> Loc	
	10 YR 3/2		sandy
		Reduced Matrix, CS=Covered or Coated San	
		LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (	, ,	Sandy Redox (S5)	1 cm Muck (A9) ( <b>LRR C</b> )
	ipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) ( <b>LRR B</b> )
Black His		Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
	n Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
	Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
	ck (A9) ( <b>LRR D</b> )	Redox Dark Surface (F6)	
	Below Dark Surface (A11)	Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vogotation and
	rk Surface (A12) ucky Mineral (S1)	<ul><li>Redox Depressions (F8)</li><li>Vernal Pools (F9)</li></ul>	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present,
	leyed Matrix (S4)	vernar r oois (r 9)	unless disturbed or problematic.
-	ayer (if present):		unless distarbed of problematic.
Type:			
	hos):		Hydric Soil Present? Yes No ✓
Depth (incl	nes)		Hydric Soil Present? Yes No✓
YDROLOG	GY		
	GY Irology Indicators:		
Wetland Hyd		l; check all that apply)	Secondary Indicators (2 or more required)
Wetland Hyd Primary Indica	rology Indicators:	l; check all that apply) Salt Crust (B11)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)
Wetland Hyd Primary Indica Surface V	rology Indicators: ators (minimum of one required		
Wetland Hyd Primary Indica Surface V	Irology Indicators: ators (minimum of one required Water (A1) ter Table (A2)	Salt Crust (B11) Biotic Crust (B12)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
Wetland Hyd Primary Indica Surface V High Wat Saturation	Irology Indicators: ators (minimum of one required Water (A1) ter Table (A2)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Water Marks (B1) (Riverine)
Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma	Irology Indicators: ators (minimum of one required Water (A1) ter Table (A2) n (A3) arks (B1) ( <b>Nonriverine</b> )	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>Drift Deposits (B3) (Riverine)</li> <li>Drainage Patterns (B10)</li> </ul>
Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma Sediment	Irology Indicators: ators (minimum of one required Water (A1) ter Table (A2) n (A3) arks (B1) (Nonriverine) t Deposits (B2) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2)
Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo	Irology Indicators: ators (minimum of one required Nater (A1) ter Table (A2) n (A3) arks (B1) (Nonriverine) t Deposits (B2) (Nonriverine) osits (B3) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo	Irology Indicators: ators (minimum of one required Nater (A1) ter Table (A2) n (A3) arks (B1) (Nonriverine) t Deposits (B2) (Nonriverine) osits (B3) (Nonriverine) Soil Cracks (B6)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) S (C6) Saturation Visible on Aerial Imagery (C9)
Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo	Irology Indicators: ators (minimum of one required Nater (A1) ter Table (A2) n (A3) arks (B1) (Nonriverine) t Deposits (B2) (Nonriverine) osits (B3) (Nonriverine)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8)
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Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Surface S Inundatio Water-Sta	Artology Indicators:  ators (minimum of one required Mater (A1) ter Table (A2) n (A3) arks (B1) (Nonriverine) t Deposits (B2) (Nonriverine) osits (B3) (Nonriverine) Soil Cracks (B6) on Visible on Aerial Imagery (B7) ained Leaves (B9) vations:	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) S(C6) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3)
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Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Surface S Inundatio Water-Sta Field Observ Surface Water Water Table F Saturation Pre	Irology Indicators:  ators (minimum of one required Water (A1) ter Table (A2) In (A3) arks (B1) (Nonriverine) It Deposits (B2) (Nonriverine) Osits (B3) (Nonriverine) Soil Cracks (B6) In Visible on Aerial Imagery (B7 ained Leaves (B9) Irations: Ir Present? Ire Prese	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) s (C6) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5)
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Primary Indica  Surface V High Wat Saturation Water Ma Sediment Drift Depo Surface S Inundatio Water-Sta  Field Observ Surface Wate Water Table F Saturation Pre (includes capi Describe Reco	Arter (A1) ter Table (A2) n (A3) arks (B1) (Nonriverine) to Deposits (B2) (Nonriverine) osits (B3) (Nonriverine) osits (B3) (Nonriverine) on Visible on Aerial Imagery (B7 ained Leaves (B9) rations: ar Present? Present? Yes N esent? Yes N esent? Yes N esent? Yes N esent? Yes N	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils // Thin Muck Surface (C7) Other (Explain in Remarks)  No	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No✓
Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Surface S Inundatio Water-Sta Field Observ Surface Water Water Table F Saturation Pre (includes capi Describe Reco	Arter (A1) ter Table (A2) n (A3) arks (B1) (Nonriverine) to Deposits (B2) (Nonriverine) osits (B3) (Nonriverine) osits (B3) (Nonriverine) on Visible on Aerial Imagery (B7 ained Leaves (B9) rations: ar Present? Present? Yes N esent? Yes N esent? Yes N esent? Yes N esent? Yes N	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils // Thin Muck Surface (C7) Other (Explain in Remarks)  No	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9 Shallow Aquitard (D3) FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No✓

Project/Site: 161B Spindrift Road	C	ity/County:	Carmel F	Highlands/Monter	ey Samplino	g Date:	10/1/15
Applicant/Owner: Robert Ching				State: <u>CA</u>	Sampling	Point:	S-4
Investigator(s): L. Zander, M. Zander	S	ection, To	wnship, Ra	nge:			
Landform (hillslope, terrace, etc.): <u>terrace</u>	L	ocal relief	(concave,	convex, none): non	e	Slope	(%): <u>10</u>
Subregion (LRR): C-Mediterranean California	Lat: <u>36º</u> 2	29' 43.07 <u>'</u>	" N	Long: 121º 56' 1	8.31" W	Datum:	UTM Z 10N
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to				=			
Are climatic / hydrologic conditions on the site typical for the			,				
Are Vegetation, Soil, or Hydrology	_			Normal Circumstand		Yes ✓	No
Are Vegetation, Soil, or Hydrology				eeded, explain any a			
SUMMARY OF FINDINGS – Attach site map							tures etc
			g point it	ocations, trans-		tant icat	
Hydrophytic Vegetation Present? Yes		Is th	e Sampled	Area			
Hydric Soil Present? Yes  Wetland Hydrology Present? Yes		with	in a Wetlar	nd? Yes	No	✓	
Remarks:	NO <u>▼</u>						
Under canopy of Monterey cypress.							
Officer carropy of Monterey Cypress.							
VECETATION . Her exicutific names of pla	mto.						
VEGETATION – Use scientific names of pla	Absolute	Dominant	Indicator	Dominance Test	workshoot:		
Tree Stratum (Plot size: 10 ft dia )	% Cover			Number of Domina			
Hesperocyperis macrocarpa	30	Yes	NL	That Are OBL, FA		1	(A)
2				Total Number of D	ominant		
3				Species Across Al		4	(B)
4				Percent of Domina			
Sapling/Shrub Stratum (Plot size: 10 ft. dia )	30=	= Total Co	ver	That Are OBL, FA	CW, or FAC:	25%	(A/B)
1	<u> </u>			Prevalence Index	worksheet:		
2				Total % Cove	r of:	Multiply b	oy:
3				OBL species	x 1	1 =	
4				FACW species			
5				FAC species			
Herb Stratum (Plot size: 10 ft dia )	20=	= Total Co	ver	FACU species UPL species			
1. Vinca major	50	Yes	NL	Column Totals:			
2. Delairea odorata		Yes		Column Totals.	(^)	·	(D)
3				Prevalence I	Index = B/A =		
4				Hydrophytic Veg		ors:	
5				Dominance To			
6				Prevalence In		(Danida a	
7					l Adaptations <sup>1</sup> ( marks or on a s		
8				Problematic F		•	•
Woody Vine Stratum (Plot size: 10 ft dia )	6U=	= Total Cov	ver				
1. Rubus ursinus	60	Yes	FAC	<sup>1</sup> Indicators of hydr			
2				be present, unless	disturbed or p	roblematic	•
	=	= Total Co	ver	Hydrophytic Vegetation			
% Bare Ground in Herb Stratum % Cov	er of Biotic Cru	ıst		Present?	Yes	No <u>√</u>	_
Remarks:				1			
Low-growing understory of Monterey cyp	ress						
and an action of an action of the							

Depth	cription: (Describe Matrix		Redo	x Feature	s			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
12"	10 YR 3/2						sandy	
	-			· ——			<del></del>	
¹Type: C=C	oncentration, D=Dep	letion RM=	Reduced Matrix CS	S=Covered	d or Coate	ed Sand G	rains <sup>2</sup> l oca	ation: PL=Pore Lining, M=Matrix.
	Indicators: (Applic					od Carra C		for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Sandy Red	ox (S5)			1 cm M	uck (A9) (LRR C)
	pipedon (A2)		Stripped Ma					uck (A10) ( <b>LRR B</b> )
	istic (A3)		Loamy Muc		l (F1)			d Vertic (F18)
Hydroge	en Sulfide (A4)		Loamy Gley	ed Matrix	(F2)		Red Pa	rent Material (TF2)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)							Other (E	Explain in Remarks)
	uck (A9) ( <b>LRR D</b> )		Redox Dark	,	` '			
	d Below Dark Surfac	e (A11)	Depleted D		. ,		3	
	ark Surface (A12)		Redox Dep		F8)			of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4)							ydrology must be present, sturbed or problematic.	
	Layer (if present):						unicas dis	starbed or problematic.
	ches):						Hydric Soil F	Present? Yes No✓_
Remarks:	oneo)						Tryuno con t	103 NO
ixemaiks.								
Soils sam	e as all previou	ıs sample	es					
HYDROLO								
_	drology Indicators							
Primary Indi	cators (minimum of o	one required	; check all that appl	y)			Second	dary Indicators (2 or more required)
Surface	Water (A1)		Salt Crust	(B11)			Wa	ater Marks (B1) (Riverine)
High Wa	ater Table (A2)		Biotic Crus	st (B12)			Se	ediment Deposits (B2) (Riverine)
Saturati	on (A3)		Aquatic In	vertebrate	s (B13)		Dri	ift Deposits (B3) (Riverine)
Water N	farks (B1) ( <b>Nonrive</b> i	rine)	Hydrogen	Sulfide O	dor (C1)		Dra	ainage Patterns (B10)
Sedime	nt Deposits (B2) (No	nriverine)	Oxidized F	Rhizosphe	res along	Living Roo	ots (C3) Dr	y-Season Water Table (C2)
Drift De	posits (B3) ( <b>Nonrive</b>	rine)	Presence	of Reduce	ed Iron (C4	4)	Cra	ayfish Burrows (C8)
	Soil Cracks (B6)		Recent Iro	n Reducti	on in Tille	d Soils (Co	6) Sa	turation Visible on Aerial Imagery (C9)
Inundati	on Visible on Aerial	Imagery (B7	) Thin Muck	Surface (	(C7)			allow Aquitard (D3)
Water-S	Stained Leaves (B9)		Other (Exp	olain in Re	emarks)		FA	AC-Neutral Test (D5)
Field Obser	vations:							
Surface Wat	ter Present?	'es N	lo <u>√</u> Depth (in	ches):		_		
Water Table	Present?	'es N	lo <u>√</u> Depth (in	ches):				
Saturation P		′es N	No <u>✓</u> Depth (in	ches):		Wetl	land Hydrology	Present? Yes No✓
	pillary fringe)	0 001100	nitoring wall pariet	obotos ==	ovious is -	enactions)	if available:	
Describe Re	corded Data (stream	ı gauge, mo	nitoring well, aerial	priotos, pr	evious ins	pections),	ıı avallable:	
Remarks:								
Sandy so	oils on slope wi	th no wa	ter source oth	er than	direct	rainfall		
•								

Project/Site: 161B Spindrift Road	(	City/County	: Carmel F	Highlands/Monterey	_ Sampling Date: _	10/1/15
Applicant/Owner: Robert Ching				State: CA	_ Sampling Point: _	S-5
Investigator(s): L. Zander, M. Zander		Section, To	wnship, Ra	nge:		
Landform (hillslope, terrace, etc.): <u>terrace</u>		Local relie	f (concave,	convex, none): none	Slop	oe (%): <u>10</u>
Subregion (LRR): C-Mediterranean California	_ Lat: <u>36</u> º	29' 43.07	7" N	Long: 121º 56' 18.3	1" W Datur	n: <u>UTM Z 10N</u>
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to 1				-		
Are climatic / hydrologic conditions on the site typical for this			,			
Are Vegetation, Soil, or Hydrologysi	-			'Normal Circumstances"		' No
Are Vegetation, Soil, or Hydrology na				eeded, explain any answ		
SUMMARY OF FINDINGS - Attach site map s	showing	samplin	g point le	ocations, transect	s, important fe	atures, etc.
Hydrophytic Vegetation Present? Yes No		1- 41	0 1 1			
Hydric Soil Present? Yes No			ne Sampled nin a Wetlar		No <b>√</b>	
Wetland Hydrology Present? Yes No	→ <u> </u>	Witi	iiii a vvetiai	iu: les	NO <u>v</u>	
Remarks:						
Edge of cypress canopy in disturbed unders	story					
VEGETATION – Use scientific names of plant	s.					
Tree Stratum (Plot size: 10 ft dia )		Dominant Species?		Dominance Test wor		
1. Hesperocyperis macrocarpa		Yes		Number of Dominant S That Are OBL, FACW		(A)
2.						
3				Total Number of Domi Species Across All Str		(B)
4				Percent of Dominant S	Snacias	
Carling/Chruth Charles (Distaine) 10 ft dia	5	= Total Co	over	That Are OBL, FACW		<u>%</u> (A/B)
Sapling/Shrub Stratum (Plot size: 10 ft. dia )				Prevalence Index wo	rksheet:	
1					Multiply	/ bv:
3.				OBL species		
4.				FACW species		
5				FAC species	x 3 =	
		= Total Co	over	FACU species		
Herb Stratum (Plot size: 10 ft dia )	20	V	EAC\A/	UPL species	x 5 =	
1. Conium maculatum	4.0	<u>Yes</u>	FACW	Column Totals:	(A)	(B)
Hirschfeldia incana     Carduus pycnocephalus			NL NL	Prevalence Inde	x = B/A =	
4				Hydrophytic Vegetat	<u> </u>	
5				Dominance Test i		
6				Prevalence Index		
7				Morphological Ad	aptations <sup>1</sup> (Provide	supporting
8					ks or on a separate	
40 %	40	= Total Co	over	Problematic Hydro	opnytic vegetation	(Explain)
Woody Vine Stratum (Plot size: 10 ft dia )	60	Vaa	FAC	<sup>1</sup> Indicators of hydric so	oil and wetland hydr	ology must
1. Rubus ursinus 2		<u>res</u>	<u>FAC</u>	be present, unless dis		
2		= Total Co	over	Hydrophytic		
N/ Page Organization Health Objections		_		Vegetation	San Ma	,
% Bare Ground in Herb Stratum % Cover	of Biotic Ci	rust		Present? Y	es No	<u></u>
Remarks:						
Ruderal vegetation dominant						

	ription: (Describe	to the dept				or confirn	n the absence o	f indicators.)
Depth (inches)	Matrix Color (moist)	%		x Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
12"	10 YR 3/2		Color (moist)		.,,,,		sandy	Normanio
12	10 11 3/2	- <del></del> -					Sariuy	
		<del></del> ·						
1Type: C=C	oncentration, D=De	nletion PM=	Peduced Matrix CS	S=Covered	or Coate	d Sand G	raine <sup>2</sup> l oca	tion: PL=Pore Lining, M=Matrix.
	Indicators: (Appli					a Garia Gi		or Problematic Hydric Soils <sup>3</sup> :
Histosol			Sandy Red		,			ick (A9) (LRR C)
	oipedon (A2)		Stripped Ma	. ,				ick (A10) ( <b>LRR B</b> )
Black Hi	` '		Loamy Muc	ky Mineral	(F1)		Reduced	d Vertic (F18)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)								ent Material (TF2)
	Layers (A5) (LRR	C)	Depleted M		-0)		Other (E	explain in Remarks)
	ick (A9) ( <b>LRR D</b> ) d Below Dark Surfac	oo (A11)	Redox Dark Depleted D	•	,			
	ark Surface (A12)	CE (ATT)			. ,		<sup>3</sup> Indicators of	f hydrophytic vegetation and
Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9)							ydrology must be present,	
Sandy G	Bleyed Matrix (S4)							turbed or problematic.
Restrictive I	_ayer (if present):							
Type:								
Depth (inc	ches):						Hydric Soil P	resent? Yes No <u>√</u>
Remarks:							•	
Soils same	e as all previou	ıs samnle	١ς					
50115 54111	e as an previou	30 00111p10	.5					
HYDROLO	GY							
Wetland Hyd	drology Indicators	:						
Primary Indic	cators (minimum of	one required	; check all that appl	y)			Second	ary Indicators (2 or more required)
Surface	Water (A1)		Salt Crust	(B11)			Wa	ter Marks (B1) (Riverine)
High Wa	iter Table (A2)		Biotic Crus	st (B12)			Sec	diment Deposits (B2) (Riverine)
Saturation	on (A3)		Aquatic In	vertebrates	(B13)		Drif	ft Deposits (B3) (Riverine)
Water M	arks (B1) (Nonrive	rine)	Hydrogen	Sulfide Od	or (C1)		Dra	ninage Patterns (B10)
Sedimer	nt Deposits (B2) (No	onriverine)	Oxidized F	Rhizospher	es along l	Living Roo		y-Season Water Table (C2)
	oosits (B3) (Nonrive	erine)	Presence					ayfish Burrows (C8)
	Soil Cracks (B6)			n Reductio		d Soils (C6	· —	turation Visible on Aerial Imagery (C9)
	on Visible on Aerial			Surface (C	,			allow Aquitard (D3)
	tained Leaves (B9)		Other (Exp	olain in Rer	marks)		FA	C-Neutral Test (D5)
Field Observ		,						
Surface Wate			lo <u>√</u> Depth (in					
Water Table			lo ✓ Depth (in				and Headers I amed	D
Saturation Proceeds (includes cap		Yes N	lo <u>√</u> Depth (in	cnes):		_   weti	and Hydrology	Present? Yes No _✓
	corded Data (stream	n gauge, mo	nitoring well, aerial	photos, pre	vious ins	pections),	if available:	
Remarks:								
Sandy so	oils on slope w	ith no wa	ter source oth	er than	direct	rainfall		
Juliuy 30	ing our grope w	icii iio wa	ter source offi	ici tilall	an CCC	annan.		

Project/Site: 161B Spindrift Road	0	City/County	<sub>/:</sub> <u>Carmel F</u>	Highlands/Monter	<u>ey</u> Sampling	g Date:	10/1/15
Applicant/Owner: Robert Ching				State:C	A Sampling	g Point:	S-6
Investigator(s): L. Zander, M. Zander	§	Section, To	ownship, Ra	nge:			
Landform (hillslope, terrace, etc.): terrace		Local relie	f (concave,	convex, none): non	e	Slope	(%): <u>10</u>
Subregion (LRR): C-Mediterranean California							
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to				=			
Are climatic / hydrologic conditions on the site typical for th			,				
Are Vegetation, Soil, or Hydrology	-			Normal Circumstan		Yes ✓	No
Are Vegetation, Soil, or Hydrology				eeded, explain any a			_
SUMMARY OF FINDINGS – Attach site map							turos otc
			ig point i	ocations, trans			
Hydrophytic Vegetation Present? Yes !		ls ti	ne Sampled				
Hydric Soil Present? Yes !  Wetland Hydrology Present? Yes !		with	nin a Wetlar	nd? Yes	No		
Remarks:	<u> </u>						
Edge of cypress canopy in disturbed unde	rstory						
Lage of cypress carropy in distance and	i story						
VEGETATION – Use scientific names of plan	nts.						
	Absolute	Dominan	t Indicator	Dominance Test	worksheet:		
Tree Stratum (Plot size: 10 ft dia )	% Cover			Number of Domin			
1. Hesperocyperis macrocarpa				That Are OBL, FA	.CW, or FAC:	1	(A)
2				Total Number of D		2	(5)
3 4				Species Across A	ii Strata:	3	(B)
7.		= Total Co		Percent of Domina That Are OBL, FA		33%	(A/D)
Sapling/Shrub Stratum (Plot size: 10 ft. dia )							(A/B)
1. Rubus ursinus				Prevalence Index			
2				Total % Cove			-
3				OBL species _ FACW species _			
4.       5.				FAC species			
		= Total Co	over	FACU species			
Herb Stratum (Plot size: 10 ft dia )				UPL species _			
1. Delairea odorata				Column Totals: _	(A	)	(B)
2				Provalence	Index = B/A =		
3				Hydrophytic Veg			
4.       5.				Dominance T		.013.	
6				Prevalence In			
7				Morphologica	ıl Adaptations¹ (	(Provide su	upporting
8.					marks or on a s	•	*
		= Total Co		Problematic F	lydrophytic Vec	jetation' (E	Explain)
Woody Vine Stratum (Plot size: 10 ft dia )				<sup>1</sup> Indicators of hydr	ria aail and watl	and hydral	oay must
1				be present, unless			
2				Hydrophytic			
N. D. O. Li, H. L. O. L. W. O.				Vegetation	.,	/	
% Bare Ground in Herb Stratum % Cove	er of Biotic Cr	ust		Present?	Yes	No <u>√</u>	
Remarks:							
Ground cover of blackberry							

	atrix		Redox	or caluics	<del>-</del> 1	. 2	<b>-</b> .	
(inches) Color (mo	oist) %			%				Remarks
10 YR 3/2							sandy	_
								<u> </u>
						-		-
								<u> </u>
Гуре: C=Concentration,	D=Depletion	RM=Reduc	red Matrix CS	=Covered	or Coate	d Sand G	raine <sup>2</sup> I (	ccation: PL=Pore Lining, M=Matrix.
ydric Soil Indicators: (						J Garia G		s for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)			Sandy Redo		·,			Muck (A9) (LRR C)
Histic Epipedon (A2)		· · · · · · · · · · · · · · · · · · ·	Stripped Ma	. ,				Muck (A10) (LRR B)
Black Histic (A3)			Loamy Muck		(F1)			iced Vertic (F18)
Hydrogen Sulfide (A4	)		Loamy Gley	-	. ,			Parent Material (TF2)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)								r (Explain in Remarks)
1 cm Muck (A9) (LRR	<b>D</b> )		_ Redox Dark	Surface (F	F6)			
Depleted Below Dark	Surface (A11)	_	_ Depleted Da	ırk Surface	e (F7)			
Thick Dark Surface (A	(12)		_ Redox Depr		8)			s of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Vernal Pools (F9)							d hydrology must be present,	
Sandy Gleyed Matrix							unless	disturbed or problematic.
Restrictive Layer (if pres	ent):							
tootilotilo Edyor (ii proc								
Type:								
Type:							Hydric So	il Present? Yes No _✓
Type:							Hydric So	il Present? Yes No _✓
Type:							Hydric So	il Present? Yes No <u>√</u>
Type: Depth (inches): Remarks:							Hydric So	il Present? Yes No _✓
Type:							Hydric So	il Present? Yes No _✓
Type: Depth (inches): Remarks:  YDROLOGY Wetland Hydrology India	eators:		k all that apply	<i>(</i> )				il Present? Yes No✓
Type: Depth (inches): Remarks:  YDROLOGY  Wetland Hydrology India	eators:		k all that apply				Seco	
Type:	cators: um of one requ			(B11)			Second Second	ondary Indicators (2 or more required)
Type:	cators: um of one requ		Salt Crust	(B11) t (B12)	s (B13)		Seco	ondary Indicators (2 or more required) Water Marks (B1) ( <b>Riverine</b> )
Type: Depth (inches): Remarks:  YDROLOGY  Vetland Hydrology Indicentary Indicators (minimum Judicators (Minimum	cators: um of one requ		Salt Crust ( Biotic Crus	(B11) t (B12) rertebrates	, ,		Seco	ondary Indicators (2 or more required) Water Marks (B1) ( <b>Riverine</b> ) Sediment Deposits (B2) ( <b>Riverine</b> )
Type: Depth (inches): Remarks:  YDROLOGY  Vetland Hydrology Indic Primary Indicators (minimum Surface Water (A1) High Water Table (A2 Saturation (A3)	cators: um of one required ) partiverine)	uired; chec - - - -	Salt Crust ( Biotic Crus Aquatic Inv	(B11) t (B12) rertebrates Sulfide Od	or (C1)	iving Roo	Sec.	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine)
Type:	cators:  um of one required  onriverine)  2) (Nonriverine)	uired; chec - - - -	Salt Crust ( Biotic Crus Aquatic Inv	(B11) t (B12) rertebrates Sulfide Ode	or (C1) es along l	-	<u>Sect</u>	ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10)
Type:	eators:  um of one required  onriverine)  2) (Nonriverine)	uired; chec - - - -	Salt Crust ( Biotic Crus Aquatic Inv Hydrogen ( Oxidized R	(B11) t (B12) rertebrates Sulfide Ode hizosphere	or (C1) es along l d Iron (C4	)	<u>Seco</u>	Ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2)
Type:	cators:  um of one required  onriverine)  2) (Nonriverine)  onriverine)	uired; chec - - - - ne) _ -	Salt Crust ( Biotic Crust Aquatic Inv Hydrogen S Oxidized R Presence C	(B11) t (B12) rertebrates Sulfide Odi hizosphere of Reduced n Reductio	or (C1) es along l d Iron (C4 on in Tilled	)	Secondary Second	Ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Type:	cators:  Jum of one required  partiverine)  2) (Nonriverine)  36)  Aerial Imagen	uired; chec - - - - ne) _ -	Salt Crust ( Biotic Crus Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iror	(B11) t (B12) rertebrates Sulfide Ode hizosphere of Reduced n Reductio Surface (C	or (C1) es along l d Iron (C4 on in Tilled	)	Second	ondary Indicators (2 or more required) Water Marks (B1) ( <b>Riverine</b> ) Sediment Deposits (B2) ( <b>Riverine</b> ) Drift Deposits (B3) ( <b>Riverine</b> ) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Type:	cators:  Jum of one required  partiverine)  2) (Nonriverine)  36)  Aerial Imagen	uired; chec - - - - ne) _ -	Salt Crust ( Biotic Crus Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Thin Muck	(B11) t (B12) rertebrates Sulfide Ode hizosphere of Reduced n Reductio Surface (C	or (C1) es along l d Iron (C4 on in Tilled	)	Second	Ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Type:	cators:  Jum of one required  partiverine)  2) (Nonriverine)  36)  Aerial Imageny  5 (B9)	uired; chec - -     ( (B7)	Salt Crust ( Biotic Crust Aquatic Inv Hydrogen S Oxidized R Presence c Recent Iron Thin Muck Other (Exp	(B11) t (B12) rertebrates Sulfide Odi hizosphere of Reduced n Reductio Surface (Clain in Rer	or (C1) es along l d Iron (C4 on in Tilled C7) marks)	Soils (C6	Second	Ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Type:	cators:  um of one required  porriverine)  2) (Nonriverine)  36)  Aerial Imageny  5 (B9)	uired; chec -      (B7) 	Salt Crust ( Biotic Crus Aquatic Inv Hydrogen ( Oxidized R Presence ( Recent Iror Thin Muck Other (Exp	(B11) t (B12) rertebrates Sulfide Odi hizosphere of Reduced n Reductio Surface (Clain in Rer	or (C1) es along l d Iron (C4 on in Tilled C7) marks)	Soils (C6	Second	Ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Type:	cators:  Jum of one required  porriverine)  2) (Nonriverine)  36)  Aerial Imageny  5 (B9)  Yes  Yes  Yes	uired; chec     	Salt Crust ( Biotic Crus Aquatic Inv Hydrogen ( Oxidized R Presence ( Recent Iron Thin Muck Other (Exp	(B11) t (B12) rertebrates Sulfide Odd hizosphere of Reduced n Reductio Surface (Clain in Rer	or (C1) es along l d Iron (C4 on in Tilled C7) marks)	Soils (C6	Seco	Ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Type:	cators:  Jum of one required  porriverine)  2) (Nonriverine)  36)  Aerial Imageny  5 (B9)  Yes  Yes  Yes	uired; chec     	Salt Crust ( Biotic Crus Aquatic Inv Hydrogen ( Oxidized R Presence ( Recent Iror Thin Muck Other (Exp	(B11) t (B12) rertebrates Sulfide Odd hizosphere of Reduced n Reductio Surface (Clain in Rer	or (C1) es along l d Iron (C4 on in Tilled C7) marks)	Soils (C6	Seco	Ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Type:	cators:  Jum of one required  Conriverine)  2) (Nonriverine)  36)  Aerial Imageny  5 (B9)  Yes  Yes  Yes	uired; chec	Salt Crust ( Biotic Crus Aquatic Inv Hydrogen ( Oxidized R Presence of Recent Iron Thin Muck Other (Exp	(B11) t (B12) rertebrates Sulfide Odd hizosphere of Reduced n Reductio Surface (Clain in Rer ches): thes):	or (C1) es along l d Iron (C4 on in Tilled C7) marks)	Soils (C6	Secondary Second	Ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Type:	cators:  Jum of one required  Conriverine)  2) (Nonriverine)  36)  Aerial Imageny  5 (B9)  Yes  Yes  Yes	uired; chec	Salt Crust ( Biotic Crus Aquatic Inv Hydrogen ( Oxidized R Presence of Recent Iron Thin Muck Other (Exp	(B11) t (B12) rertebrates Sulfide Odd hizosphere of Reduced n Reductio Surface (Clain in Rer ches): thes):	or (C1) es along l d Iron (C4 on in Tilled C7) marks)	Soils (C6	Secondary Second	Ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Type:	cators:  Jum of one required  porriverine)  2) (Nonriverine)  36)  Aerial Imageny  5 (B9)  Yes  Yes  Yes  Stream gauge	uired; chec	Salt Crust ( Biotic Crus Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Other (Exp  Depth (inc) Depth (inc) G well, aerial p	(B11) t (B12) rertebrates Sulfide Odd hizosphere of Reduced n Reductio Surface (Clain in Rer ches): ches): ches):	or (C1) es along l d Iron (C4 on in Tilled C7) marks)	Soils (Ce	Second Se	ondary Indicators (2 or more required)  Water Marks (B1) (Riverine)  Sediment Deposits (B2) (Riverine)  Drift Deposits (B3) (Riverine)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  gy Present? Yes No✓
Type:	cators:  Jum of one required  porriverine)  2) (Nonriverine)  36)  Aerial Imageny  5 (B9)  Yes  Yes  Yes  Stream gauge	uired; chec	Salt Crust ( Biotic Crus Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Other (Exp  Depth (inc) Depth (inc) G well, aerial p	(B11) t (B12) rertebrates Sulfide Odd hizosphere of Reduced n Reductio Surface (Clain in Rer ches): ches): ches):	or (C1) es along l d Iron (C4 on in Tilled C7) marks)	Soils (Ce	Second Se	Ondary Indicators (2 or more required) Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)

Project/Site: 161B Spindrift Road		City/County	: Carmel F	Highlands/Monterey	Sampling Date:10/	/1/15
					Sampling Point:	
Investigator(s): _ L. Zander, M. Zander						
Landform (hillslope, terrace, etc.): terrace				_		
Subregion (LRR): C-Mediterranean California						
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to 1				-		
			,			
Are climatic / hydrologic conditions on the site typical for this	-					
Are Vegetation, Soil, or Hydrologysi					" present? Yes ✓ N	0
Are Vegetation, Soil, or Hydrologyna	aturally pro	blematic?	(If ne	eeded, explain any ansv	vers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map s	showing	samplin	g point l	ocations, transec	ts, important feature	s, etc.
Hydrophytic Vegetation Present? Yes ✓ No	<u> </u>					
Hydric Soil Present? Yes No			e Sampled		/	
Wetland Hydrology Present? Yes No	√	with	in a Wetlar	id? Yes	No <u>√</u>	
Remarks:		ı				
Near Perc test PVC pipe #7, in dense black	perry					
Treat i ete test i ve pipe ii/, iii delise sidekt	Jen y					
VECETATION Line exicutific names of plant	ha					
VEGETATION – Use scientific names of plant		Dominant	Indicator	Dominance Toot we	who ho o to	
Tree Stratum (Plot size: 10 ft dia )		Species?		Dominance Test wo Number of Dominant		
1					/, or FAC:2	(A)
2				Total Number of Dom	ninant	
3				Species Across All St		(B)
4				Percent of Dominant	Species	
Ocalia (Obash Obashua (Districe 10 ft die		= Total Co	ver		/, or FAC: <u>67%</u>	(A/B)
Sapling/Shrub Stratum (Plot size: 10 ft. dia )	00	Voc	EAC	Prevalence Index we	orkshoot:	
1. Rubus ursinus					f: Multiply by:	
2					x 1 =	
3					x 2 =	
5					x 3 =	
		= Total Co	ver	· ·	x 4 =	
Herb Stratum (Plot size: 10 ft dia )		•			x 5 =	
1. Hirschfeldia incana		Yes	NL		(A)	
2. Conium maculatum			FACW			
3. <u>Carduus pycnocephalus</u>			NL_		ex = B/A =	
4. Rumex crispus			<u>FAC</u>	Hydrophytic Vegeta		
5				<ul><li>✓ Dominance Test</li><li>✓ Prevalence Index</li></ul>		
6					x is ≤3.0 daptations¹ (Provide suppor	rtina
7				data in Rema	rks or on a separate sheet)	ung
8		= Total Co		Problematic Hyd	rophytic Vegetation <sup>1</sup> (Expla	in)
Woody Vine Stratum (Plot size: 10 ft dia )		= Total Co	ver			
1					soil and wetland hydrology	must
2				be present, unless dis	sturbed or problematic.	
		= Total Co	ver	Hydrophytic		
% Bare Ground in Herb Stratum % Cover	of Biotic C	rust		Vegetation Present?	res √ No	
Remarks:	0. 2.0			1		
Blackberry bramble with Conium patches						

Profile Desc	ription: (Describe t	o the depth n	needed to docum	nent the i	ndicator	or confirm	the absen	ce of indicators.)
Depth	Matrix			x Features		. 2		
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
12"	10 YR 3/2						sandy	<u> </u>
							'	_
								<del>-</del>
¹Type: C=Co	oncentration, D=Depl	etion, RM=Re	duced Matrix, CS	S=Covered	d or Coate	d Sand Gr	ains. <sup>2</sup> L	Location: PL=Pore Lining, M=Matrix.
Hydric Soil	ndicators: (Applica	ble to all LRI	Rs, unless other	wise not	ed.)		Indicato	rs for Problematic Hydric Soils <sup>3</sup> :
Histosol	` '		Sandy Redo	. ,			1 cm	n Muck (A9) (LRR C)
	pipedon (A2)		Stripped Ma					n Muck (A10) (LRR B)
Black Hi	, ,		Loamy Muc	-				uced Vertic (F18)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)						Parent Material (TF2)		
Stratified Layers (A5) (LRR C) Depleted Matrix (F3) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)							Otne	er (Explain in Remarks)
	Below Dark Surface	(A11)	Depleted Da		. ,			
	ark Surface (A12)	( /	Redox Depr				<sup>3</sup> Indicato	ors of hydrophytic vegetation and
Sandy Mucky Mineral (S1)  Vernal Pools (F9)						nd hydrology must be present,		
Sandy G	leyed Matrix (S4)						unless	s disturbed or problematic.
Restrictive I	_ayer (if present):							
Type:			_					
Depth (inc	ches):		_				Hydric So	oil Present? Yes No
Remarks:								
No mulch	laver Decomr	nosed gran	ite at 12" D	ata fro	m nearl	hy nerc	test indic	cate slow permability in this
	field indicators	_			iii iicaii	by perc	test maid	cate slow permaomity in this
arca. No	ilicia iliaicators	or frydric 3	ons observe	u.				
HYDROLO	GY							
Wetland Hyd	drology Indicators:							
Primary Indic	cators (minimum of or	ne required; ch	neck all that apply	y)			Sec	condary Indicators (2 or more required)
Surface			Salt Crust					Water Marks (B1) (Riverine)
High Wa	ter Table (A2)		Biotic Crus	st (B12)				Sediment Deposits (B2) (Riverine)
Saturation			Aquatic Inv		s (B13)			Drift Deposits (B3) (Riverine)
Water M	arks (B1) ( <b>Nonriveri</b>	ne)	Hydrogen	Sulfide Od	dor (C1)			Drainage Patterns (B10)
Sedimer	nt Deposits (B2) (Non	riverine)	Oxidized F	Rhizosphe	res along	Living Roo	ots (C3)	Dry-Season Water Table (C2)
Drift Dep	oosits (B3) (Nonriver	ine)	Presence	of Reduce	d Iron (C4	<b>!</b> )		Crayfish Burrows (C8)
Surface	Soil Cracks (B6)		Recent Iro	n Reducti	on in Tilled	d Soils (C6	5)	Saturation Visible on Aerial Imagery (C9)
Inundation	on Visible on Aerial Ir	nagery (B7)	Thin Muck	Surface (	C7)		_	Shallow Aquitard (D3)
Water-S	tained Leaves (B9)		Other (Exp	lain in Re	marks)			FAC-Neutral Test (D5)
Field Obser								
Surface Water			Depth (inc					
Water Table	Present? Ye	es No _	Depth (inc	ches):		_		
Saturation Pr		es No _	Depth (inc	ches):		_ Wetla	and Hydrolo	ogy Present? Yes No✓
(includes cap Describe Re	corded Data (stream	gauge, monito	oring well, aerial r	ohotos, pr	evious ins	pections).	if available:	
	(	<b>33</b> -,	3 - , 1	, , ,		, , ,		
Remarks:								
Could be	within nath of	runoff fro	m culvert ur	der Li	hwey 1	Lunclan	na Nafia	ld indicators of hydrology
observed	•	ranon no	iii cuiveit ui	iuei III	511Way 1	L upsiup	ino ne	ia maicators or mydrology
onsei ved	•							

Project/Site: 161B Spindrift Road	City/County: Car	mel Highlands/Monterey	_ Sampling Date:	10/1/15
Applicant/Owner: Robert Ching		State: CA	_ Sampling Point: _	S-8
Investigator(s): L. Zander, M. Zander	Section, Townsh	ip, Range:		
Landform (hillslope, terrace, etc.): <u>terrace</u>	Local relief (con	cave, convex, none): none	Slop	e (%): <u>10</u>
Subregion (LRR): C-Mediterranean California				
Soil Map Unit Name: Santa Ynez fine sandy loam 9		_		
Are climatic / hydrologic conditions on the site typical fo				
Are Vegetation, Soil, or Hydrology	·	Are "Normal Circumstances"		No
Are Vegetation, Soil, or Hydrology		(If needed, explain any answe		
SUMMARY OF FINDINGS – Attach site m				itures. etc.
			<u>-,portanio</u>	
	No 🗸	mpled Area	,	
	No <u>√</u> within a	Wetland? Yes	No <u></u>	
Remarks:				
VEGETATION – Use scientific names of p				
Tree Stratum (Plot size: 10 ft dia )	Absolute Dominant Indi	tuo.		
1		Number of Dominant 3		(A)
2				(//)
3.		Total Number of Domi		(B)
4.				(=)
	= Total Cover	Percent of Dominant S That Are OBL, FACW,		% (A/B)
Sapling/Shrub Stratum (Plot size: 10 ft. dia )				
1				h. e
2			· ·	-
3				
4.         5.		FAC species		
<u> </u>	= Total Cover	FACU species		
Herb Stratum (Plot size: 10 ft dia )		UPL species		
1. Conium maculatum		CW Column Totals:		
2. <u>Delaria odorata</u>				
3			x = B/A =	
4		Hydrophytic Vegetati		
5				
6			aptations¹ (Provide s	supporting
7			ks or on a separate s	
8		Problematic Hydro	ophytic Vegetation¹ (	Explain)
Woody Vine Stratum (Plot size: 10 ft dia )	= Total Cover			
1		<sup>1</sup> Indicators of hydric so	oil and wetland hydro	ology must
2		be present, unless dist	turbed or problemati	C.
	= Total Cover	Hydrophytic Vegetation		
% Bare Ground in Herb Stratum % C	Cover of Biotic Crust		es <u>√</u> No	
Remarks:				
Conium patch				
1				

	needed to document the indicator or co	•
Depth Matrix	Redox Features	c <sup>2</sup> Texture Remarks
12" 10 YR 3/2		sandy
·		
<del></del>		
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Re		
Hydric Soil Indicators: (Applicable to all LRI	Rs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) ( <b>LRR C</b> )
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) ( <b>LRR B</b> )
Black Histic (A3) Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2)	Reduced Vertic (F18) Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) ( <b>LRR D</b> )	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	
Thick Dark Surface (A12)	Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Vernal Pools (F9)	wetland hydrology must be present,
Sandy Gleyed Matrix (S4)		unless disturbed or problematic.
Restrictive Layer (if present):		
Type:	<del>-</del>	Hadda Oall Paragrato Van Na /
Depth (inches):		Hydric Soil Present? Yes No✓
Remarks:		
No mulch layer. Decomposed gran	nite at 12"	
HYDROLOGY		
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required: cl		Secondary Indicators (2 or more required)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl	neck all that apply)	Secondary Indicators (2 or more required)  Water Marks (B1) (Riverine)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl  Surface Water (A1)	neck all that apply) Salt Crust (B11)	Water Marks (B1) (Riverine)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl	neck all that apply)	<ul><li>Water Marks (B1) (Riverine)</li><li>Sediment Deposits (B2) (Riverine)</li></ul>
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl  Surface Water (A1)  High Water Table (A2)	neck all that apply) Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	Water Marks (B1) (Riverine)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl  Surface Water (A1)  High Water Table (A2)  Saturation (A3)	neck all that apply)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>Drift Deposits (B3) (Riverine)</li> </ul>
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine)	neck all that apply)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>Drift Deposits (B3) (Riverine)</li> <li>Drainage Patterns (B10)</li> </ul>
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)	neck all that apply)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl.  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)	neck all that apply)  Salt Crust (B11)  Biotic Crust (B12)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres along Living Presence of Reduced Iron (C4)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl.  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)	neck all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl.  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:	neck all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) GRoots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl.  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes No	neck all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) GRoots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl.  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes No	neck all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) GRoots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl.  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes No. Saturation Present? Yes No.	neck all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)  Depth (inches):  Depth (inches):	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) GRoots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl.  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes No Saturation Present? Yes No (includes capillary fringe)	neck all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)  ✓_ Depth (inches): ✓_ Depth (inches): ✓_ Depth (inches):	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) g Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) g Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl.  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes No. Saturation Present? Yes No.	neck all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)  ✓_ Depth (inches): ✓_ Depth (inches): ✓_ Depth (inches):	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) g Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) g Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl.  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes No. Water Table Present? Yes No. Saturation Present? Yes No. (includes capillary fringe)  Describe Recorded Data (stream gauge, monitor)	neck all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)  ✓_ Depth (inches): ✓_ Depth (inches): ✓_ Depth (inches):	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) g Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) g Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl.  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes No. Water Table Present? Yes No. (includes capillary fringe) Describe Recorded Data (stream gauge, monitor)  Remarks:	neck all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)  Depth (inches): Depth (inches):	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) g Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) gls (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No✓
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl.  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes No. Water Table Present? Yes No. Saturation Present? Yes No. (includes capillary fringe) Describe Recorded Data (stream gauge, monitor)  Remarks: Could be within path of runoff fro	neck all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)  Depth (inches): Depth (inches):	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) g Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) g Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; cl.  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Sediment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)  Field Observations: Surface Water Present? Yes No. Water Table Present? Yes No. (includes capillary fringe) Describe Recorded Data (stream gauge, monitor)  Remarks:	neck all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soil Thin Muck Surface (C7) Other (Explain in Remarks)  Depth (inches): Depth (inches):	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) g Roots (C3) Dry-Season Water Table (C2) Crayfish Burrows (C8) gls (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)  Wetland Hydrology Present? Yes No✓

Project/Site: 161B Spindrift Road		City/County	y: <u>Carmel I</u>	Highlands/Monterey	_ Sampling Date: _	10/1/15
Applicant/Owner: Robert Ching				State: CA	_ Sampling Point: _	S-9
Investigator(s): L. Zander, M. Zander		Section, To	ownship, Ra	nge:		
Landform (hillslope, terrace, etc.): terrace		Local relie	ef (concave,	convex, none): none	Slop	oe (%):10_
Subregion (LRR): <u>C-Mediterranean California</u>						
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to				-		
Are climatic / hydrologic conditions on the site typical for th						
Are Vegetation, Soil, or Hydrology	-			'Normal Circumstances'		, No
Are Vegetation, Soil, or Hydrology				eeded, explain any answ		
SUMMARY OF FINDINGS – Attach site map				, ,	,	atures, etc.
Hydrophytic Vegetation Present? Yes _ ✓ _ 1				<u> </u>	•	
Hydric Soil Present? Yes 1			he Sampled hin a Wetlar		No <u>√</u>	
Wetland Hydrology Present? Yes 1	Vo <u> </u>	Witi	iiii a vvetiai	iur res	NO <u>*</u>	
Remarks:						
VEGETATION – Use scientific names of plan	nte					
VEGETATION — 030 30101111110 Harries of plan		Dominan	t Indicator	Dominance Test wo	rksheet	
Tree Stratum (Plot size: 10 ft dia )	% Cover			Number of Dominant		
1				That Are OBL, FACW		(A)
2				Total Number of Dom	inant	
3				Species Across All St		(B)
4				Percent of Dominant	Species	
Sapling/Shrub Stratum (Plot size: 10 ft. dia )		= Total Co	over	That Are OBL, FACW		<u>%</u> (A/B)
1. Toxicodendron diversilobum	10	Yes	FACU	Prevalence Index wo	orksheet:	
2. Rubus ursinus	10		FAC	Total % Cover of	Multiply	by:
3.				OBL species	x 1 =	
4				FACW species	x 2 =	
5				FAC species	x 3 =	
40 ft die	20	= Total Co	over	FACU species		
Herb Stratum (Plot size: 10 ft dia )	70	Voc	EAC\\\	UPL species		
Conium maculatum     Hirchfeldia incana		Yes No	FACW NL	Column Totals:	(A)	(B)
Hirchfeldia incana     Solanum americanum				Prevalence Inde	ex = B/A =	
4				Hydrophytic Vegeta		
5				✓ Dominance Test		
6.				Prevalence Index	a is ≤3.0 <sup>1</sup>	
7					laptations <sup>1</sup> (Provide s	
8					ks or on a separate	,
		= Total Co		Problematic Hydr	ophytic Vegetation	(Explain)
Woody Vine Stratum (Plot size: 10 ft dia )				<sup>1</sup> Indicators of hydric s	oil and watland hydr	ology must
1				be present, unless dis		
2				Hydrophytic	•	
		= Total Co		Vegetation		
% Bare Ground in Herb Stratum % Cove	er of Biotic C	rust		Present? Y	'es <u>√</u> No	
Remarks:						_
Conium patch						

Profile Description: (Describe to the depth needed to document the indicator or co	onfirm the absence of indicators.)
Depth Matrix Redox Features	
	oc <sup>2</sup> Texture Remarks
12" 10 YR 3/1	sandy
	<del></del>
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sa	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1) Sandy Redox (S5) Histic Epipedon (A2) Stripped Matrix (S6)	1 cm Muck (A9) ( <b>LRR C</b> ) 2 cm Muck (A10) ( <b>LRR B</b> )
Black Histic (A3) Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Black Hode ( Ke) Eearry Intectly Intertly Inter	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) ( <b>LRR D</b> ) Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)	•
Thick Dark Surface (A12) Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4)	wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if present):	unless disturbed of problematic.
Type:	
Depth (inches):	Hydric Soil Present? Yes No✓
Remarks:	Trydric doi: 1 tod 100
No mulch layer. Soils more moist in this location - darker but no	redox features. Data from perc test in this
area indicate slow permeability.	
HYDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
Surface Water (A1) Salt Crust (B11)	Water Marks (B1) (Riverine)
High Water Table (A2) Biotic Crust (B12)	Sediment Deposits (B2) (Riverine)
Saturation (A3) Aquatic Invertebrates (B13)	Drift Deposits (B3) (Riverine)
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
	g Roots (C3) Dry-Season Water Table (C2)
Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soi	
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Water-Stained Leaves (B9) Other (Explain in Remarks)	Shallow Aquitard (D3) FAC-Neutral Test (D5)
Field Observations:	TAC-Neutral Test (D3)
Surface Water Present? Yes No ✓ _ Depth (inches):	
Water Table Present? Yes No _ ✓ Depth (inches):	
Saturation Present? Yes No _ ✓ Depth (inches):	Wetland Hydrology Present? Yes No _ ✓
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspecti	ions), if available:
Remarks:	
Could receive runoff from culvert under Highway 1 upslope. No	field indicators of hydrology observed.
Could receive runoff from culvert under Highway 1 upslope. No	field indicators of hydrology observed.

Project/Site: 161B Spindrift Road		City/County	y: <u>Carmel I</u>	Highlands/Monterey	Sampling Date: _	10/1/15
Applicant/Owner: Robert Ching				State: CA	Sampling Point: _	S-10
Investigator(s): L. Zander, M. Zander		Section, To	ownship, Ra	nge:		
Landform (hillslope, terrace, etc.): terrace		Local relie	f (concave,	convex, none): none	Slop	oe (%): <u>10</u>
Subregion (LRR): <u>C-Mediterranean California</u>	Lat: <u>36</u> º	29' 43.0	7" N	Long: 121º 56' 18.3	31" W Datur	n: <u>UTM Z 10</u> ľ
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to				_		
Are climatic / hydrologic conditions on the site typical for the						
Are Vegetation, Soil, or Hydrology	-			'Normal Circumstances		' No
Are Vegetation, Soil, or Hydrology				eeded, explain any ansv		
SUMMARY OF FINDINGS – Attach site map					,	atures, etc.
Hydrophytic Vegetation Present? Yes✓	No	lo 4	he Sampled	I Avon		
Hydric Soil Present? Yes			hin a Wetlar		No <u></u> ✓	
Wetland Hydrology Present? Yes	No <u>√</u>		iiii a woaa		NO	
Remarks:						
VEGETATION – Use scientific names of pla	nts.					
		Dominan	t Indicator	Dominance Test wo	orksheet:	
Tree Stratum (Plot size: 10 ft dia )	% Cover		-	Number of Dominant		
1				That Are OBL, FACV	√, or FAC:2	(A)
2				Total Number of Don		(D)
3				Species Across All S	trata:3	(B)
4		= Total Co		Percent of Dominant		0/ (A/D)
Sapling/Shrub Stratum (Plot size: 10 ft. dia )		10tai 0	ovci	That Are OBL, FACV	V, or FAC: <u>679</u>	<u>//o</u> (A/B)
1. Toxicodendron diversilobum	15			Prevalence Index w		
2. Rubus ursinus			FAC		f: Multiply	-
3				OBL species		
4				FACW species		
5		= Total Co	over	FAC species		
Herb Stratum (Plot size: 10 ft dia )		= Total Co	ovei	UPL species		
1. Conium maculatum	80	Yes	FACW		(A)	
2. Solanum americanum	10	No	FACU			
3					ex = B/A =	
4				Hydrophytic Vegeta		
5				✓ Dominance Test		
6				Prevalence Inde	x is ≤3.0 daptations¹ (Provide :	cupporting
7					irks or on a separate	
8		= Total Co		Problematic Hyd	rophytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size: 10 ft dia )		= Total Co	ovei			
1					soil and wetland hydr	
2				be present, unless di	sturbed or problemat	IC.
	-	= Total Co	over	Hydrophytic Vegetation		
% Bare Ground in Herb Stratum % Cove	er of Biotic C	rust			Yes <u>√</u> No	
Remarks:				1		
Conium dominant						
Something with the second seco						

						or confir	n the absence of i	ndicators.)	
Depth (inches)	Matri			ox Features		Loc <sup>2</sup>	Toyturo	Domarka	
(inches)	Color (moist		Color (moist)	%	Type'		Texture	Remarks	
18"	10 YR 3/2						sandy		
,									
			Reduced Matrix, C			d Sand G		n: PL=Pore Lining, M=	
=		plicable to all I	_RRs, unless othe		ed.)			Problematic Hydric S	oils*:
Histosol	` '		Sandy Red				1 cm Muck		
	pipedon (A2)		Stripped M		(54)			(A10) ( <b>LRR B</b> )	
Black Histic (A3) Loamy Mucky Minera					. ,		Reduced V	, ,	
	Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3)							t Material (TF2) plain in Remarks)	
	u Layers (A5) ( <b>Lr</b> uck (A9) ( <b>LRR D</b> )		Depleted N		F6)		Other (Exp	nam in Nemarks)	
	d Below Dark Su		Depleted D	•					
	ark Surface (A12		Redox Dep		. ,		<sup>3</sup> Indicators of h	ydrophytic vegetation a	and
	Mucky Mineral (S		Vernal Poo		,			ology must be present	
	Gleyed Matrix (S4						unless distur	bed or problematic.	
Restrictive	Layer (if presen	t):							
Type:									
Depth (in	ches):						Hydric Soil Pre	sent? Yes	No <u>√</u>
Remarks:							•		
Mulch lay	vor about 6"	No rock o	rda foundin	camplo	Data f	rom no	are tost in this	area indicate hig	har narc
1	yer about 6	. NO TOCK O	r a.g. rouria iii	Sample	. Data i	rom pe	erc test iii tiiis	area muicate mg	ner perc
rate									
HYDROLO	GY								
	drology Indicate	ors:							
_			; check all that app	lv)			Secondar	v Indicators (2 or more	required)
Surface			Salt Crus					r Marks (B1) (Riverine	
	ater Table (A2)		Biotic Cru					nent Deposits (B2) (Riv	
Saturation			Aquatic Ir		s (B13)			Deposits (B3) (Riverine	
	//arks (B1) ( <b>Nonr</b> i	verine)	Hydrogen					age Patterns (B10)	• /
	nt Deposits (B2)					Livina Ro		season Water Table (Ca	2)
	posits (B3) (Noni		Presence					ish Burrows (C8)	,
	Soil Cracks (B6)		Recent Ire		,	•		ation Visible on Aerial I	magery (C9)
	ion Visible on Aeı					(-		ow Aquitard (D3)	3-7(7
	Stained Leaves (E		Other (Ex	,	,			Neutral Test (D5)	
Field Obser	<u>`</u>	,		•			<u> </u>	. ,	
Surface Wat		Yes N	lo <u>√</u> Depth (ir	nches):					
Water Table			lo <u>√</u> Depth (ir			l l			
Saturation P			No <u>√</u> Depth (ir				land Hydrology Pr	esent? Yes	No 🗸
(includes cap		res r	vo <u>v</u> Deptii (ii	iches)		_   ••••	ianu riyurology Fi	esent: res	NO
		eam gauge, mo	nitoring well, aerial	photos, pre	evious ins	pections),	, if available:		
Remarks:									
No hydr	ologic field i	ndicators o	hsarvad						
ino riyur	ologic field i	nuicatuis 0	usei veu.						

Project/Site: 161B Spindrift Road	(	City/County	: Carmel F	lighlands/Monte	erey Samplin	ng Date:	10/1/15
Applicant/Owner: Robert Ching				State:C	Samplir	ng Point:	S-11
Investigator(s): L. Zander, M. Zander	(	Section, To	wnship, Ra	nge:			
Landform (hillslope, terrace, etc.): terrace		Local relief	(concave,	convex, none): <u>no</u>	ne	Slope	(%): <u>10</u>
Subregion (LRR): C-Mediterranean California	Lat: 36º	29' 43.07	" N	Long: 121º 56'	18.31" W	Datum:	UTM Z 10N
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to 15				_			
Are climatic / hydrologic conditions on the site typical for this t			,				
Are Vegetation, Soil, or Hydrology sig	-			Normal Circumstar			No
Are Vegetation, Soil, or Hydrology na				eded, explain any			
SUMMARY OF FINDINGS - Attach site map s	howing	samplin	g point l	ocations, trans	sects, impo	rtant feat	ures, etc.
Hydrophytic Vegetation Present? Yes No	<b>√</b>						
Hydric Soil Present? Yes No			e Sampled in a Wetlar		s No	/	
Wetland Hydrology Present? Yes No	✓	With	iii a vvetiai	iur res	S NO	, <del></del>	
Remarks:							
VEGETATION – Use scientific names of plants	e						
		Dominant	Indicator	Dominance Tes	t workshoot:		
		Species?		Number of Domi			
1				That Are OBL, F		0	(A)
2				Total Number of	Dominant		
3				Species Across A		3	(B)
4				Percent of Domir	nant Species		
Sapling/Shrub Stratum (Plot size: 10 ft. dia )		= Total Co	ver	That Are OBL, F		0%_	(A/B)
1. Cortaderia selloana	15	Yes	NL	Prevalence Inde	ex worksheet:		
2. Acacia longifolia		Yes		Total % Cov	er of:	Multiply b	y:
3				OBL species			
4				FACW species	x	(2 =	
5				FAC species	x	3 =	
40 ft die	25	= Total Co	ver	FACU species			
Herb Stratum (Plot size: 10 ft dia )	_	Voc	NII	UPL species		(5 =	
1. Delaria odorata				Column Totals:	( <i>F</i>	4)	(B)
2 3				Prevalence	Index = B/A =	:	
4				Hydrophytic Ve			
5				Dominance	_		
6.				Prevalence I			
7				Morphologic			
8					emarks or on a	•	•
40 (1.1)	5	= Total Co	ver	Problematic	Hydrophytic ve	egetation (E.	xpiain)
Woody Vine Stratum (Plot size: 10 ft dia )				<sup>1</sup> Indicators of hyd	dric soil and we	tland hydrole	nav muet
1				be present, unles			
2		= Total Co	vor	Hydrophytic			
		•		Vegetation			
% Bare Ground in Herb Stratum % Cover of	of Biotic Cr	rust		Present?	Yes	_ No <u>√</u>	
Remarks:							
Pretty open area. Cleared of Acacia recently	/;						

Profile Desc	cription: (Describe to t	he depth need	led to docur	nent the i	ndicator	or confirn	n the absence of in	dicators.)
Depth	Matrix			x Features	S1	. 2		
(inches)	Color (moist)	% Cold	or (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
18"	10 YR 3/2						sandy	
				·				
				<u> </u>				
¹Type: C=C	oncentration, D=Depletion	on RM=Reduc	ed Matrix CS	S=Covered	d or Coate	d Sand G	rains <sup>2</sup> Location	: PL=Pore Lining, M=Matrix.
	Indicators: (Applicable					a oana oi		Problematic Hydric Soils <sup>3</sup> :
Histosol			Sandy Red		,		1 cm Muck	•
l —	pipedon (A2)		Stripped Ma				2 cm Muck	
	istic (A3)		Loamy Muc		l (F1)		Reduced Ve	
	en Sulfide (A4)		Loamy Gley	-				Material (TF2)
	d Layers (A5) (LRR C)		Depleted M	atrix (F3)			Other (Expla	ain in Remarks)
	uck (A9) ( <b>LRR D</b> )		Redox Dark	,	,			
I — ·	d Below Dark Surface (A	.11)	Depleted Da		. ,		3	
	ark Surface (A12)		Redox Dep		-8)		·	drophytic vegetation and
	Mucky Mineral (S1) Gleyed Matrix (S4)		Vernal Pool	s (F9)				ology must be present, bed or problematic.
	Layer (if present):						uniess disturb	bed of problematic.
	Layer (ii present).							
	ches):						Hydric Soil Pres	ent? Yes No ✓
. `	cries).						Hydric Soil Fres	ent? Yes No <u>√</u>
Remarks:								
Mulch lay	yer about 7". Dec	omposed g	ranite at	12"				
<b>HYDROLO</b>	GY							
Wetland Hy	drology Indicators:							
Primary Indi	cators (minimum of one	required; check	all that appl	y)			Secondary	Indicators (2 or more required)
Surface	-	-	Salt Crust				Water	Marks (B1) (Riverine)
	ater Table (A2)		Biotic Crus	` '				ent Deposits (B2) (Riverine)
Saturati			_ Aquatic In		s (B13)			eposits (B3) (Riverine)
	Marks (B1) (Nonriverine)		_ Hydrogen					ge Patterns (B10)
	nt Deposits (B2) (Nonriv					Living Roc		eason Water Table (C2)
	posits (B3) (Nonriverine		Presence		_	-		sh Burrows (C8)
I	Soil Cracks (B6)		Recent Iro					tion Visible on Aerial Imagery (C9)
Inundati	ion Visible on Aerial Ima	gery (B7)	Thin Muck	Surface (	C7)			w Aquitard (D3)
	Stained Leaves (B9)		_ Other (Exp					leutral Test (D5)
Field Obser	vations:							. ,
Surface Wat	ter Present? Yes	No <u></u>	Depth (in	ches):				
Water Table		No ✓						
Saturation P		No <u> </u>					and Hydrology Pre	sent? Yes No✓_
	pillary fringe)	110	Deptil (iii			_   *****	and riyarology i re	3eitt: 163 140
	corded Data (stream ga	uge, monitoring	y well, aerial į	ohotos, pre	evious ins	pections),	if available:	
Remarks:								
No bydr	alogic field indica	tors observ	rod					
No fiyuf	ologic field indica	tors observ	eu.					
1								

Project/Site: 161B Spindrift Road	(	City/County	y: <u>Carmel I</u>	Highlands/Monterey	Sampling Date:	10/1/15	
Applicant/Owner: Robert Ching				State: CA	Sampling Point: _	S-12	
Investigator(s): L. Zander, M. Zander	Section, Township, Range:						
Landform (hillslope, terrace, etc.): <u>terrace</u>		Local relie	f (concave,	convex, none): none	Slop	e (%): <u>10</u>	
Subregion (LRR): <u>C-Mediterranean California</u>							
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to 1				-			
Are climatic / hydrologic conditions on the site typical for this							
Are Vegetation, Soil, or Hydrologys	-			"Normal Circumstances		, No	
Are Vegetation, Soil, or Hydrology n				eeded, explain any ansv			
SUMMARY OF FINDINGS – Attach site map			•		,	atures, etc.	
Hydrophytic Vegetation Present? Yes N					<u> </u>		
Hydric Soil Present? Yes N			ne Sampled		No. /		
Wetland Hydrology Present? Yes N		Witi	nin a Wetlar	id? Yes	No <u>√</u>		
Remarks:		•					
VEGETATION – Use scientific names of plan	te						
VEGETATION – Ose scientific flames of plan		Dominan	t Indicator	Dominance Test wo	rkshoot:		
Tree Stratum (Plot size: 10 ft dia )	% Cover			Number of Dominant			
1. Hesperocyperis macrocarpum	20	Yes	NL	That Are OBL, FACW		(A)	
2				Total Number of Dom	ninant		
3				Species Across All St	trata: <u>3</u>	(B)	
4				Percent of Dominant			
Sapling/Shrub Stratum (Plot size: 10 ft. dia )	20	= Total Co	over	That Are OBL, FACW	/, or FAC:0%	(A/B)	
1. <u>Cortaderia selloana</u>	15	Yes	NL	Prevalence Index we	orksheet:		
2. Acacia longifolia	10	Yes	NL	Total % Cover of	: Multiply	by:	
3				OBL species			
4				FACW species			
5				FAC species			
Herb Stratum (Plot size: 10 ft dia )	25	= Total Co	over	FACU species			
1. Delaria odorata	80	Yes	NL	Column Totals:			
2. Vinca major	10	No	NL				
3. Conium maculatum	5	No	FACW		ex = B/A =		
4				Hydrophytic Vegeta			
5				Dominance Test			
6				Prevalence Index	k is ≤3.0° daptations¹ (Provide s	aupporting	
7					rks or on a separate s		
8		= Total Co		Problematic Hydi	rophytic Vegetation <sup>1</sup> (	(Explain)	
Woody Vine Stratum (Plot size: 10 ft dia )		_ 10tal Ct	ovei				
1				<sup>1</sup> Indicators of hydric s be present, unless dis			
2				be present, unless dis		C.	
		= Total Co	over	Hydrophytic Vegetation			
% Bare Ground in Herb Stratum % Cover	of Biotic C	rust			∕es No <u>v</u>	<u>/</u>	
Remarks:				<u> </u>			

Profile Desc	ription: (Describe	to the depth	needed to docu	nent the i	ndicator	or confirm	the absence of	indicators.)
Depth	Matrix			x Features	4			
(inches)	Color (moist)		Color (moist)	%	Type'	Loc <sup>2</sup>	<u>Texture</u>	Remarks
12"	10 YR 3/2						sandy	
	-							_
	-			- ——				
								_
				- ——				
	oncentration, D=Dep					ed Sand Gr		on: PL=Pore Lining, M=Matrix.
-	ndicators: (Applic	able to all L			ed.)			r Problematic Hydric Soils <sup>3</sup> :
Histosol	` '		Sandy Red					ck (A9) (LRR C)
	pipedon (A2)		Stripped Ma		. (54)			ck (A10) ( <b>LRR B</b> )
Black His			Loamy Muc	-	. ,			Vertic (F18)
	n Sulfide (A4)	<b>C</b> \	Loamy Gley		(FZ)			ent Material (TF2)
	Layers (A5) (LRR ck (A9) (LRR D)	<b>C</b> )	Depleted M Redox Dark	. ,	E6)		Other (Ex	plain in Remarks)
	d Below Dark Surfac	·Δ (Δ11)	Depleted D	,	,			
	ark Surface (A12)	(/(1/)	Redox Dep				3Indicators of	hydrophytic vegetation and
	lucky Mineral (S1)		Vernal Poo		0)			drology must be present,
-	sleyed Matrix (S4)			( )			-	urbed or problematic.
	_ayer (if present):							
Type:								
Depth (inches):							Hydric Soil Pr	resent? Yes No ✓
Remarks:							, uno com i	
Mulch lay	er about 3".(	iranite co	bble within 1	J				
HYDROLO	GY							
Wetland Hyd	drology Indicators	:						
	cators (minimum of		check all that appl	v)			Seconda	ary Indicators (2 or more required)
Surface	•		Salt Crust	•				er Marks (B1) ( <b>Riverine</b> )
	ter Table (A2)		Biotic Crus	` '				iment Deposits (B2) ( <b>Riverine</b> )
Saturation	, ,		Aquatic In		s (B13)			Deposits (B3) (Riverine)
	arks (B1) ( <b>Nonrive</b> i	rina)	Hydrogen					nage Patterns (B10)
	nt Deposits (B2) (No					Living Roo		Season Water Table (C2)
	oosits (B3) ( <b>Nonrive</b>		Presence		_	_		fish Burrows (C8)
	Soil Cracks (B6)	iiiie)	Recent Iro					ration Visible on Aerial Imagery (C9)
	` '	Imagani (P7)				u Solis (Co		
	on Visible on Aerial	illiagery (b7)		,	,			llow Aquitard (D3) -Neutral Test (D5)
	tained Leaves (B9)		Other (Ex	Jiaiii iii Ke	iliaiks)		FAC	-Neutral Test (D5)
Field Observ		/ NI	- / Davidle (in	-1 >				
Surface Water			o <u>√</u> Depth (in					
Water Table			o <u>√</u> Depth (in					,
Saturation Pr		′es N	o <u>✓</u> Depth (in	ches):		Wetla	and Hydrology P	Present? Yes No✓
(includes cap Describe Red	corded Data (strean	n gauge, mon	itoring well, aerial	photos. pr	evious ins	pections).	if available:	
	(2.1.24	5 5-,	<b>3</b> - , <b>2.2.1.4.</b>					
Remarks:								
	alaata Celler I		ا د د سام					
No hydro	ologic field ind	icators of	served.					

Project/Site: 161B Spindrift Road		City/Count	ty: <u>Carmel I</u>	Highlands/Monterey	_ Sampling Date: _	10/1/15
Applicant/Owner: Robert Ching				State: CA	_ Sampling Point: _	S-13
Investigator(s): L. Zander, M. Zander		Section, T	ownship, Ra	nge:		
Landform (hillslope, terrace, etc.): terrace		Local relie	ef (concave,	convex, none): none	Slop	oe (%): <u>10</u>
Subregion (LRR): <u>C-Mediterranean California</u>						
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to				-		
Are climatic / hydrologic conditions on the site typical for th						
Are Vegetation, Soil, or Hydrology	-			"Normal Circumstances		' No
Are Vegetation, Soil, or Hydrology				eeded, explain any ansv		
SUMMARY OF FINDINGS – Attach site map					,	atures, etc.
Hydrophytic Vegetation Present? Yes 1	No ✓					<u> </u>
Hydric Soil Present? Yes !			the Sampled thin a Wetlan		No <u>√</u>	
Wetland Hydrology Present? Yes 1	Vo <u>√</u>	WIL	iiiii a vvetiai	165	140	ı
Remarks:						
VEGETATION – Use scientific names of plan	nts.					
			nt Indicator	Dominance Test wo	rksheet:	
Tree Stratum (Plot size: 10 ft dia )			? Status	Number of Dominant		
1				That Are OBL, FACW	/, or FAC:0	(A)
2				Total Number of Dom		(D)
3 4				Species Across All St	rata: <u>Z</u>	(B)
T				Percent of Dominant That Are OBL, FACW		ζ (Λ/D)
Sapling/Shrub Stratum (Plot size: 10 ft. dia )						<u> </u>
1. Acacia longifolia (seedlings)				Prevalence Index we		
2				Total % Cover of		-
3				OBL species		
4			_	FACW species FAC species		
5	5	= Total C	over	FACU species		
Herb Stratum (Plot size: 10 ft dia )		10(a) 0	OVCI	UPL species		
1. Solanum americanum	50	Yes	NL	Column Totals:		
2. <u>Delaria odorata</u>			NL		5.4	
3. Conium maculatum					ex = B/A =	
4				Hydrophytic Vegeta Dominance Test		
5				Prevalence Index		
6					laptations <sup>1</sup> (Provide	supporting
7 8					ks or on a separate	
0		= Total C		Problematic Hydi	ophytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size: 10 ft dia )						
1				<sup>1</sup> Indicators of hydric s be present, unless dis		
2					starbed or problemat	
		= Total C	over	Hydrophytic Vegetation		
% Bare Ground in Herb Stratum 30	er of Biotic C	rust			'es No	✓
Remarks:				•		

(=		confirm the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist) %	Color (moist) % Type <sup>1</sup>	Loc <sup>2</sup> Texture Remarks
12" 10 YR 3/2		sandy
	· · · · · · · · · · · · · · · · · · ·	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=	Reduced Matrix CS=Covered or Coated	Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all L		Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Sandy Redox (S5)	1 cm Muck (A9) ( <b>LRR C</b> )
Histic Epipedon (A2)	Stripped Matrix (S6)	2 cm Muck (A10) ( <b>LRR B</b> )
Black Histic (A3)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Red Parent Material (TF2)
Stratified Layers (A5) (LRR C)	Depleted Matrix (F3)	Other (Explain in Remarks)
1 cm Muck (A9) ( <b>LRR D</b> )	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	3
Thick Dark Surface (A12)	Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Vernal Pools (F9)	wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if present):		unless disturbed of problematic.
Type:		
Depth (inches):		Hydric Soil Present? Yes No _ ✓
		nyuric son Fresent? Tes No
Remarks:		
Mulch layer about 5". Granite co	obble at 12"	
Mulch layer about 5". Granite co	obble at 12"	
Mulch layer about 5". Granite co	obble at 12"	
Mulch layer about 5". Granite co	obble at 12"	
·	obble at 12"	
HYDROLOGY		Secondary Indicators (2 or more required)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required	; check all that apply)	
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)	check all that apply) Salt Crust (B11)	Water Marks (B1) (Riverine)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)	check all that apply)  Salt Crust (B11)  Biotic Crust (B12)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)	check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13)	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>Drift Deposits (B3) (Riverine)</li> </ul>
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)	check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)	check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv	<ul> <li>Water Marks (B1) (Riverine)</li> <li>Sediment Deposits (B2) (Riverine)</li> <li>Drift Deposits (B3) (Riverine)</li> <li>Drainage Patterns (B10)</li> </ul>
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)	check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)	check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liven Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)	check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liven Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7	check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Liv Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soils (C6) Saturation Visible on Aerial Imagery (C9)
HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1) (Nonriverine)  Sediment Deposits (B2) (Nonriverine)  Drift Deposits (B3) (Nonriverine)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7  Water-Stained Leaves (B9)  Field Observations:	check all that apply)  Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Live Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled State of Thin Muck Surface (C7) Other (Explain in Remarks)	Water Marks (B1) (Riverine) Sediment Deposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Soils (C6) Saturation Visible on Aerial Imagery (C9) Shallow Aquitard (D3) FAC-Neutral Test (D5)
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Project/Site: 161B Spindrift Road		City/County	y: <u>Carmel I</u>	Highlands/Monterey	Sampling Date:	10/1/15
Applicant/Owner: Robert Ching				State: CA	Sampling Point: _	S-14
Investigator(s): L. Zander, M. Zander		Section, To	ownship, Ra	nge:		
Landform (hillslope, terrace, etc.): terrace		Local relie	ef (concave,	convex, none): none	Slop	oe (%): <u>10</u>
Subregion (LRR): <u>C-Mediterranean California</u>						
Soil Map Unit Name: Santa Ynez fine sandy loam 9 to				-		
Are climatic / hydrologic conditions on the site typical for th						
Are Vegetation, Soil, or Hydrology	-			'Normal Circumstances		' No
Are Vegetation, Soil, or Hydrology				eeded, explain any ansv		
SUMMARY OF FINDINGS – Attach site map					,	atures, etc.
Hydrophytic Vegetation Present? Yes _ ✓ _ 1	No	lo ti	he Sampled	I Aroo		
Hydric Soil Present? Yes 1			hin a Wetlaı		No <u></u> ✓	
Wetland Hydrology Present? Yes 1	Vo <u>√</u>		Tim a Would		110	
Remarks:						
VEGETATION – Use scientific names of plan	nts.					
To Obstance (Districts 10 ft die			t Indicator	Dominance Test wo	rksheet:	
Tree Stratum (Plot size: 10 ft dia )	% Cover			Number of Dominant That Are OBL, FACW		(A)
1				That Are OBL, I ACV	7, 01 FAC	(A)
3.				Total Number of Dom Species Across All S		(B)
4.						(D)
		= Total Co		Percent of Dominant That Are OBL, FACW		% (A/B)
Sapling/Shrub Stratum (Plot size: 10 ft. dia )						(,,,,)
1. Toxicodendrom diversilobum				Prevalence Index w		. In
2. Rubus ursinus			FAC	Total % Cover of		-
3				OBL species		
4				FAC species		
5	20	= Total Co	over	FACU species		
Herb Stratum (Plot size: 10 ft dia )		_ rotar o	0101	UPL species		
1. Conium maculatum		Yes	FACW	Column Totals:		
2. <u>Solanum americanum</u>			FACU		5.4	
3. <u>Delaria odorata</u>					ex = B/A =	
4				Hydrophytic Vegeta  ✓ Dominance Test		
5				Prevalence Inde:		
6					daptations <sup>1</sup> (Provide :	supporting
7 8					rks or on a separate	
0		= Total Co		Problematic Hyd	rophytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size: 10 ft dia )		_ rotar o	0101			
1				<sup>1</sup> Indicators of hydric s be present, unless di		
2				, ,	starbed or problemat	
		= Total Co	over	Hydrophytic Vegetation		
% Bare Ground in Herb Stratum % Cove	er of Biotic C	rust			res <u>√</u> No	
Remarks:						

Depth	cription: (Describe Matrix			x Features						
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks		
12"	10 YR 3/2						sandy			
							<u> </u>			
¹Type: C=C	concentration D=De	nletion RM:	=Reduced Matrix, CS	S=Covered (	or Coate	d Sand G	rains <sup>2</sup> l ocat	tion: PL=Pore Lining, M=Matrix.		
			LRRs, unless othe			a cana c		or Problematic Hydric Soils <sup>3</sup> :		
Histosol			Sandy Red		,			ck (A9) ( <b>LRR C</b> )		
	pipedon (A2)		Stripped Ma					ck (A10) ( <b>LRR B</b> )		
	Black Histic (A3) Loamy Mucky Mineral (F1)							Vertic (F18)		
Hydroge	Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)							ent Material (TF2)		
Stratifie	d Layers (A5) (LRR	C)	Depleted M	atrix (F3)			Other (E	xplain in Remarks)		
	uck (A9) ( <b>LRR D</b> )		Redox Dark	,	,					
	d Below Dark Surfa	ce (A11)	Depleted D		. ,		2			
	ark Surface (A12)		Redox Dep		3)			hydrophytic vegetation and		
Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4)							-	drology must be present,		
	Layer (if present):						uniess disi	turbed or problematic.		
Type:							Undria Cail D	recent? Ves No /		
Depth (inches):							Hydric Soil P	resent? Yes No		
Remarks:										
Mulch lav	yer about 5".(	Granite c	obble at 12"							
	,		0.0.0.0 0.0 ==							
HYDROLO	GY									
Wetland Hy	drology Indicators	:								
Primary Indi	cators (minimum of	one required	d; check all that appl	y)			Second	ary Indicators (2 or more required)		
Surface	Water (A1)		Salt Crust	(B11)			Wa	ter Marks (B1) ( <b>Riverine</b> )		
High Wa	ater Table (A2)		Biotic Crus	st (B12)			Sediment Deposits (B2) ( <b>Riverine</b> )			
Saturati			Aquatic In	vertebrates	(B13)		Drift Deposits (B3) (Riverine)			
Water M	Marks (B1) (Nonrive	rine)	Hydrogen	Sulfide Odd	or (C1)		Dra	inage Patterns (B10)		
Sedime	nt Deposits (B2) (No	onriverine)	Oxidized F	Rhizosphere	s along	Living Roo	ots (C3) Dry	-Season Water Table (C2)		
Drift De	posits (B3) (Nonrive	erine)	Presence	of Reduced	Iron (C4	.)	Cra	yfish Burrows (C8)		
Surface	Soil Cracks (B6)		Recent Iro	n Reduction	n in Tilled	Soils (C	6) Sat	uration Visible on Aerial Imagery (C9)		
Inundati	ion Visible on Aerial	Imagery (B	7) Thin Muck	Surface (C	7)		Sha	allow Aquitard (D3)		
Water-S	Stained Leaves (B9)		Other (Exp	olain in Rem	narks)		FA0	C-Neutral Test (D5)		
Field Obser	rvations:									
Surface Wat	ter Present?	Yes	No <u>√</u> Depth (in	ches):						
Water Table			No <u>✓</u> Depth (in							
Saturation P			No <u>✓</u> Depth (in				and Hydrology	Present? Yes No _✓_		
	pillary fringe)		TVO Deptil (iii	CI1C3)		_   ""	and riyarology	103cm: 103 <u> </u>		
		m gauge, mo	onitoring well, aerial	photos, prev	ious ins	pections),	if available:			
Remarks:										
Remarks:	rologic field ind	licators o	hserved							
Remarks:	ologic field ind	licators o	bserved.							
Remarks:	ologic field ind	licators o	bserved.							

46150296

# THOMPSON WILDLAND MANAGEMENT

Environmental Management & Conservation Services

International Society of Arboriculture Certified Arborist # WE-7468A

Department of Pesticide Regulation Qualified Applicator Lic. #QL50949 B

Arborist & Environmental 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

August 11, 2015

Ching Property Spindrift Road Carmel Highlands, CA APN: 241-191-005

Subject: Tree protection recommendations for Ching property well drilling operations

Dear Ms. Hannas.

Based on the small footprint and location of the proposed well boring hole, impacts to the two nearby mature Monterey Cypress trees (identified by tag #s 820 & 821) should be inconsequential. The following tree protection and preservation measures should be implemented prior to and during well drilling operations. It should be noted that any other trees adjacent or within the project area that have the potential of being impacted by project operations will be clearly delineated and protected by the installation of high visibility exclusionary fencing:

- 1) The proposed boring hole is located equidistant between the two subject cypress trees toward the outer portion of the their canopy dripline (i.e., the critical root zone area). Install high visibility exclusionary fencing to protect as much of the critical root zone area as possible from disturbance associated with well drilling operations, or at a minimum install 2"x4" construction lumber (8-10 feet height) secured to the two nearby cypress trees with high visibility exclusionary fencing.
- 2) The drill rig pad will consist of fabric mesh between the base rock and native soil. Light grading performed in preparation for the mesh and base rock application shall be shallow and performed with care to avoid damaging primary lateral roots near the surface. Native top soil shall be stockpiled separately and placed back over the disturbed drill site upon removal of the base rock and fabric mesh. In preparation for the wet season disturbed soils shall be protected with 3-5 inches of woodchip mulch to stabilize exposed soils and to prevent erosion problems.



September 1, 2016

To: Tina Hannas-De Freitas Permit Coordinator 831.620.0622

RE: Robert Ching Property, Biological Resource Analysis for Well Site APN 241-191-005
161-B Sprindrift Road, Carmel Highlands, CA

Dear Tina,

Per your request for biological consultation, I conducted a biological resource site analysis of the proposed well site for the Robert Ching parcel in the Carmel Highlands. I have also reviewed the Wetlands Assessment report (Zander Associates, June 2016) and the Erosion Control and Grading Restoration Plan (C3 Engineering, May 2016).

The analysis included a general survey of the well site including plant and wildlife surveys. The proposed well drilling access and well location were analyzed for impacts to existing resources on site.

Please contact me with any questions or comments. Thank you.

Sincerely,

A121-

Fred Ballerini

#### 1. Objective

This biological resource assessment has been prepared to provide information regarding existing habitats, plant and wildlife species, and potential impacts to biological resources resulting from the proposed well drilling activities found on the subject property located at 161-B Spindrift Road in Carmel Highlands (APN 241-191-005). Multiple site visits were conducted over the course of several years starting in July 2014 including Spring (2015) observations to observe for any potential spring-sensitive species.

#### 2. Existing Conditions

The parcel supporting the well site location is located at 161-B Spindrift Road in Carmel Highlands at the southern delineation of the Monterey Quadrangle. The proposed well location is situated within a biologically degraded area within a northwestern section of the parcel east of Spindrift Road. Recent historical management of the vacant lot has included periodic fire management clearance, documented as occurring in the years 2002, 2008, and 2012. Wood mulch chips from clearance activities were broadcast on site and plant species dominated by exotic, invasive species have reestablished. Mixed native habitats surround the parcel including coastal scrub, Monterey cypress forest, and Monterey pine forest. The Ching site vegetation has been disturbed from past impacts and the plant community is predominately exotic, invasive species with several native perennial and forb species present. The topography of the parcel is a flat terrace sloping westward toward the Pacific Ocean located approximately 300' west. The topography east and uphill of the lot indicates the subject parcel is a main drainage corridor from the upland watershed above Hwy 1. A road culvert capturing Spindrift Road runoff, draining directly to the Pacific Ocean, is located approximately 180-feet south of the proposed well site and a second culvert is located approximately 80-feet northwest of the proposed well site that captures upland drainage from off the parcel and likely from a Hwy 1 drainage culvert located to the east. A wetlands assessment was conducted in October 2015 by Zander Associates Environmental Consultants with findings documented in a June 15, 2016 Wetlands Assessment report. Findings of the wetlands assessment indicate a dominant non-native. invasive hydrophytic species (Conium maculatum) occurring in the southeastern portion of the parcel, though these areas lack hydric soils and wetland hydrology as also documented in the findings.

### 3. Plant and Wildlife Species

The existing vegetation within the impact area of the proposed well site and throughout the parcel consists of mostly perennial exotic species including several listed by the California Invasive Plant Council as having adverse impacts to native ecosystems. The dominant species observed within the well impact location and throughout the parcel include golden wattle (*Acacia longifolia*), poison hemlock (*Conium maculatum*), cape ivy (*Delairea odorata*), pampas grass (*Cortaderia selloana*), veldt grass (*Erharta erecta*) and periwinkle (*Vinca major*). Co-dominant invasive species are spread throughout the site including field mustard (*Brassica rapa*), Hottentot fig (*Carpobrotus edulis*), watsonia (*Watsonia sp.*), ripgut brome (*Bromus diandrus*), wild radish (*Raphanus sativus*), Italian thistle (*Carduus pycnocephalus*), Bristly ox-tongue (*Helminthotheca echioides*), French broom (*Genista monspessulana*) and others.

Sparse native plants including poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), and California hedge nettle (*Stachys bullata*) are found scattered in mixed groupings throughout the parcel. Several other native scrub plants are found isolated in various

locations, mostly along the western and southern areas including coffeeberry (*Rhamnus californica*) and wild cucumber (*Marah fabaceus*). Monterey Cypress (*Hesperocyparis macrocarpa*), a recognized rare tree species by the California Native Plant Society, of varying ages (seedlings to < 40 year old specimens) are found interspersed throughout the parcel with a grouping of the larger specimens located 100-feet (+) west of proposed well site. A large Monterey pine (*Pinus radiata*) is located approximately 80-feet upland (east) from the proposed well site.

The wildlife species analysis included surveys for several special-status wildlife species occurring within the vicinity of the United States Geological Survey Monterey 7.5' quadrangle, none were observed and the lack of native plant communities provides low habitat potential for the majority of the listed species. Observations were made for potential nesting or sensitive species. Bird species documented near the site included stellar jay (*Cyanocitta stelleri*), darkeyed junco (*Junco hyemalis*), chestnut-backed chickadee (*Parus ruflescens*), and pygmy nuthatch (*Sitta pygmaeapygmy*). Pocket gopher (*Thomomys bottae*) mounds are pervasive throughout the parcel.

#### 4. Special-Status Species

There were no individual State or Federally Listed plants or wildlife identified on the site at the time of the survey. The California Natural Diversity Data Base (CNDDB) maintained by the State of California Depart of Fish and Game (DFG) reports several special-status native plant and wildlife species occurring within the vicinity of the property within the Monterey Quadrangle, however I found no evidence of any state or federally-listed native plant or wildlife species, likely in cause due to the degraded nature habitat as the site is overrun with exotic species. No nesting behavior or occurrences were observed within a 100' radius of the proposed well site.

Monterey pine (*Pinus radiata*), Monterey cypress (*Hesperocyparis macrocarpa*) and Monterey Cypress Forest are endemic to Monterey County and are listed as sensitive elements for the Monterey quadrangle. Several established Monterey cypress trees and one Monterey pine are aligned outside of the proposed impact areas. Monterey cypress are List 1B.2 (Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere) of the California Native Plant Society Inventory of Rare, Threatened, and Endangered Plants of California, 8<sup>th</sup> Edition, 2010. List 1B.2 plants are rare throughout their range with the majority endemic to California.

Apart from the above listed sensitive elements, no Federal or State listed Rare or Endangered species were observed on the property. Observations for spring-flowering taxa were conducted during a Spring Survey during an April 20, 2015 site visit.

#### 5. Potential Impacts and Recommendations

The potential impacts to significant biological resources on and surrounding the well plot were evaluated based on the field investigations and conversations with project team members.

No adverse or incidental impacts from the proposed well installation should occur within any of the habitat zones, off-site areas, or to the wildlife if control measures are put in place and maintained during installation. The proposed well location lies beyond the 100' setback from the edge of any coastal wetland, marine habitat, or natural vegetation designated as environmentally sensitive habitat. The proposed well installation and associated access/staging requirements on a portion of APN 241-191-005 will have a less than significant impact on the

parcel. The proposed construction improvements should not result in direct impacts to existing sensitive individual Monterey cypress or Monterey Pine or waterways located within and directly adjacent to the subject parcel if control measures are installed and maintained as specified in the C3 Engineering 'Erosion Control and Grading Restoration Plan, May, 29, 2016. The proposed well-installation impact areas are located in areas that are overwhelmed by invasive species.

A. In order to protect and retain off-site habitat values, with special regard to the coastal habitat within the Marine Bay National Marine Sanctuary, the well drilling process should be carried out with the following work schedule:

- 1. Install tree protection measures around trees near impact and staging zones and install protection fencing at western edge of wetland zone.
- 2. Clear invasive acacia, pampas grass and other exotic vegetaion to accommodate access for the drilling rig and baker spoil receptor tanks.
- 3. Install erosion & sediment control devices.
- 4. Mobilize drilling and excavation equipment into project location.
- 5. Drill well and deposit well spoils (approximately 7 to 8 cubic yards) into staged baker tanks.
- 6. Spoils to be pumped from baker tanks and hauled off site as tanks become filled.
- 7. There is a road culvert 180-feet directly southwest and downslope of the proposed well location. This culvert flows unimpeded to the Pacific Ocean, 300-feet to the west into the Monterey Bay National Marine Sanctuary. ALL SPOILS AND FLUIDS ARE TO REMAIN ON SITE AND NOT ALLOWED TO DISCHARGE OFF THE PARCEL OR INTO THE STORM DRAIN ON SPINDRIFT ROAD.
- 8. Remove baker tanks, fiber rolls, and tree protection measures. All exposed soils can be mulched with the sterile rice straw or wood mulching at a 2" minimum depth.
- B. The following Best Management Practices (BMP's) should be incorporated and installed prior to and maintained during the well-drilling activities:
  - a. Tree and wetland protection measures should be installed prior to equipment mobilization. To prevent inadvertent damage by construction equipment, tree protection measures should include wrapping of trunks with protective materials. Soil compaction, parking of vehicles or heavy equipment, stockpiling of excavation materials, and/or dumping of tailings should not be allowed immediately adjacent to the trunks or within the critical root zones of protected Monterey cypress or Monterey pine trees. All tree and wetland protection measures should remain in place until all well-drilling activities are complete.
  - b. Fiber rolls should be installed per the Erosion and Grading Restoration Plan to prohibit any well-tailings from migrating off site.
  - c. The parcel should be mowed annually until any future development occurs that would eliminate the continued unabated expanse of exotic species. Left unchecked, the invasive species that dominate the site can invade neighboring parcels and eventually migrate to native ecosystems beyond the borders of the parcel.

### 6. Photo Documentation

Proposed well site access point, (facing east). Monterey cypress trees adjacent to the access point shall be protected with prescribed Tree Protection Measures. 9/1/2016



P.O. Box 1023

EMAIL: fred@fredballerini.com

Proposed well site location, facing east from access point, showing the large Monterey pine in background and mixed invasive species in the foreground. 9/1/2016



Spindrift Road culvert approximately 180' southwest of proposed well location. 8/6/2014



**FRED BALLERINI** PACIFIC GROVE, CA 93950

P.O. Box 1023



P.O. Box 1023 PACII

PHONE/FAX: 831-333-9009

General biological condition of the parcel in the well site location showing an overwhelming inundation of invasive species including reprouting acacia trees in the background, exotic watsonia in the foreground and periwinkle groundcover with native poison oak in the center of the cleared area.



<u>END</u>

P.O. Box 1023 PHONE/FAX: 831-333-9009 EMAIL: fred@fredballerini.com

# THOMPSON WILDLAND MANAGEMENT

Environmental Management & Conservation Services
International Society of Arboriculture Certified Arborist # WE-7468A
Department of Pesticide Regulation Qualified Applicator Lic. #QL50949 B
Arborist & Environmental 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

September 20, 2016

Ching Property Spindrift Road Carmel Highlands, CA APN: 241-191-005

Subject: Tree protection for Ching property well boring operations

Dear Ms. Hannas,

Per the revised project site plans, the new location of the well boring hole will not disturb or adversely affect the critical root zones of native and protected Monterey Pine and Monterey Cypress trees located on the Ching property. High visibility exclusionary fencing will be installed to clearly delineate and define the project area, which will assist in preventing unnecessary encroachment and disturbance to sensitive root zone areas and areas outside of the project footprint. More specifically, exclusionary fencing and resource protection measures (e.g., silt fence sedimentation control measure) will avert impacts to adjacent wetland designated sites (refer to biotic report prepared by Fred Ballerini) and prevent encroachment into the critical root zone of nearby protected tree species.

Additionally, in preparation for the proposed well boring project non-native invasive plant species occurring on the property (e.g., dense stands of exotic Acacia and Jubata Grass) will be mowed and cleared from the property. Post-mowing control and management of noxious weed populations will be performed on an as needed basis to prevent re-establishment of non-native invasive weed populations that degrade habitat and increase hazardous wildland fire fuel loads.

Thank you and please let me know if you have any questions or need additional information.						
Best regards,						
Rob Thompson ISA Certified Arborist # WE-7468A Resource Ecologist	Date					
Thompson Wildland Management (TWM) 57 Via Del Rey Monterey, CA. 93940 Office (831) 372-3796; Cell (831) 277-1419; Fax (831) 655-3585 Email: <a href="mailto:thompsonwrm@gmail.com">thompsonwrm@gmail.com</a> Website: <a href="mailto:www.wildlandmanagement.com">www.wildlandmanagement.com</a>						

**Environmental Consultants** 

telephone: (415) 897-8781 fax: (415) 814-4125

May 18, 2017

Tina Hannas-De Freitas Permit Coordinator 37748 Palo Colorado, Rd Carmel, CA 93923

Preliminary Wetland Assessment Ching Property, Carmel Highlands

Dear Tina:

In October 2015, Zander Associates conducted a preliminary wetlands assessment of the 1.3-acre Ching property at 161B Spindrift Road in Carmel Highlands. The purpose of our visit was to evaluate the nature and extent of any areas on the site that could be considered wetlands (a subset of waters of the United States) as defined by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act or the California Coastal Commission under the California Coastal Act.

The Corps defines the term "wetlands" as follows:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. (33 CFR 328.3).

The Corps has provided standard methods, procedures and data reporting forms for wetland delineation in its *U.S. Army Corps of Engineers Wetlands Delineation Manual* ("Corps Manual"; Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* ("Arid West Supplement"; Corps 2008). Three parameters are typically used by the Corps to determine the presence of wetlands. They are: (1) hydrophytic vegetation, (2) wetland hydrology, and (3) hydric soils. According to the Corps Manual:

...evidence of a minimum of one positive wetland indicator from each parameter (hydrology, soil, and vegetation) must be found in order to make a positive wetland delineation.

The Coastal Act defines wetlands as follows:

Wetland means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, or fens.

Zander Associates

Furthermore, the California Coastal Commission Administrative Regulations (Section 13577 [b]) provide the following definition:

Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats.

There are no manuals published by the Coastal Commission on the procedures used to determine wetland boundaries using this definition. However, the Corps Manual referenced above contains guidance on the use of the U.S. Fish and Wildlife Service national wetland plant lists, the use of hydric soil maps and hydric soil indicators, and descriptions of hydrologic methods to determine wetland hydrology. While the Corps Manual states that jurisdictional wetlands occur where all three criteria (hydrophytic vegetation, wetland hydrology, and hydric soils) are met, the Coastal Commission administrative definition cited above expresses that wetlands occur where hydrology is sufficient to support either hydrophytic vegetation or hydric soils, or both. In the absence of specific objective evidence regarding hydrologic conditions (e.g. shallow monitoring wells), the prevalence of hydrophytic vegetation or presence of hydric soils ("one parameter approach") is often used to define Coastal Act wetlands.

As another component of waters of the United States, streams (and, in many cases, associated wetlands and riparian areas) are also considered in wetland delineations. According to California Coastal Commission statewide interpretive guidelines (CCC 1981),

A stream or river is a natural watercourse as designated by a solid line or dash and three dots symbol shown on the United States Geological Survey map most recently published, or any well-defined channel with distinguishable bed and bank that shows evidence of having contained flowing water as indicated by scour or deposit of rock, sand, gravel, soil, or debris.

The cross-sectional limits of a stream (exclusive of adjacent wetlands or riparian habitat) typically extend to the ordinary high water mark (OHW), which has been defined as follows:

The term "ordinary high water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses on the bank, shelving, changes in the characteristics of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

(Federal Register Vol. 51, No. 219, Part 328.3 (d). November 13, 1986).

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Against this background, and drawing on our breadth of experience conducting wetland assessments within the coastal areas of Monterey County, we visited the Ching property on October 1, 2015, to evaluate the nature and extent of hydrologic, soils and vegetation characteristics that could be indicators of waters of the United States or wetlands. We walked over the entire 1.3-acre site to check for hydrophytes (moisture tolerant plants), obvious signs of flow lines, scour, ponding or saturation, and other surficial wetland indicators. We dug 14 soil pits to depths of 12 inches or more at scattered locations over the site to look for signs of anaerobic conditions (e.g. indications of oxygen reduction [redoximorphic] conditions, gleyed or depleted matrix conditions, a hydrogen sulfide [rotten egg] odor, or high organic matter content). And we recorded our observations of soils, hydrology and vegetation at each of those 14 sites on standardized wetland determination data sheets (Arid West Region).

We identified a drainage along the northerly boundary of the property that appeared to carry seasonal runoff onto the site from a culvert under Highway 1 to the east. However, the drainage was completely dry at the time of our site visit and did not support any wetland or riparian habitat. We observed a predominant patch of poison hemlock (*Conium maculatum*) concentrated along the eastern and southerly boundaries of the site, but did not find other wetland indicators elsewhere on the site.<sup>3</sup> We located a second culvert under Hwy 1, buried in native California blackberry (*Rubus ursinus*) southeast of the site, but did not observe any flow or indications that a flowline had been established between that culvert and the site (e.g. channel scour, vegetation patterns).

The Ching property had been heavily disturbed at the time of our visit as a result of brush clearing, deposition of chipping waste and other disturbance over time. Under a sparse to moderate canopy of Monterey cypress (*Hesperocyparis macrocarpa*), most of the understory vegetative cover on the site consisted of ruderal, non-native species like golden wattle (*Acacia longifolia*), periwinkle (*Vinca major*), pampas grass (*Cortaderia selloana*) and the aforementioned poison hemlock. Scattered natives like California blackberry, poison oak (*Toxicodendron diversilobum*) and California coffeeberry (*Frangula californica*) were also represented. Nowhere on the site, including in the seasonal drainage course along the northern boundary, did we find any obligate wetland (or even typical riparian) plant species that would indicate saturated conditions, seepage, ponding or other wetland characteristics.

Because the Coastal Act definition of wetlands allows for the "one parameter approach" as noted above, and because poison hemlock is considered a facultative wetland plant, we decided to map the area where it was the predominant vegetative cover on the site. Although we did not consider that this area met the technical definition of a wetland (all 14 of our data sheets, including those in the hemlock area, concluded that there were not wetlands present), we took a very conservative approach in our mapping for well siting purposes. We labelled the mapped

<sup>&</sup>lt;sup>1</sup> We also looked off site to find culverts to the east of the site that directed storm flow under Hwy 1.

<sup>&</sup>lt;sup>2</sup> According to the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS), "A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part."

<sup>&</sup>lt;sup>3</sup> Poison hemlock is an invasive non-native plant that colonizes disturbed sites. Nonetheless, it is considered a facultative wetland species (usually found in wetlands 67-99%).

Zander Associates

area as "Area with Dominant Facultative and Facultative Wetland Plants" but did not identify it as a wetland, consistent with the determinations in our attached data sheets.

We submitted the map and data sheets to you in November 2015, to assist you with siting and drilling a well on the property. We believed that the mapping and data we provided established the most conservative assessment for that purpose. While we did not identify wetlands on the site *per se*, we mapped the prevalence of hydrophytic vegetation (by definition) to address the Coastal Act one parameter approach.

October 2015 was near the end of several years of low rainfall. In wetter years (such as the 2016-17 winter just passed), the culverts under Hwy 1 to the east of the Ching property could exhibit more pronounced flow characteristics. The seasonal drainage on the northerly boundary of the site could flow longer into the spring and early summer season. Seasonal flows from the culvert to the southeast could find their way along the southerly property boundary to Spindrift Road (where there is a roadside ditch and culverts draining to the west). However, we do not expect such changes in seasonal hydrology to significantly affect our determination; wetland indicators are typically developed over long periods of time and we would expect to have observed at least some remnants of them, even in a drought.

While the history of disturbance on the site has obscured its "normal" vegetative signature, hydrophytic vegetation can be very persistent when soils and hydrologic conditions are right. At least some hardy remnant wetland plants (e.g. willows, rushes, sedges) would be expected to recover or at least present a few scattered representatives in the face of surface disturbance (assuming grading and fill material were not involved). As noted above, the only prevalent "hydrophyte" we observed was poison hemlock, an aggressive colonizer of disturbed sites whether they are wet or not. The native vegetation attempting to recolonize the disturbed areas of the site consists of upland species like coffeeberry and poison oak.

In October 2015, we observed and documented a seasonal drainage course and an area dominated by a facultative wetland plant on the Ching property. We did not observe any functional wetland habitat on the site in October 2015, and do not believe our determination would substantially change with another assessment now.

Please contact me by email (<u>mzander@zanderassociates.com</u>) or telephone (415 897-8781) if you have any questions.

Sincerely,

Michael Zander Principal



May 9, 2017

To: Tina Hannas-De Freitas Permit Coordinator 831.620.0622

RE: Robert Ching Property, Biological Resource Response Letter
APN 241-191-005
161-B Sprindrift Road, Carmel Highlands, CA

Dear Tina,

Per your request, I have reviewed the April 27, 2017 Notice of Appeal documentation submitted by the Highlands Covenants Group (represented by Pam Silkwood, Esq.).

In response to several biological resource issues that are listed in the appeal, I would like to respond to several of the items as they pertain to my analysis.

#### Item B. Incomplete and Flawed Wetland Delineation

I will defer to Zander Associates to fully respond to this issue as their company completed the Wetland Delineation field study. My biological field study did not observe any saturated soils or native wetland obligate or indicator species in the area that is being disputed as a delineated wetland. The presence of exotic, invasive poison hemlock (*Conium maculatum*) alone does not warrant wetland delineation. This species was observed on the parcel and likely resulting from disturbed soils originating from the adjacent parcel uphill to the east of the subject property. This exotic biennial species, though listed as an indicator facultative wetland (FACW) plant, likely occurs on the subject site due to the invasive quality from its seed on disturbed soils<sup>1</sup> that originally emerged from the neighboring parcel. Poison hemlock is a highly invasive species that is pervasive along the coast in sites that have experienced vegetation clearance or

<sup>1</sup> Bossard, Randall, Hoschovsky, editors. 2000. Invasive Plants of California's Wildlands. P.p. 121 "Poison hemlock can spread quickly after the rainy season in areas that have been cleared or disturbed".

disturbed soils. Germination of this species can occur in most months throughout the year<sup>2</sup>. Lastly, as noted in the Appeals biological assessment submittal authored by Jeffrey Froke (April 2017, p.p 12), "The presence alone of Poison Hemlock (FACW) does not confirm wetland."

#### Item C. Failed to Meet Setback from Riparian Habitat/Woodland

The Appeal document and Froke biological assessment classify the northern waterway corridor as a stream and the vegetation in the subject area as Riparian Woodland. This waterway corridor exhibits no evidence that it functions as a perennial stream and there are no native plant constituents to support this vegetation classification. It appears this drainage corridor is entirely artificial and is sourced from road runoff emanating from a Highway 1 drainage culvert east of the parcel. The drainage corridor lies mostly under a canopy of established Monterey cypress with an understory dominated by exotic, invasive periwinkle (*Vinca major*) and Cape ivy (*Delairea odorata*). It is important to note the northern drainage corridor is not a perennial waterway as there is currently no overland flow within the incised corridor (especially noteworthy after experiencing a record rainfall year). The corridor is more clearly classified as an intermittent drainage, therefore not subject to 150-foot setback buffer zone as defined by Carmel Use Plan Specific Policy 2.3.4.1 (under the heading *Riparian Corridors and Other Terrestrial Wildlife Habitats*) stating:

Riparian plant communities shall be protected by establishing setbacks consisting of a 150-foot open space buffer zone on each side of the bank of perennial streams and **50 feet on each side of the bank of intermittent streams** or the extent of riparian vegetation, whichever is greater.

Intermittent flows through the northern corridor likely occur during rain events where the culvert is utilized from Hwy 1 road runoff. During a brief site visit on May 8, 2017 while walking the drainage corridor, it was noted that with the exception of two small pools (roughly 2'x2') at the head of the Sprindrift Road culvert of the subject drainage corridor, the corridor channel is dry. There were no channel flows, standing pools, or saturated soils within in the incised channel along the northern boundary of the property. The two noted pools at the head of the north Spindrift culvert are likely the aquatic habitat referred to in the Jeffrey Froke biological report developed for Pam Silkwood, Esq.(April 2017, p.p. 11). This area was dry during spring site observations conducted in 2015 and 2016.

The observed drainage corridor along the north property occurs within approximately 60' of the proposed well-drilling location and recommendations have been incorporated into the project to protect resources outside the proposed impact areas for the well and septic development which occur in previously disturbed and impacted areas that contain predominately exotic, invasive species.

With the implementation of the recommendations previously outlined in the Biological Analysis (Ballerini, 9/1/2016), the project would have a less than significant foreseeable impact on sensitive elements or special natural communities, plants, and animals protected by local, state, or federal regulations. By implementing protection measures and restoration practices, the project should enhance the remnant habitats found on the parcel through long-term management and exotic species control.

Roberts, H.A. 1979. Periodicity of seedling emergence and seed survival in some Umbelliferae. J. of Applied Ecology. 16:195-201. "The combination of long seed dispersal period, seed dormancy, and non-specific germination requirements enable poison hemlock seedlings to emerge in almost every month of the year".

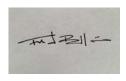
## Item D. Species of Special Concern Identified on the Property

The biological assessment report generated by Jeffrey Froke notes on April 11, 2017 the observation of at least two breeding pairs of Yellow Warbler (Setophaga petechia), a species of special concern. It would be highly unlikely to find nesting occurrences of this species on the subject parcel and observations of this species were likely from the species taking a brief, temporary refuge on site while en route to a major riparian corridor during it's annual spring migration. As noted by Don Roberson, local ornithologist and author of Atlas of the Breeding Birds of Monterey County California, observations of Yellow Warbler in the month of April are suspect as during the spring migration, birds can be singing but it is difficult to determine from those that will remain to nest or continue migration. The yellow warbler is a broadleaf riparianobligate species requiring riparian forests dominated by cottonwood and sycamore as well as dense willow thicket and generally major riparian corridors<sup>3</sup>, all of which do not occur on site. This species seems to require hot summer days and is absent from the oft-damp fog-shrouded willow stands along the coast, further reasserting that the observations made by Froke were likely of the species moving through the site and not nesting. No observations of this species were noted from previous spring surveys conducted in 2015 and 2016 and it would be extremely unlikely that any nesting occurrences are taking place on site this year for the reasons described above as their nesting habitat does not occur on the subject parcel. The potential exists for other sensitive migratory or raptor species to nest on site and any proposed welldrilling work or other construction implementation is recommended to take place during nonnesting season (August - March). If work is proposed during nesting season then nesting surveys would be required at the appropriate nesting times to determine the presence or absence of such species with follow up protocols to protect nesting activities.

The biological assessment report generated by Jeffrey Froke also notes the presence of the Coast Range Newt (*Taricha torosa*) along the northern waterway corridor adjacent to the property. My field observations in the spring of 2015 and 2016 did not include off-property inspections and no newts were noted on the north drainage corridor that crosses into the property, though conditions were extremely dry the past several years and not favorable for this coastal newt species. The northern drainage corridor lies outside of the proposed work area and with adequate habitat protection measures and sediment/erosion control measures that are currently integrated into the project implementation guidelines, in addition to the proposed baker tanks to contain the well spoils, there should be no adverse impacts to the corridor area or its habitat constituents.

Thank you for the opportunity to respond to several of the Appeal issues.

Sincerely,



Fred Ballerini

1

EMAIL: fred@fredballerini.com

Roberson, D., and Tenney, C., editors. 1993. Atlas of the Breeding Birds of Monterey County California. P.p. 318.