APPENDIX C

Biological Resources

Forest City Consulting
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FOREST MANAGEMENT PLAN FOR COMMERCIAL/VISITOR SERVING PARCELS

APN's 418-361-004, 418-381-002, 418-381-021

Pariaso Springs
34358 Paraiso Springs Road

Monterey County, California

Prepared by:

Matt Horowitz

July 11, 2005

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1.0 Summary

This Project will remove one hundred and eighty-five (185) protected oak trees. In addition one large dead oak tree will be removed. There is an estimated tree population of over 11,000 trees on the parcels (see appendix 1). The majority of the trees are oaks. This project will remove approximately 1.7% of the trees. The project has been designed to work around existing trees and preserve landmark oaks whenever possible.

2.0 Purpose and limitations of plan

This Forest Management Plan for commercial/visitor serving parcels (FMP) was created to adhere to the requirements of the County of Monterey, Planning and Building Inspection Department as set forth in Monterey County Zoning Ordinance - Title 21 specifically section 21.64.260.D.3.a. This FMP was prepared to meet the requirements of the Central Salinas Valley Area Plan for obtaining a Development Permit for tree removal. Complete copies of these documents are available at the County of Monterey Planning and Building Inspection Department. Preparation of the Plan was done by Matt Horowitz of Forest City Consulting, which has been on the County's list of Consulting Foresters since 1998. This FMP was prepared at the request and expense of the property owner, Thompson holdings, LLC.

The intent of this FMP is to assess the conditions present at the time of inspection, give a general description of the property, provide a general description of the type and quality of forest resources on the site, discuss the potential impacts of development and recommend measures to reduce developmental impacts on the forest resources.

This FMP is limited to addressing the requirements set forth in 21.64.260. As such, this FMP is not a monetary valuation of the forest resources. Nor is it designed to be a complete Biological Assessment or a Phase I Environmental Site Assessment. Forest City Consulting operates under the Standards of Professional Practice of the American Society of Consulting Arborist and the Code of Ethics of the Society of American Foresters, and under which, we cannot provide services to address all biological and environmental factors and conditions potentially occurring on the site not directly relating to the forest resources or otherwise outside of our area of expertise. Other professionals have addressed aspects of this report in detail. Except as otherwise noted, it is not the intent of this FMP to provide risk assessment for any tree on this parcel, as any tree can fail at any time. No laboratory or clinical diagnosis was performed on any pest or pathogen that may or may not be present.

In addition to its own inspection of the property, Forest City Consulting relied on information provided by the property owners or their representatives in the preparation of this FMP (such as, but not limited to; surveys, property boundaries and property ownership) and must reasonably rely on the accuracy of the information provided.

3.0 Site description

3.1 Assessor parcel numbers
418-361-004, 418-381-022, and 418-381-021

3.2 Location
34358 Paraiso Springs Road. Soledad, California

3.3 Parcel size
The property is approximately 236 acres.

3.4 Existing land use
Resort/Residential

There are 4 distinctive areas on the property. These areas are as described below:

Southern Slope - This is a north-facing slope located along the southern edge of the property and is currently developed with roads, campgrounds, and parking areas. See cut out maps 1, 2, and 3

Central Valley - This valley runs east to west and is comprised of 3 parts: the camping area, current lodge, the great lawn, swimming pools, mobile homes, other ancillary buildings, roads, trails, wells, and the great meadow. See cut out maps 1, 2, and 3

Small Ridge - This ridge is located between the Central Valley and Indian Valley. This area is currently developed with roads, trails, cabins and other infrastructure. See cut out maps 3, 4, and 5.

Indian Valley- Located at the northern base of the small ridge. This area is proposed for residential lots. This area is currently developed with roads and trails. See cut out maps 4 and 5.

3.5 Slope
There are several distinctive slopes on the parcels. The majority of development activities will be on flat to gently sloping previously developed sites.

The majority of the southern slope will not be developed. This northern-faced slope is relatively steep with many areas exceeding 30%.

The central valley is flat. There is a small intermittent stream course that flows west to east along the northern edge of this valley. This valley supports almost all of the currently developed activity on the property. The valley is a combination of grasslands and coast live oaks.

The small ridge is directly north of the central valley. This low ridge currently supports guest cabins. This low ridge will have new guest facilities located on and near meadows on the ridge in flat areas or areas with gentle slopes. Due to other taller adjacent ridges this development will not stand out against the skyline.

North of this small ridge is another small valley (Indian Valley), which is proposed for home sites. These home sites are on either flat or gentle slopes. There are existing access roads to all proposed development areas.

3.6 Soils

The ridges and slopes of the site are comprised of dense soils and soft rock while the flat valley areas are comprised of soft silt loams. Please refer to the existing soils reports prepared by Landset Engineers Inc. 520-B Crazy Horse Canyon Road Salinas, CA 93907 831/443-6970.

3.7 Vegetation

There are several distinctive plant communities on the property. Various species of forbs, poison oak, coyote brush, Rubus species and annual grasses can be found in the non-landscaped areas while Kikuyu grass dominates much of the great lawn area in front of the current office. Chamise, California sagebrush, and black sage populate much of the area on the northern and western side of the property.

3.8 Forest type

The forest canopy is comprised mostly of various species of oak. These species may also include hybrid combinations. These species include Coast Live Oak (*Quercus agrifolia*), Blue Oak (*Quercus douglasii*) and California Scrub Oak (*Quecus berberidifolia*). Other species in the forest canopy include California Laurel (*Umbellular californica*), Western Sycamore (*Platanus racemosa*), California Buckeye (*Aesculus californica*).

The stands are primarily mature coast live oaks. These oaks are often multiple stemmed trees. Most of the oaks grow in clusters. Larger oaks (>20" D2') frequently have heart rot in all or some of their limbs. Many areas of the property have good advanced regeneration of oaks.

The forested areas of the parcel are primarily on the flat meadows and northern aspects of the slopes.

3.9 Forest condition and health

Overall the oak trees appear healthy and vigorous. The oak trees grow mainly in clusters and can be very dense in some areas. Some oak trees on the property do display symptoms and signs of various pest and pathogens, however, not to any epidemic extent. Artist's Conk (*Ganoderma applanatum*) was noted on some of the oaks. This fungal infection has caused heart rot on some of the larger oaks and California laurel trees.

There are two non-native species of trees that, unchecked, will continue to replace the meadows and oak forests on the property. These trees are the Tasmanian Blue-Gum Eucalyptus (*Eucalyptus globulous*) and the Green Wattle Acacia (*Acacia dealbata*). The eucalyptus trees are mostly at the foot of the southern slope near the great lawn. The acacia trees are located inside the area fenced off for the swimming pool. Both these species should be removed and the stumps treated to prevent re-sprouting.

There are many Mexican Fan Palms (*Washingtonia robusta*) located on the property, some of these palms have fire damage on their trunks and should be monitored and/or removed if and when they become safety hazards.

The Pepper Trees (*Schinus molle*) planted as part of the landscaping are often developing heart rot as they age. These trees will also require monitoring and removal if they become hazards.

Tree populations:

Southern Ridge: The tree population on this slope was estimated to be 117 stems per acre, (see appendix 1). There is an estimated 73 acres on the southern slope. There is an estimated tree population of 8541 for the southern slope (see appendix 1).

Central Valley: The protected tree population for this area is estimated to be 614, (see appendix 1).

Small Ridge:
To be developed: The estimated protected tree population for the developed areas of the ridge is 53 (see appendix 1).
Northern Aspect: The tree population for the undeveloped northern aspect of this area is estimated to be 1750, (see appendix 1).

Indian Valley: The protected tree population for this area is estimated to be 90, (see appendix 1).

4.0 Project description

Of the 236 acres on the property approximittly50 acres will be developed. 23 of these 50 acres will be hard development while the remaining 27 acres will be landscaped.

4.1 Structures

- Great Meadow – Parking lot, administrative structures, vineyards, garden center.
- Great lawn edges, spa, swimming pool, administrative structures, retail.
- Current lodge and camping area – Guest housing, spa, restaurant, activity center.
- Small Ridge – guest housing.
- Indian Valley – Residential homes.

4.2 Roads

Approximately 12,700 feet of new road will be added to the existing roads.

4.3 Grading

Cut and fill is estimated to be 123,489 cubic yards of cut material and 126,352 cubic yards of filled material. The excess of 2,863 cubic yards of fill may be reduced by minor adjustments in the site grades per the soils engineer.

4.4 Tree removal

There is an estimated population of over 11,000 trees on the property. This estimate was established by a combination of the tree inventory prepared by Rana Creek Habitat and Restoration (see appendix 3) and five sample plots taken on forested northern aspects. (See appendix 1) These sample plots were 1/10th of an acre plots and are representative of the typical forest conditions on the northern aspects of the site. Results of each plot were multiplied by 10 to get estimated trees per acre. The trees per acre were multiplied by estimated acres on the northern aspects to derive tree populations. The proposed removals represent approximately 1.7% of the total forest resources on the parcels.

A summary of protected trees to be removed is given in the following table, with regulated trees shown in **bold** print. See appendix 2 for the list of removals.

DBH	Protected Oaks	Dead/Snags	**Regulated Trees**
6 to 11"	**86**		**86**
12 to 23"	**67**		**67**
24" +	**32**	1	**32**
Total	185		

Of the 185 protected trees 10 have been documented as either dead or diseased to point of being a safety hazard.

Landmark Oak Removals:

Coast live oaks 575, 606, 549, 608, 546, 348, 544, and 613 are compromised by construction of parking lots. Tree 348 is also infected with mistletoe.

Proposed roads compromise coast live oaks 524, 610, 301, 407, and 758. Tree 301 is also infected with heart rot to the degree that it is a hazard.

Coast live oaks 458, 428, 409, 647, 750, 395, 408, 764, 401, and 411 are located in the footprints of proposed structures. Tree 647 has been previously topped to maintain clearance of electrical conductors energized at over 750 volts.

Tree 264 is a blue oak and is located in the footprint of a proposed structure.

Coast live oaks 392, 346, 372 and 342 are compromised by construction of trails and small roadways. Tree 372 is dead.

Coast live oaks 145, 767, and 763 have heart rot and are hazards. Coast live oak 766 has heart rot and a beehive and is a hazard. Coast live oak 759 has root crown decay and declining foliage to an extent that it is in danger of failing and is a hazard.

Protected Oak Removals:

Coast live oaks 612, 520,547, 540, 574, 68, 62, 67, 81, 349, 99, 548, 70, 90, 79, 92, 95, 63, 80, 91, 60, 94, 98, 69, 77, 61, 58, 78, 93, 66, 607, 64, and 59 are compromised by proposed parking lots.

Blue oak 337 is compromised by proposed parking lot construction.

Coast live oaks 718, 719, 760, 527, 687, 688, 684, 685, 496, 639, 684, 685, 496, 639, 324, 341, 321, 636, 640, 642, 322, 703, 323, 635, 682, 495, 641, 711, 637, 644, 638, 167, 158, 473, 159, and 643 are compromised by proposed road construction.

Blue oaks 362, 724, 683, 167, 158, and 159 are compromised by proposed road construction.

Coast live oaks 253, 661, 400, 765, 259, 262, 251, 310, 494, 260, 255, 399, 244, 252, 254, 398, 455, 509, 510, 449, 102, 265, 270, 312, 402, 410, 489, 487, 492, 129, 191, 488, 111, 192, 196, 103, 459, 181, 456, 448, 106, 127, 435, 518, 128, 454, 504, 73, 84, 125, 193, 397, and 493 are compromised by proposed structures.

Blue oaks 268, 266, 267, 269, 329, and 171 are compromised by proposed structures.

Coast live oaks 308, 309, 274, 287, 498, 273, 391, 303, 304, 316, and 96 are compromised by proposed trails.

Blue oaks 276 and 275 are compromised by proposed trails.

Coast Live oaks 756, 457, 17 are all hazards due to excessive heart rot. Tree 17 also has artist conks growing on the trunk.

Non-protected tree hazards:

The following trees are not protected; they all have sufficient defects to render them hazards.

Trees 747 and 748 are cypress (*Cupressus species*) trees that are both dead. These trees also fall into the footprint of proposed structures.

Tree 749 is a pepper tree that has heart rot. This tree falls into the footprint of a proposed structure.

Tree 751 is a willow (*Salix species*) with heart rot. This tree falls into the footprint of a proposed structure.

Tree 755 is a blue-gum eucalyptus. This tree has heart rot.

4.5 Tree replacement

Requirements for replacement are 1:1 for each protected tree 6" D2' or larger that is removed. This would be **one hundred and eighty-five (185)** trees. Much of the property is covered in forest canopy and there is little room or need for replacement trees. There is adequate regeneration of all the oaks and other species to ensure a continued forest. This regeneration should be encouraged

My recommendation for mitigation in lieu of replacement is to encourage the native regeneration in areas where tree cover is desired. This can be done by simply not removing the young trees in clearing activities and controlling invasive vegetation. For fire safety concerns, small "islands" of natural vegetation can be left undisturbed, while continuing necessary clearing around the "islands".

5.0 Project assessment

Required findings
The following findings are from section 21.64.260.D.5 and are listed here as they appear for the use of the appropriate authorities in considering approval for tree removal. Each of the findings was evaluated by Forest City Consulting in regards to the proposed removal of the protected trees. Matt Horowitz is a Certified Arborist with degrees in Forestry from institutions accredited by the Society of American Foresters, has a basic knowledge and understanding of each of the following factors for consideration as each relates to forest resources, and is qualified to give his opinion on the following issues. In addition, Matt's knowledge and expertise is adequate to allow him to determine if another expert needs to evaluate any of the specific concerns raised.

5.1 Is the tree removal the minimum required under the circumstances of the case?
The proposed sites utilize existing areas that have almost all been previously developed and are located on relatively flat land or gentle slopes. These sites have been planned to retain as many landmark and protected trees as possible.

This Forest Management Plan for commercial visitor serving parcels in no way attempts to limit tree removal against the requirements of PRC 4291. We encourage property owners to seek the advice and council of local fire authorities and to implement all measures they recommend to protect their property.

<u>Will tree removal involve a risk of adverse environmental impacts?</u>

<u>Soil erosion:</u> The proposed tree removal is not expected to increase the risk of soil erosion or contribute to erosion.

Tree removal, in and of itself, will not create an increased risk of soil erosion on this property. The area of the tree removals is flat or on gentle slopes. Soil erosion concerns are more a factor of the grading plans than this report.

<u>Water quality:</u> The removal of the tree will not substantially lessen the ability for the natural assimilation of nutrients, chemical pollutants, heavy metals, silt and other noxious substances from ground and surface waters.

The trees proposed for removal play a relatively insignificant role with concerns to water quality. It is unlikely that there are any chemical pollutants or heavy metals present upon the property or likely to be introduced that could potentially be assimilated to any significant degree by the trees to be removed. Any ability of the trees proposed for removal to provide for the natural assimilation of nutrients, chemical pollutants, heavy metals, silt and other noxious substances from ground and surface waters would be insignificant.

Ecological impacts: Tree removal will not have a substantial adverse impact upon existing biological and ecological systems, climatic conditions, which affect these systems, or such removal will not create conditions which may adversely affect the dynamic equilibrium of associated systems.

Noise pollution: The removal will not significantly increase ambient noise levels to a degree that a nuisance is anticipated to occur.

Air movement: The removal will not significantly reduce the ability of the existing vegetation to reduce wind velocities to the degree that a nuisance is anticipated to occur.

Wildlife habitat: The removal will not significantly reduce available habitat for wildlife existence and reproduction or result in the immigration of wildlife from adjacent or associated ecosystems.

Many sections of the property will be retained with tree cover available for wildlife habitat.

5.2 Long-term and short-term impacts of development on the forest resource

Potential short-term impacts to the forest resources involve the affects of construction related activities on retained trees. The short-term impacts of root damage and trunk damage associated with building activities can cause tree failure, weaken the tree, and increase susceptibility to pest and pathogens.

Potential long-term impacts are associated with increased runoff and soil damage. Soil damage includes soil disruption and soil compaction due to the use of heavy equipment on the forest soils. Soil disruption can increase the risk of erosion. Soil compaction reduces the ability of existing roots to function and reduces the ability for new seedlings to become established. Trees that do become established in areas with compacted soil grow at a slower rate than trees in non-disturbed soils.

5.3 Alternatives to minimize development impacts on the forest resource

Limiting construction activities to staging areas and establishing an off-limits area will eliminate development related impacts to the retained forest.

6.0 Protection of retained trees

6.1 Staging areas

Construction activities shall be kept within the development area to the extent possible. There are existing adequate staging areas near all proposed construction sites.

6.2 Tree protection fence (TPF)

Placing a temporary physical barrier, such as temporary fencing, can easily protect the forested areas outside of development activities and nearby retained trees.

All areas protected by the TPF shall be considered off-limits during all stages of development. These areas shall not be used to park cars, store materials, pile debris, or place equipment. The TPF shall remain in place during all phases of development.

It is highly recommended that a qualified arborist or forester inspect the placement of the TPF to ensure maximum protection of the retained trees before any heavy equipment is moved on site or any development activities begin.

Necessary work or trenching within the areas protected by the tree protection fence shall be done either by hand using hand equipment or under the supervision of a qualified Arborist or Forester.

6.3 Utility trenching

When possible, utilities should be placed in the same trench. Care will be taken to avoid trenching on two sides of a tree. This property is densely forested and utility trenching cannot avoid all trees. Major roots encountered will be tunneled under or bridged over and retained when possible.

6.4 Roots encountered

Roots encountered during trenching, grading and excavation that are not to be retained will be cleanly cut to promote re-growth and to prevent increased damage from breaking the root closer to the tree than is necessary.

6.5 Pruning for construction

Branches located close to construction activities or overhanging the driveway are subject to breakage from contact with heavy equipment and materials. A properly pruned branch will heal faster and is generally less damaging to the tree than a broken branch. Branches subject to breakage should be pruned when such pruning will not cause significant damage to the health, vitality and safety of the tree. Pruning should be conducted under the supervision of an Arborist certified by the International Society of Arboriculture.

6.6 Construction contracts

All construction contracts for the project shall include a provision requiring that all contractors and subcontractors performing work on this project be given a copy of the forest management plan and conditions of approval and agree to implement the provisions of the forest management plan and conditions of approval. In addition, the contracts shall also identify a County approved arborist or forester to be present or consulted under circumstances where the provisions of the forest management plan or conditions of approval require that the arborist or forester be present or consulted.

7.0 Site Map

The site maps are based on a May 21, 2005 Map provided by Rana Creek Habitat Restoration, 35351 East Carmel Valley Road, Carmel Valley, CA, 93924. Rana Restoration located and measured diameters of trees except for trees 746 through 767 that were measured and located by Forest City Consulting, PMB #305 Crossroads Blvd. Carmel, CA 93923. Trees 301, 346, 348, 372, 408, 409, 510, 612 and 613 were re-measured for diameter verification by Forest City Consulting.

Please refer to the tree removal maps enclosed in the site plan drawing set.

8.0 Signatures

Forest Management Plan for commercial/visitor serving parcels prepared by:

Matt Horowitz
Forest City Consulting

Matt Horowitz

Signature

Date

Owner's Agreement as to the Provision of the Plan:

Owners Printed Name

Owner's Signature

Date

Forest Maintenance Plan approved by:

Director of Planning

Director's Signature

Date

This report has been reviewed by me and I concur with the report and assessment of Matt Horowitz.

signed July 9, 2005

Glenn C. Flamik.

Appendix 1

Tree Populations

Tree Population on Northern Aspects

Plot #	Location of plot	# of oaks	# of buckeye	total trees/plot	estimated trees/a (total trees x 1(
1	Small Ridge	10	1	11	110
2	Small Ridge	22	2	24	240
3	Southern Ridge	15	1	16	160
4	Southern ridge	9	0	9	90
5	Southern Ridge	10	0	10	100
				total	700
Plot size = 1/10 acre or radius of 37.25 feet				Average trees/acre (700 divided by 5)	140

Southern Ridge (approximately 73 acres)
160 + 90 + 100 = 350 divided by 3 = 117 trees/acre or **8541** trees (73 x 117)

Central Valley approximately **614** protected trees (from inventory)

Developed area of small ridge approximately **53** protected trees (from inventory)

nall Ridge (northern side approximately 10 acres)
110 + 240 = 350 divided by 2 = 175 trees/acre or **1750** trees (175 x 10)

Indian Valley approximately protected **90** trees (from inventory)

APPENDIX 2
List of Removals

Tree	Species	Diameter	Description	reason	footprint of structure, trail (small road), road
17	Coast Live Oak	12.8	heart rot, artist conk crown is 70% dead	hazard	
51	Coast Live Oak	9.9		in footprint	trail
58	Coast Live Oak	7.6		in footprint	parking lot
59	Coast Live Oak	6.0		in footprint	parking lot
60	Coast Live Oak	8.8		in footprint	parking lot
61	Coast Live Oak	8.0		in footprint	parking lot
62	Coast Live Oak	12.7		in footprint	parking lot
63	Coast Live Oak	8.9		in footprint	parking lot
64	Coast Live Oak	6.8		in footprint	parking lot
66	Coast Live Oak	7.0		in footprint	parking lot
67	Coast Live Oak	11.5		in footprint	parking lot
68	Coast Live Oak	13.7		in footprint	parking lot
69	Coast Live Oak	8.6		in footprint	parking lot
70	Coast Live Oak	10.0		in footprint	parking lot
73	Coast Live Oak	6.7		in footprint	structure
77	Coast Live Oak	8.3		in footprint	parking lot
78	Coast Live Oak	7.6		in footprint	parking lot
79	Coast Live Oak	9.9		in footprint	parking lot
80	Coast Live Oak	8.9		in footprint	parking lot
81	Coast Live Oak	11.1		in footprint	parking lot
83	Coast Live Oak	8.9		in footprint	trail
84	Coast Live Oak	6.7		in footprint	structure
90	Coast Live Oak	10.0		in footprint	parking lot
91	Coast Live Oak	8.9		in footprint	parking lot
92	Coast Live Oak	9.6		in footprint	parking lot
93	Coast Live Oak	7.3		in footprint	parking lot
94	Coast Live Oak	8.8		in footprint	parking lot
95	Coast Live Oak	9.3		in footprint	parking lot
96	Coast Live Oak	10.2		in footprint	trail
97	Coast Live Oak	8.6		in footprint	trail
98	Coast Live Oak	8.8		in footprint	parking lot
99	Coast Live Oak	10.5		in footprint	parking lot
100	Coast Live Oak	8.9		in footprint	trail
102	Coast Live Oak	12.1		in footprint	structure
103	Coast Live Oak	9.6		in footprint	structure
106	Coast Live Oak	8.3		in footprint	structure
111	Coast Live Oak	10.8		in footprint	structure

125	Coast Live Oak	6.7		in footprint	structure
127	Coast Live Oak	8.3		in footprint	structure
128	Coast Live Oak	7.6		in footprint	structure
145	Coast Live Oak	34.7	heart rot hazard		
158	Blue Oak	7.3		in footprint	road
159	Blue Oak	6.4		in footprint	road
167	Blue Oak	7.6		in footprint	road
171	Blue Oak	7.0		in footprint	structure
181	Coast Live Oak	8.6		in footprint	structure
191	Coast Live Oak	11.1		in footprint	structure
192	Coast Live Oak	10.5		in footprint	structure
193	Coast Live Oak	6.1		in footprint	structure
196	Coast Live Oak	9.9		in footprint	structure
210	Coast Live Oak	7.3		in footprint	trail
214	Coast Live Oak	7.0		in footprint	trail
244	Coast Live Oak	15.9	4 Branches	in footprint	structure
251	Coast Live Oak	18.8		in footprint	structure
252	Coast Live Oak	15.9	3 Branches	in footprint	structure
253	Coast Live Oak	20.7		in footprint	structure
254	Coast Live Oak	15.9	3 Branches	in footprint	structure
255	Coast Live Oak	17.2	3 Branches	in footprint	structure
259	Coast Live Oak	19.7	3 Branches	in footprint	structure
260	Coast Live Oak	17.5	2 Branches	in footprint	structure
262	Coast Live Oak	19.7	3 Branches	in footprint	structure
263	Coast Live Oak	22.9	2 Branches	in footprint	structure
264	Blue Oak	31.8		in footprint	structure
265	Coast Live Oak	12.1	2 Branches	in footprint	structure
266	Blue Oak	14.6	2 Branches	in footprint	structure
267	Blue Oak	14.3	2 Branches	in footprint	structure
268	Blue Oak	16.9	3 Branches	in footprint	structure
269	Blue Oak	12.1	5 Branches	in footprint	structure
270	Coast Live Oak	12.1	6 Branches	in footprint	structure
273	Coast Live Oak	15.0	2 Branches	in footprint	trail
274	Coast Live Oak	17.5		in footprint	trail
275	Blue Oak	20.1		in footprint	trail
276	Blue Oak	21.7		in footprint	trail
287	Coast Live Oak	16.9		in footprint	trail
301	Coast Live Oak	36.0	heart rot hazard	in footprint	road
303	Coast Live Oak	12.1	2 Branches	in footprint	trail
304	Coast Live Oak	11.8		in footprint	trail
308	Coast Live Oak	20.1	2 Branches	in footprint	trail

309	Coast Live Oak	18.2		in footprint	trail
310	Coast Live Oak	18.8		in footprint	structure
312	Coast Live Oak	12.1		in footprint	structure
316	Coast Live Oak	11.5	7 Branches	in footprint	trail
321	Coast Live Oak	11.5		in footprint	road
322	Coast Live Oak	10.8		in footprint	road
323	Coast Live Oak	10.2		in footprint	road
324	Coast Live Oak	13.4	5 Branches	in footprint	road
329	Blue Oak	12.1		in footprint	structure
337	Blue Oak	8.3	2 Branches	in footprint	parking lot
338	Coast Live Oak	8.3	2 Branches	in footprint	trail
341	Coast Live Oak	13.4		in footprint	road
342	Coast Live Oak	26.8		in footprint	trail
346	Coast Live Oak	36.0	Landmark Tree	in footprint	trail
348	Coast Live Oak	30.0	Landmark Tree - 2 Branches miseltoe	in footprint	parking lot
349	Coast Live Oak	10.8		in footprint	parking lot
362	Blue Oak	21.0		in footprint	road
372	Coast Live Oak	36.0	dead	in footprint	trail
391	Coast Live Oak	14.0	maze	in footprint	trail
392	Coast Live Oak	40.4	Landmark Tree - 2 Branches	in footprint	trail
395	Coast Live Oak	27.4		in footprint	structure
397	Coast Live Oak	6.1		in footprint	structure
398	Coast Live Oak	14.6	3 Branches	in footprint	structure
399	Coast Live Oak	16.6	2 Branches	in footprint	structure
400	Coast Live Oak	20.4		in footprint	structure
401	Coast Live Oak	26.8		in footprint	structure
402	Coast Live Oak	12.1	3 Branches	in footprint	structure
407	Coast Live Oak	27.4		in footprint	road
408	Coast Live Oak	27.0		in footprint	structure
409	Coast Live Oak	33.0		in footprint	structure
410	Coast Live Oak	12.1	2 Branches	in footprint	structure
411	Coast Live Oak	25.5	3 Branches	in footprint	structure
428	Coast Live Oak	46.2		in footprint	structure
435	Coast Live Oak	8.0		in footprint	structure
448	Coast Live Oak	8.3	2 Branches	in footprint	structure
449	Coast Live Oak	13.4		in footprint	structure
454	Coast Live Oak	7.3		in footprint	structure
455	Coast Live Oak	14.6		in footprint	structure
456	Coast Live Oak	8.6	2 Branches	in footprint	structure
457	Coast Live Oak	19.7	heart rot hazard, near structure		
458	Coast Live Oak	69.4		in footprint	structure
459	Coast Live Oak	8.9		in footprint	structure

473	Coast Live Oak	7.3		in footprint	road
487	Coast Live Oak	11.5		in footprint	structure
488	Coast Live Oak	10.8		in footprint	structure
489	Coast Live Oak	12.1		in footprint	structure
492	Coast Live Oak	11.5		in footprint	structure
493	Coast Live Oak	6.1		in footprint	structure
494	Coast Live Oak	17.8	3 Branches	in footprint	structure
495	Coast Live Oak	8.9		in footprint	road
496	Coast Live Oak	14.6		in footprint	road
498	Coast Live Oak	15.9		in footprint	trail
504	Coast Live Oak	6.7		in footprint	structure
509	Coast Live Oak	14.3		in footprint	structure
510	Coast Live Oak	14.0		in footprint	structure
515	Coast Live Oak	7.0		in footprint	trail
518	Coast Live Oak	7.6		in footprint	structure
520	Coast Live Oak	21.7		in footprint	parking lot
524	Coast Live Oak	34.1		in footprint	road
527	Coast Live Oak	17.8		in footprint	road
540	Coast Live Oak	19.1		in footprint	parking lot
544	Coast Live Oak	28.3		in footprint	parking lot
546	Coast Live Oak	30.3		in footprint	parking lot
547	Coast Live Oak	19.7		in footprint	parking lot
548	Coast Live Oak	10.2		in footprint	parking lot
549	Coast Live Oak	31.8		in footprint	parking lot
574	Coast Live Oak	15.6		in footprint	parking lot
575	Coast Live Oak	60.5	Landmark Tree	in footprint	parking lot
606	Coast Live Oak	36.9	2 Branches	in footprint	parking lot
607	Coast Live Oak	7.0		in footprint	parking lot
608	Coast Live Oak	31.8		in footprint	parking lot
610	Coast Live Oak	28.3	2 Branches	in footprint	road
612	Coast Live Oak	22.0		in footprint	parking lot
613	Coast Live Oak	24.0		in footprint	parking lot
635	Coast Live Oak	10.2		in footprint	road
636	Coast Live Oak	11.5		in footprint	road
637	Coast Live Oak	8.3		in footprint	road
638	Coast Live Oak	8.0		in footprint	road
639	Coast Live Oak	13.7		in footprint	road
640	Coast Live Oak	11.5		in footprint	road
641	Coast Live Oak	8.9		in footprint	road
642	Coast Live Oak	11.5		in footprint	road
643	Coast Live Oak	6.4		in footprint	road
644	Coast Live Oak	8.3		in footprint	road
647	Coast Live Oak	32.8	previously topped for power lines	in footprint	structure
651	Coast Live Oak	20.7	6 Branches	in footprint	structure
682	Coast Live Oak	10.2	2 Branches	in footprint	road

683	Blue Oak	13.7	5 Branches	in footprint	road
684	Coast Live Oak	16.6		in footprint	road
685	Coast Live Oak	16.2	2 Branches	in footprint	road
686	Coast Live Oak	16.9	2 Branches	in footprint	road
687	Coast Live Oak	17.8		in footprint	road
703	Coast Live Oak	10.8		in footprint	road
711	Coast Live Oak	8.9		in footprint	road
718	Coast Live Oak	23.9	6 Branches	in footprint	road
719	Coast Live Oak	18.2		in footprint	road
724	Blue Oak	16.9	2 Branches	in footprint	road
746	Coast Live Oak	9.0		in footprint	structure
747	cypress	6.0	dead	in footprint	structure
748	cypress	6.0	dead	in footprint	structure
749	pepper	22.0	heart rot, hazard	in footprint	structure
750	Coast Live Oak	30.0		in footprint	structure
751	willow	12.0	heart rot, hazard	in footprint	structure
755	eucalyptus	87.0	heart rot hazard		
756	Coast Live Oak	23.0	heart rot, hazard		
758	Coast Live Oak	25.0		in footprint	road
759	Coast Live Oak	27.0	root decay, crown in decline		
760	Coast Live Oak	18.0		in footprint	road
763	Coast Live Oak	24.0	heart rot, hazard		
764	Coast Live Oak	27.0		in footprint	structure
765	Coast Live Oak	20.0		in footprint	structure
766	Coast Live Oak	32.0	heart rot, bee hive, hazard		
767	Coast Live Oak	31.0	heart rot hazard		

Appendix 3
Rana Restoration Tree Inventory

Paraiso Hot Springs Tree Survey

May 20th, 2005

Tree diameters changed by Forest City shown in blue

Conucted by Rana Creek

Trees and diameters added by Forest City Consulting shown in red

Tree	Species	Diameter					Description
1	Palm	4.5					3 Palms
2	Palm	4.9					3 Palms
3	Palm	4.1					3 Palms
4	Palm	5.1					
5	Palm	4.1					
6	Palm	4.4					
7	Palm						Dense 16 Palms (4 Foot)
8	Palm	3.0	3.8	4.6	4.6		3 Palms
9	Palm						Dense 13 Palms (3 Foot)
10	Palm						Dense 10 Palms (4 Foot)
11	Coast Live Oak	9.1	3.1				2 Palms
12	Coast Live Oak						12ft away from road
13	Palm	4.9	4.1				2 Palms
14	Coast Live Oak	6.10					
15	Coast Live Oak	8.3					
16	Coast Live Oak	4.5	10.9				2 Branches
17	Coast Live Oak	12.8					
18	Coast Live Oak	12.3					
19	Coast Live Oak	18.4					
20	Unknown						3.10 4.1 3.11 4.5 2x3.6 3.4 4.8
21	Coast Live Oak	13.9					
22	Coast Live Oak	8.9					
23	Coast Live Oak	11.5					
24	Coast Live Oak	9.9					
25	Blue Oak	2.7	2.7	2.2			3 Branches
26	Blue Oak						10x 1.5
27	Coast Live Oak	10.1					
28	Blue Oak	3.1	2.1	7.9			3 Branches
29	Coast Live Oak	5.2	4.2	6.5	4.6	5.1	5 Branches
30	Coast Live Oak	9.7					
31	Coast Live Oak	5.0	5.6				2 Branches

32	Coast Live Oak						12x 3-3.5 5-1.5 4-4
33	Coast Live Oak	3.0	4.0	4.4	2.0	3.7	5 Branches
34	Blue Oak	4.2	3.0	3.1	3.2		4 Branches
35	Coast Live Oak	2.7	3.4	4.4	2.6	5.5	5 Branches
36	Coast Live Oak	6.0	9.3	3.1	5.9		5 Branches
37	Coast Live Oak	2.9	5.2				2 Branches
38	Blue Oak	3.0	2.7	3.8	4.2		4 Branches
39	Coast Live Oak	4.9	4.6				2 Branches
40	Blue Oak	5.2					
41	Coast Live Oak	5.7					
42	Blue Oak	4.11					
43	Blue Oak	1.8	3.0	2.3			3 Branches
44	Blue Oak	8					
45	Blue Oak	3.9	1.2				2 Branches
46	Coast Live Oak	3.1	2.8				2 Branches
47	Blue Oak						13x 6-1.0 6-1.5
48	Coast Live Oak	2.8	3.0	1.2	2.5		4 Branches
49	Coast Live Oak	9.2					
50	Coast Live Oak	35.4					
51	Coast Live Oak	9.9					
52	Coast Live Oak	9.4					
53	Coast Live Oak	9.9					
54	Coast Live Oak	7.6					
55	Coast Live Oak	8.8					
56	Coast Live Oak	8.0					
57	Coast Live Oak	8.0					
58	Coast Live Oak	7.6					
59	Coast Live Oak	6.0					
60	Coast Live Oak	8.8					
61	Coast Live Oak	8.0					
62	Coast Live Oak	12.7					
63	Coast Live Oak	8.9					
64	Coast Live Oak	6.8					
65	Coast Live Oak	5.3					
66	Coast Live Oak	7.0					
67	Coast Live Oak	11.5					
68	Coast Live Oak	13.7					
69	Coast Live Oak	8.6					
70	Coast Live Oak	10.0					
71	Coast Live Oak	5.7					
72	Coast Live Oak	23.0					
73	Coast Live Oak	6.7					
74	Coast Live Oak	10.2					
75	Coast Live Oak	16.9					Diseased
~~76~~	~~Coast Live Oak~~	~~11.5~~					
77	Coast Live Oak	8.3					

78	Coast Live Oak	7.6
79	Coast Live Oak	9.9
80	Coast Live Oak	8.9
81	Coast Live Oak	11.1
82	Coast Live Oak	9.6
83	Coast Live Oak	8.9
84	Coast Live Oak	6.7
85	Coast Live Oak	6.7
86	Coast Live Oak	7.6
87	Coast Live Oak	5.1
88	Coast Live Oak	7.2
89	Coast Live Oak	11.0
90	Coast Live Oak	10.0
91	Coast Live Oak	8.9
92	Coast Live Oak	9.6
93	Coast Live Oak	7.3
94	Coast Live Oak	8.8
95	Coast Live Oak	9.3
96	Coast Live Oak	10.2
97	Coast Live Oak	8.6
98	Coast Live Oak	8.8
99	Coast Live Oak	10.5
100	Coast Live Oak	8.9
101	Coast Live Oak	19.4
102	Coast Live Oak	12.1
103	Coast Live Oak	9.6
104	Coast Live Oak	4.5
105	Coast Live Oak	9.8
106	Coast Live Oak	8.3
107	Coast Live Oak	8.4
108	Coast Live Oak	8.0
109	Coast Live Oak	12.1
110	Coast Live Oak	5.4
111	Coast Live Oak	10.8
112	Coast Live Oak	4.8
113	Coast Live Oak	7.6
114	Coast Live Oak	12.3
115	Coast Live Oak	8.6
116	Coast Live Oak	5.7
117	Coast Live Oak	12.4
118	Coast Live Oak	7.3
119	Coast Live Oak	5.7
120	Coast Live Oak	21.1
121	Coast Live Oak	7.6
122	Coast Live Oak	12.9
123	Coast Live Oak	7.6

124	Coast Live Oak	9.4			
125	Coast Live Oak	6.7			
126	Coast Live Oak	8.9			
127	Coast Live Oak	8.3			
128	Coast Live Oak	7.6			
129	Coast Live Oak	11.5			
130	Coast Live Oak	5.9			
131	Coast Live Oak	5.7			
132	Coast Live Oak	7.2			
133	Coast Live Oak	5.5			
134	Coast Live Oak	10.0			
135	Coast Live Oak	6.4			
136	Coast Live Oak	7.6			
137	Coast Live Oak	6.1			
138	Coast Live Oak	10.2			
139	Coast Live Oak	7.0			
140	Coast Live Oak	9.0			
141	Coast Live Oak	9.6			
142	Coast Live Oak	11.3			
143	Coast Live Oak	3.8			
144	Coast Live Oak	33.1			
145	Coast Live Oak	34.7			
146	Coast Live Oak	7.6	2.9		2 Branches
147	Coast Live Oak	7.0			
148	Coast Live Oak	5.7			
149	Coast Live Oak	28.0			
150	Coast Live Oak	22.3			
151	Coast Live Oak	47.1			
152	Coast Live Oak	25.5			
153	Coast Live Oak	15.3			
154	Coast Live Oak	31.8			
155	Coast Live Oak	36.3			
156	Coast Live Oak	33.1			
157	Coast Live Oak	30.9			
158	Blue Oak	7.3			
159	Blue Oak	6.4			
160	Blue Oak	1.9	1.6	1.6	3 Branches
161	Blue Oak	8.0			
162	Blue Oak	2.9	1.6	1.3	3 Branches
163	Blue Oak	3.2	1.6		2 Branches
164	Blue Oak	7.0	3.2		2 Branches
165	Blue Oak	7.6	2.5		2 Branches
166	Blue Oak	3.2			
167	Blue Oak	7.6			
~~168~~	~~Blue Oak~~	~~2.5~~			
169	Blue Oak	5.4			

170	Blue Oak	1.3	1.0	0.6	3 Branches
171	Blue Oak	7.0			
172	Blue Oak	1.6	1.3		2 Branches
173	Blue Oak	1.9	1.3		2 Branches
174	Blue Oak	1.3	0.6		2 Branches
175	Coast Live Oak	7.0			
176	Blue Oak	3.5			
177	Blue Oak	5.7			
178	Blue Oak	2.9			
179	Blue Oak	1.9	1.6		2 Branches
180	Blue Oak	5.1			
181	Coast Live Oak	8.6			
182	Coast Live Oak	8.3			
183	Coast Live Oak	4.5			
184	Coast Live Oak	7.6			
185	Coast Live Oak	6.4	4.5		2 Branches
186	Coast Live Oak	11.1			
187	Coast Live Oak	4.8			
188	Coast Live Oak	4.8			
189	Coast Live Oak	4.1			
190	Coast Live Oak	51.9			
191	Coast Live Oak	11.1			
192	Coast Live Oak	10.5			
193	Coast Live Oak	6.1			
194	Coast Live Oak	3.2	2.9		2 Branches
195	Coast Live Oak	2.5	1.9		2 Branches
196	Coast Live Oak	9.9			
197	Coast Live Oak	12.1			
198	Coast Live Oak	6.3			
199	Coast Live Oak	10.8			
200	Coast Live Oak	10.2			
201	Coast Live Oak	9.9			
202	Coast Live Oak	8.3			
203	Coast Live Oak	1.0			Multiple Branches
204	Blue Oak	5.4			
205	Coast Live Oak	5.1			
206	Coast Live Oak	6.7			
207	Coast Live Oak	2.5			
208	Coast Live Oak	2.5			
209	Coast Live Oak	10.5			
210	Coast Live Oak	7.3			
211	Coast Live Oak	10.2			
212	Coast Live Oak	5.7			
213	Coast Live Oak	5.1			
~~214~~	~~Coast Live Oak~~	~~7.0~~			
215	Coast Live Oak	6.1			

216	Coast Live Oak	9.6				
217	Coast Live Oak	8.3				
218	Coast Live Oak	9.6				
219	Coast Live Oak	9.2				
220	Coast Live Oak	5.4				
221	Blue Oak	5.1				
222	Coast Live Oak	10.5				
223	Blue Oak	2.5	2.5	2.2		3 Branches
224	Blue Oak	5.1				
225	Blue Oak	3.8				
226	Blue Oak	4.8				
227	Coast Live Oak	4.5				
228	Coast Live Oak	10.8				
229	Coast Live Oak	13.7				
230	Coast Live Oak	60.5				Multiple Branches
231	THERE IS NO TREE WITH THE NUMBER 231					
232	Coast Live Oak	16.2				
233	Coast Live Oak	17.2				
234	Blue Oak	25.5	16.2			2 Branches
235	Blue Oak	15.6	14.3			2 Branches
236	Blue Oak	1.0				
237	Blue Oak	12.4	5.4			2 Branches
238	Coast Live Oak	3.2				6 branches -10 inch
239	Coast Live Oak	25.5				
240	Coast Live Oak	11.1				
241	Coast Live Oak	27.1	24.8			2 Branches
242	Coast Live Oak	17.5	16.6	14.3	10.2	4 Branches
243	Coast Live Oak	23.9	20.7	20.4		3 Branches
244	Coast Live Oak	15.9	15.6	15.3	12.1	4 Branches
245	Coast Live Oak	13.7	11.1	10.2	11.8	4 Branches
246	Coast Live Oak	16.6	14.0	12.1	12.4	4 Branches
247	Coast Live Oak	7.6	4.5	6.1	3.8	4 Branches
248	Coast Live Oak	3.2				9 little trees coast - 10
249	Coast Live Oak	18.5	13.7	14.3		3 Branches
250	Coast Live Oak	16.9	15.3			2 Branches
251	Coast Live Oak	18.8				
252	Coast Live Oak	16.9	15.6	12.1		3 Branches
253	Coast Live Oak	20.7				
254	Coast Live Oak	15.9	12.1	8.0		3 Branches
255	Coast Live Oak	17.2	15.3	10.8		3 Branches
256	Coast Live Oak	15.3	14.6			2 Branches
257	Coast Live Oak	7.0				
258	Coast Live Oak	19.1	18.8	18.2		3 Branches
259	Coast Live Oak	19.7	18.8	18.5		3 Branches
~~260~~	~~Coast Live Oak~~	~~16.9~~	~~17.5~~			~~2 Branches~~
261	Coast Live Oak	3.8	3.2			2 Branches

262	Coast Live Oak	19.7	18.8	18.5				3 Branches
263	Coast Live Oak	22.9	13.7					2 Branches
264	Blue Oak	31.8						
265	Coast Live Oak	12.1	10.8					2 Branches
266	Blue Oak	14.6	13.4					2 Branches
267	Blue Oak	14.3	13.7					2 Branches
268	Blue Oak	16.9	16.6	15.3				3 Branches
269	Blue Oak	12.1	11.1	3.8	4.1	3.2		5 Branches
270	Coast Live Oak	12.1	3.8	3.2	2.9	4.1	1.6	6 Branches
271	Coast Live Oak	17.8	13.4					2 Branches
272	Coast Live Oak	15.0	14.6					2 Branches
273	Coast Live Oak	15.0	14.6					2 Branches
274	Coast Live Oak	17.5						
275	Blue Oak	20.1						
276	Blue Oak	21.7						
277	Coast Live Oak	13.7						
278	Coast Live Oak	13.4						
279	Coast Live Oak	19.7	18.5	18.2	16.9			4 Branches
280	Coast Live Oak	15.3						
281	Coast Live Oak	21.0						66c split
282	Blue Oak	21.7						
283	Coast Live Oak	21.7	4.8					2 Branches
284	Coast Live Oak	14.6	14.3	14.0				3 Branches
285	Coast Live Oak	15.3	14.6					2 Branches
286	Coast Live Oak	11.5	10.8					2 Branches
287	Coast Live Oak	16.9						
288	Coast Live Oak	14.6	11.1					
289	Coast Live Oak	15.3						
290	Coast Live Oak	18.5	15.6					2 Branches
291	Coast Live Oak	11.5						
292	Coast Live Oak	20.7	15.3	18.5				3 Branches
293	Coast Live Oak	1.9						
294	Coast Live Oak	1.9						
295	Coast Live Oak	1.9						
296	Coast Live Oak	13.4	12.1					2 Branches
297	Blue Oak	12.1						
298	Coast Live Oak	12.1						
299	Coast Live Oak	16.2	15.3					2 Branches
300	Coast Live Oak	17.8						Many Little Branches
301	Coast Live Oak	36.0						
302	Coast Live Oak	9.2						
303	Coast Live Oak	12.1	11.5					2 Branches
304	Coast Live Oak	11.8						
305	Coast Live Oak	11.8						
~~306~~	~~Coast Live Oak~~	~~11.1~~	~~10.8~~					~~2 Branches~~
307	Coast Live Oak	11.5						

308	Coast Live Oak	20.1	17.8						2 Branches
309	Coast Live Oak	18.2							
310	Coast Live Oak	18.8							
311	Blue Oak	4.5							
312	Coast Live Oak	12.1							
313	Blue Oak	13.7	12.4						2 Branches
314	Blue Oak	5.7	5.1						2 Branches
315	Coast Live Oak	4.8	4.5						2 Branches
316	Coast Live Oak	11.5	3.8	4.5	11.5	7.6	6.4	6.7	7 Branches
317	Coast Live Oak	14.6	11.5						2 Branches
318	Coast Live Oak	11.5	11.1						2 Branches
319	Coast Live Oak	13.7	12.1	11.8					3 Branches
320	Coast Live Oak	4.8	4.5	4.1					3 Branches
321	Coast Live Oak	11.5							
322	Coast Live Oak	10.8							
323	Coast Live Oak	10.2							
324	Coast Live Oak	13.4	3.8	6.7	3.8	10.8			5 Branches
325	Blue Oak	3.2							
326	Coast Live Oak	7.6	7.3	6.7					3 Branches
327	Blue Oak	11.5	10.5	10.2	3.2				4 Branches
328	Coast Live Oak	7.3	3.8						2 Branches
329	Blue Oak	12.1							
330	Blue Oak	2.5							
331	Blue Oak	7.6							
332	Blue Oak	5.7	4.8	4.5	3.8				4 Branches
333	Coast Live Oak	7.3	6.7						2 Branches
334	Coast Live Oak	28.7	20.4						2 Branches
335	Coast Live Oak	2.5	2.2	1.9	1.6	0.6	0.3		6 Branches
336	Coast Live Oak	3.8	2.2						2 Branches
337	Blue Oak	8.3	7.0						2 Branches
338	Coast Live Oak	8.3	4.5						2 Branches
339	Coast Live Oak	10.8	8.3						2 Branches
340	Blue Oak	15.0							
341	Coast Live Oak	13.4							
342	Coast Live Oak	26.8							
343	Coast Live Oak	24.2							
344	Coast Live Oak	16.6							
345	Coast Live Oak	63.7							Half Stump
346	Coast Live Oak	36.0							Landmark Tree
347	Coast Live Oak	10.8	8.3						2 Branches
348	Coast Live Oak	30.0							Landmark Tree - 2 Branches
349	Coast Live Oak	10.8							
350	Coast Live Oak	11.1	10.8						2 Branches
351	Coast Live Oak	14.6	11.5						2 Branches
352	Coast Live Oak	6.4							
353	Coast Live Oak	18.2							

354	Blue Oak	6.7	5.7		2 Branches
355	Blue Oak	15.3			
356	Blue Oak	12.1			
357	Blue Oak	11.5	11.5		2 Branches
358	Blue Oak	13.1			
359	Blue Oak	9.2			
360	Blue Oak	11.5			
361	Blue Oak	11.5	3.8		2 Branches
362	Blue Oak	21.0			
363	Blue Oak	5.1			
364	Blue Oak	3.8	3.8		2 Branches
365	Blue Oak	12.7			
366	Blue Oak	13.4			
367	Blue Oak	7.3	7.3		2 Branches
368	Blue Oak	5.1			
369	Blue Oak	21.7			
370	Coast Live Oak	1.9			
371	Coast Live Oak	1.9			
372	Coast Live Oak	36.0			
373	Coast Live Oak	2.0			Landmark Tree - Dead
374	Coast Live Oak	1.5			Little Tree many branches
375	Coast Live Oak	2.3			Little Tree many branches
376	Coast Live Oak	41.4			Landmark Tree
377	Coast Live Oak	42.7			Landmark Tree
378	Coast Live Oak	40.1			Landmark Tree
379	Coast Live Oak	44.6			Landmark Tree
380	Coast Live Oak	14.6	14.3		2 Branches
381	Coast Live Oak	12.1			
382	Coast Live Oak	4.8			
383	Coast Live Oak	3.8			
384	Coast Live Oak	1.0			Little Tree many branches
385	Coast Live Oak	1.0			Little Tree many branches
386	Coast Live Oak	1.0			Little Tree many branches
387	Coast Live Oak	1.0			Little Tree many branches
388	Coast Live Oak	1.0			Little Tree many branches
389	Coast Live Oak	1.0			Little Tree many branches
390	Coast Live Oak	4.8			
391	Coast Live Oak	14.0			
392	Coast Live Oak	40.4	38.2		Landmark Tree - 2 Branches
393	Coast Live Oak	21.0	20.1		Landmark Tree - 2 Branches
394	Coast Live Oak				Little Tree many branches
395	Coast Live Oak	27.4	26.4		
396	Coast Live Oak				Little Tree many branches
397	Coast Live Oak	6.1			
~~398~~	~~Coast Live Oak~~	~~14.6~~	~~11.5~~	~~10.2~~	~~3 Branches~~
399	Coast Live Oak	16.6	15.3		2 Branches

400	Coast Live Oak	20.4						
401	Coast Live Oak	26.8						
402	Coast Live Oak	12.1	10.8	7.3				3 Branches
403	Coast Live Oak	38.2						Large Stump
404	Coast Live Oak	27.7	27.4					2 Branches
405	Coast Live Oak	18.5	17.8	17.2				
406	Coast Live Oak	17.8						Many Little Branches
407	Coast Live Oak	27.4						
408	Coast Live Oak	27.0						
409	Coast Live Oak	33.0						
410	Coast Live Oak	12.1	11.5					2 Branches
411	Coast Live Oak	25.5	17.8	17.5				3 Branches
412	Coast Live Oak	6.4	5.7					2 Branches
413	Coast Live Oak	17.8	17.5	16.9	16.6			4 Branches
414	Coast Live Oak	8.0						
415	Coast Live Oak	12.7						
416	Coast Live Oak	21.3	20.7	20.1	18.8			4 Branches
417	Coast Live Oak	25.5						
418	Coast Live Oak	20.7						
419	Coast Live Oak	27.4	20.7					2 Branches
420	Coast Live Oak	28.3						
421	Coast Live Oak	9.6						
422	Coast Live Oak	25.5						
423	Coast Live Oak	19.1						
424	Coast Live Oak	13.4						
425	Coast Live Oak	19.7						
426	Coast Live Oak	20.4						
427	Coast Live Oak	3.5	3.2					2 Branches
428	Coast Live Oak	46.2						
429	Coast Live Oak	7.3						
430	Coast Live Oak	2.9						
431	Coast Live Oak	1.0						
432	Coast Live Oak	2.9						
433	Coast Live Oak	1.0						
434	Coast Live Oak	1.3						
435	Coast Live Oak	8.0						
436	Coast Live Oak	2.9	1.3	1.0				3 Branches
437	Coast Live Oak	1.0						
438	Coast Live Oak	12.1	11.5					2 Branches
439	Coast Live Oak	22.3						
440	Coast Live Oak	8.3						
441	Coast Live Oak	1.0						Many Little Branches
442	Coast Live Oak	1.3						Many Little Branches
443	Coast Live Oak	2.2	1.9	1.6	1.3	1.0		5 Branches
~~444~~	~~Coast Live Oak~~	~~1.0~~						
445	Coast Live Oak	1.9						

446	Coast Live Oak	2.2				
447	Coast Live Oak	8.3				
448	Coast Live Oak	8.3	1.0			2 Branches
449	Coast Live Oak	13.4				
450	Coast Live Oak	2.2	1.9	1.6	1.3	many littleb c 4 5 7 6
451	Blue Oak	1.0	0.6	0.3		3 Branches
452	Coast Live Oak	2.9				
453	Coast Live Oak	5.7				
454	Coast Live Oak	7.3				
455	Coast Live Oak	14.6				
456	Coast Live Oak	8.6	7.3			2 Branches
457	Coast Live Oak	19.7				
458	Coast Live Oak	69.4				
459	Coast Live Oak	8.9				
460	Coast Live Oak	1.0				
461	Coast Live Oak	2.9	1.9			2 Branches
462	Coast Live Oak	1.0				
463	Coast Live Oak	1.9				
464	Coast Live Oak	1.0				
465	Coast Live Oak	2.9				
466	Coast Live Oak	1.9				
467	Coast Live Oak	9.9				
468	Coast Live Oak	1.0				
469	Coast Live Oak	1.0				
470	Coast Live Oak	1.0				
471	Coast Live Oak	7.0				
472	Coast Live Oak	5.1				
473	Coast Live Oak	7.3				
474	Coast Live Oak	1.3				
475	Coast Live Oak	1.9				
476	Coast Live Oak	7.0				
477	Coast Live Oak	1.9				
478	Coast Live Oak	1.9				
479	Coast Live Oak	6.1				
480	Coast Live Oak	7.0				
481	Coast Live Oak	4.8	4.5	1.3		3 Branches
482	Coast Live Oak	27.4				
483	Coast Live Oak	12.4				
484	Coast Live Oak	1.0				
485	Coast Live Oak	29.9				
486	Coast Live Oak	8.3				
487	Coast Live Oak	11.5				
488	Coast Live Oak	10.8				
489	Coast Live Oak	12.1				
~~490~~	~~Coast Live Oak~~	~~1.0~~				
491	Coast Live Oak	5.7				

492	Coast Live Oak	11.5				
493	Coast Live Oak	6.1				
494	Coast Live Oak	17.8	4.8	4.1		3 Branches
495	Coast Live Oak	8.9				
496	Coast Live Oak	14.6				
497	Coast Live Oak	4.5				
498	Coast Live Oak	15.9				
499	Coast Live Oak	7.6				
500	Coast Live Oak	8.0				
501	Coast Live Oak	6.1				
502	Coast Live Oak	8.6				
503	Coast Live Oak	7.0	1.9			2 Branches
504	Coast Live Oak	6.7				
505	Coast Live Oak	2.9	1.9			2 Branches
506	Coast Live Oak	14.0	6.7			2 Branches
507	Coast Live Oak	23.6				
508	Coast Live Oak	19.7				
509	Coast Live Oak	14.3				
510	Coast Live Oak	14.0				
511	Coast Live Oak	2.9				
512	Coast Live Oak	8.9				
513	Coast Live Oak	6.1				
514	Coast Live Oak	7.3				
515	Coast Live Oak	7.0				
516	Coast Live Oak	11.5				
517	Coast Live Oak	12.7	5.1			2 Branches
518	Coast Live Oak	7.6				
519	Coast Live Oak	8.3				
520	Coast Live Oak	21.7				
521	Coast Live Oak	9.2				
522	Coast Live Oak	25.5				
523	Coast Live Oak	2.5	1.6	1.3	1.0	4 Branches
524	Coast Live Oak	34.1				
525	Coast Live Oak	13.7				
526	Coast Live Oak	9.6				
527	Coast Live Oak	17.8				
528	Coast Live Oak	35.0				
529	Coast Live Oak	95.5				Landmark Tree
530	Coast Live Oak	7.6				
531	Coast Live Oak	21.7				
532	Coast Live Oak	14.6				
533	Coast Live Oak	12.7				
534	Coast Live Oak	12.1				
535	Coast Live Oak	28.7				
~~536~~	~~Coast Live Oak~~	~~31.8~~				
537	Coast Live Oak	95.5				Landmark Tree

538	Coast Live Oak	25.5				
539	Coast Live Oak	22.3				
540	Coast Live Oak	19.1				
541	Coast Live Oak	21.0				
542	Coast Live Oak	25.5				
543	Coast Live Oak	4.8				
544	Coast Live Oak	28.3				
545	Coast Live Oak	7.0				
546	Coast Live Oak	30.3				
547	Coast Live Oak	19.7				
548	Coast Live Oak	10.2				
549	Coast Live Oak	31.8				
550	Coast Live Oak	17.5	1.0			2 Branches
551	Coast Live Oak	16.2				
552	Coast Live Oak	19.1				
553	Coast Live Oak	9.6	9.6			2 Branches
554	Coast Live Oak	38.2	25.5	19.1	14.3	4 Branches
555	Coast Live Oak	19.7				
556	Coast Live Oak	10.8				
557	Coast Live Oak	19.7				
558	Coast Live Oak	12.7				
559	Coast Live Oak	22.3				
560	Coast Live Oak	24.8				
561	Coast Live Oak	13.1				
562	Coast Live Oak	14.3	9.6			2 Branches
563	Coast Live Oak	14.0				
564	Coast Live Oak	6.7				
565	Coast Live Oak	7.3	7.3			2 Branches
566	Coast Live Oak	24.8				
567	Coast Live Oak	159.2				Landmark Tree
568	Coast Live Oak	1.9				
569	Coast Live Oak	7.0				
570	Coast Live Oak	13.4	4.8			2 Branches
571	Coast Live Oak	57.3				Landmark Tree
572	Coast Live Oak	5.1				
573	Coast Live Oak	14.3				
574	Coast Live Oak	15.6				
575	Coast Live Oak	60.5				Landmark Tree
576	Coast Live Oak	19.1				
577	Coast Live Oak	25.5				
578	Coast Live Oak	28.7				
579	Coast Live Oak	31.8				
580	Coast Live Oak	20.7	17.8			2 Branches
581	Coast Live Oak	35.0				
~~582~~	~~Coast Live Oak~~	~~44.6~~				
583	Coast Live Oak	7.3				

584	Coast Live Oak	11.5				
585	Coast Live Oak	21.0				
586	Blue Oak	21.0				
587	Blue Oak	22.3				
588	Blue Oak	25.5				
589	Coast Live Oak	15.3				
590	Coast Live Oak	15.9	15.6			2 Branches
591	Coast Live Oak	28.7				Landmark Tree
592	Coast Live Oak	7.0				
593	Coast Live Oak	35.0				
594	Coast Live Oak	56.7				Landmark Tree
595	Coast Live Oak	8.3				
596	Coast Live Oak	47.8	17.5	16.6		Landmark Tree - 3 Branches
597	Coast Live Oak	15.9				
598	Coast Live Oak	17.2				
599	Coast Live Oak	9.6	6.4	5.1		3 Branches
600	Coast Live Oak	8.3				
601	Coast Live Oak	8.0				
602	Coast Live Oak	52.5				Landmark Tree
603	Coast Live Oak	8.6	4.5			2 Branches
604	Coast Live Oak	22.9				
605	Coast Live Oak	29.0				
606	Coast Live Oak	36.9				2 Branches
607	Coast Live Oak	7.0				
608	Coast Live Oak	31.8				
609	Coast Live Oak	10.2	4.8	4.5	1.9	4 Branches
610	Coast Live Oak	28.3	22.3			2 Branches
611	Coast Live Oak	21.0				
612	Coast Live Oak	22.0				
613	Coast Live Oak	24.0				
614	Coast Live Oak	21.0				
615	Coast Live Oak	25.5				
616	Coast Live Oak	31.8				
617	Coast Live Oak	25.5	24.2			2 Branches
618	Coast Live Oak	38.2				
619	Coast Live Oak	35.0				
620	Coast Live Oak	22.9				
621	Coast Live Oak	8.6	5.7			2 Branches
622	Coast Live Oak	10.2	1.9			2 Branches
623	Coast Live Oak	5.7				
624	Coast Live Oak	7.6	5.1	4.5	4.5	4 Branches
625	Coast Live Oak	28.0				
626	Coast Live Oak	28.3				
627	Coast Live Oak	27.4				
628	Coast Live Oak	35.0				3 Branches
629	Coast Live Oak	21.0				

630	Coast Live Oak	26.8						2 Branches
631	Coast Live Oak	26.1						
632	Coast Live Oak	19.1						
633	Coast Live Oak	73.2						Landmark Tree
634	Coast Live Oak	7.3						
635	Coast Live Oak	10.2						
636	Coast Live Oak	11.5						
637	Coast Live Oak	8.3						
638	Coast Live Oak	8.0						
639	Coast Live Oak	13.7						
640	Coast Live Oak	11.5						
641	Coast Live Oak	8.9						
642	Coast Live Oak	11.5						
643	Coast Live Oak	6.4						
644	Coast Live Oak	8.3						
645	Coast Live Oak	18.5						
646	Coast Live Oak	16.9						
647	Coast Live Oak	32.8						
648	Coast Live Oak	17.8						
649	Coast Live Oak	10.8						
650	Coast Live Oak	11.8	11.5					2 Branches
651	Coast Live Oak	5.7						
652	Coast Live Oak	9.2						
653	Coast Live Oak	10.2						
654	Coast Live Oak	16.6	14.6					2 Branches
655	Coast Live Oak	5.7						
656	Coast Live Oak	16.6						
657	Coast Live Oak	15.3						
658	Coast Live Oak	11.5						
659	Coast Live Oak	13.4						
660	Coast Live Oak	17.5	14.6	11.5				3 Branches
661	Coast Live Oak	20.7	20.4	17.8	14.3	14.3	10.8	6 Branches
662	Blue Oak	11.5	6.4					2 Branches
663	Coast Live Oak	15.9	14.3					2 Branches
664	Coast Live Oak	6.4						
665	Coast Live Oak	16.6						
666	Blue Oak	18.5						
667	Blue Oak	7.0						
668	Coast Live Oak	7.0	5.7	4.8	4.5			4 Branches
669	Coast Live Oak	18.2	14.3	13.4				3 Branches
670	Coast Live Oak	18.2						
671	Coast Live Oak	16.6						
672	Coast Live Oak	6.4						
673	Coast Live Oak	21.7	19.7	18.2	17.2	14.3	16.9	6 Branches
674	Coast Live Oak	24.8	23.6	21.7				3 Branches
675	Coast Live Oak	16.6	14.0					2 Branches

676	Coast Live Oak	22.3	18.5	15.6	15.3			4 Branches
677	Coast Live Oak	14.3	10.8					2 Branches
678	Coast Live Oak	14.3	13.7	13.4				3 Branches
679	Coast Live Oak	18.5	17.8	17.2	15.3			4 Branches
680	Coast Live Oak	14.6						
681	Coast Live Oak	8.3						Dead Tree
682	Coast Live Oak	10.2	8.3					2 Branches
683	Blue Oak	13.7	11.1	10.2	9.9	12.7		5 Branches
684	Coast Live Oak	16.6						
685	Coast Live Oak	16.2	15.6					2 Branches
686	Coast Live Oak	16.9	14.6					2 Branches
687	Coast Live Oak	17.8						
688	Coast Live Oak	19.1						
689	Coast Live Oak	14.0						
690	Coast Live Oak	10.2						
691	Coast Live Oak	19.7						
692	Coast Live Oak	17.2	16.6					2 Branches
693	Coast Live Oak	14.6						
694	Coast Live Oak	13.7						
695	Coast Live Oak	34.1						Landmark Tree
696	Coast Live Oak	12.1						
697	Coast Live Oak	16.9	14.6	12.7				3 Branches
698	Coast Live Oak	15.9	15.0					2 Branches
699	Coast Live Oak	23.6	18.5	7.3				3 Branches
700	Coast Live Oak	14.6	14.0					2 Branches
701	Coast Live Oak	11.8	11.5					2 Branches
702	Coast Live Oak	19.7	18.5					2 Branches
703	Coast Live Oak	10.8						
704	Coast Live Oak	16.6						
705	Coast Live Oak	20.4						
706	Coast Live Oak	19.7						
707	Coast Live Oak	14.0	1.9					2 Branches
708	Coast Live Oak	14.0						
709	Coast Live Oak	14.6						
710	Coast Live Oak	16.6	9.6					2 Branches
711	Coast Live Oak	8.9						
712	Coast Live Oak	10.5						
713	Coast Live Oak	10.8	10.2	8.9				3 Branches
714	Coast Live Oak	23.9	22.3	22.0	21.7			4 Branches
715	Coast Live Oak	22.0	17.8	13.4				3 Branches
716	Coast Live Oak	18.2						
717	Blue Oak	16.9						
718	Coast Live Oak	23.9	21.3	17.8	10.8	11.5	4.8	6 Branches
719	Coast Live Oak	18.2						
720	Coast Live Oak	23.2	21.7					2 Branches
721	Blue Oak	11.8	11.1	11.1	10.2	10.2		5 Branches

722	Blue Oak	7.3						
723	Blue Oak	5.7	5.1	4.8	4.1			4 Branches
724	Blue Oak	16.9	14.6					2 Branches
725	Blue Oak	13.4	12.1	11.5				3 Branches
726	Blue Oak	7.0	6.7	6.4	6.1	5.7	5.4	6 Branches
727	Blue Oak	14.3	11.8					2 Branches
728	Blue Oak	11.1	8.0	7.3	5.1	5.1	3.8	6 Branches
729	Coast Live Oak	10.2	7.6	5.7	4.8	4.8		5 Branches
730	Coast Live Oak	17.5	17.2					2 Branches
731	Coast Live Oak	22.9						
732	Coast Live Oak	35.0						Landmark Tree
733	Coast Live Oak	13.4	12.1					2 Branches
734	Coast Live Oak	22.3						
735	Coast Live Oak	12.7						
736	Coast Live Oak	8.9						
737	Coast Live Oak	12.1						
738	Coast Live Oak	35.0	16.9	15.3	13.7			Landmark Tree - 4 Branches
739	Coast Live Oak	7.3	3.8	3.8				3 Branches
740	Coast Live Oak	16.6	13.7	11.5	10.8			4 Branches
741	Coast Live Oak	16.6						
742	Coast Live Oak	10.8	10.2	6.7				3 Branches
743	Blue Oak	8.6	8.0	7.3				3 Branches
744	Coast Live Oak	16.9	15.0	14.3				3 Branches
745	Coast Live Oak	10.2	10.2					2 Branches
746	Coast Live Oak	9.0						
747	Cypress	6.0						dead
748	Cypress	6.0						dead
749	Pepper	22.0						heart rot hazard
750	Coast Live Oak	30.0						
751	Willow	12.0						9-stem 12,11,10,10,10,9,9,5,5
752	Coast Live Oak	24.0						
753	Coast Live Oak	10.0						3-stem 10,8,6
754	Coast Live Oak	23.0						
755	Blue Gum Eucalyptus	87.0						heart rot hazard
756	Coast Live Oak	23.0						heart rot hazard
757	Coast Live Oak	20.0						9-stem 20,16,14,16,15,15,14,7,5
758	Coast Live Oak	25.0						3-stem 25,24,16
759	Coast Live Oak	27.0						root decay, crown in decline
760	Coast Live Oak	18.0						2-stem 18,16
761	Coast Live Oak	24.0						2-stem 24,23
762	Coast Live Oak	20.0						
763	Coast Live Oak	24.0						heart rot
764	Coast Live Oak	27.0						
765	Coast Live Oak	20.0						
766	Coast Live Oak	32.0						heart rot, bee hive
767	Coast Live Oak	31.0						heart rot

PLN040183
LIB050610

RANA CREEK
HABITAT RESTORATION

Paraiso Hot Springs Biological Assessment

(Final)

Created for

Thompson Holding, LLC.
Paraiso Hot Springs Resort

on

July 11th, 2005

35351 East Carmel Valley Road, Carmel Valley, California 93924 Tele.(831) 659 - 3811 Fax.(831) 659 - 4851

TABLE OF CONTENTS

1. Summary

This biological assessment report was prepared to document and assess the existing biological resources within the extents of APNs 418-361-004, 418-381-022, and 418-381-021 at Paraiso Hot Springs, Monterey County, California. The property is comprised of developed areas that contain buildings, landscaping plants, eucalyptus, and palm trees, and areas of live oak woodland, Diablan sage scrub, Baccharis Scrub, riparian, and annual grasslands. The majority of proposed development will be done in areas that are already developed or disturbed. No rare plant species were found during the surveys. Monterey dusky-footed woodrat nests were found during the surveys in the lower willow riparian area. The Monterey dusky-footed woodrat is California Species of Concern. The areas in whicb they were found are not proposed for development. This biological assessment was utilized throughout the planning process in order to place development completely outside sensitive habitat areas.

2. Owner and Location of Project

2.1 Applicant: Paraiso Resorts L.L.C.
PO Box 1925
Horsham, PA 19044

2.2 Location: The project site is located at the existing Paraiso Hot Springs Resort, near Soledad, California. The site is in a valley at the base of the Sierra de Salinas, approximately 5 miles from the Salinas River.

Assessor's Parcel Numbers (APN): 418-361-004, 418-381-022, and 418-381-021

3.0 Methods

The *California Natural Diversity Database* (CDFG 2002) and the *California Native Plant Society's Inventory of Rare and Endangered Plants of California* (CNPS 2001) were used to identify known or potential populations of sensitive plant and animal species in the vicinity of the project site prior to surveys. In addition, the *National Wetlands Inventory* was used to locate aquatic habitat within 5 miles of the site.

Rana Creek Habitat Restoration conducted biological surveys over a period between December 12th and March 11, 2003, tree surveys in 2004 and 2005, and follow up biological surveys in the spring of 2005. The times of the surveys were adequate to assess the habitat types and presence of sensitive habitats. The entire property to be developed was inspected for sensitive species or communities and lists of plant and animal species observed were compiled. Plant identification was validated using *The Jepson Manual* (Hickman 1993) and *An Illustrated Guide to the Flowering Plants of Monterey County* (Matthews 1997). Field surveys were conducted using a global positioning system (GPS) survey unit was used in conjunction with 1995 aerial photographs to map vegetation.

4.0 Impacts Assessment

The project involves the renovation of the Paraiso Hot Springs Resort. The developed project area is approximately 50 acres of the 240-acre property. The footprint of all building and developed surfaces is approximately 23 acres. This footprint does not include landscaped areas such as those within the hotel guestroom area or the vineyard. The total area to remain in open space is 27 acres or 54% of the project area, and 79 % of the total property.

5.0 Regulatory Jurisdiction

County of Monterey
Planning and Building Department
2620 1st Avenue
Marina, CA 93933

6.0 Sensitive Species / Habitat

Appropriate habitat and conditions were analyzed throughout the property for rare species that may potentially occur in the area.

No rare plants were found.

Four Monterey dusky-footed woodrat nests were found during the surveys within willow riparian habitat. The Monterey dusky-footed woodrat is a California Species of Concern. The areas in which they were found are not proposed for development.

The property was also surveyed for suitable habitat for "at risk" amphibians including Califorina Red-legged Frog (CRLF) (*Rana aurora draytonii*), the Yellow-legged Frog *(Rana boylei*), California Tiger Salamander (*Ambystoma californiense*), and California newt (*Taricha torosa*).

No rare species of amphibian were found during the surveys.

6.1 Vegetation/Habitat Descriptions

The California Native Plant Society Inventory of Rare Vascular Plants of California (2001) and The California Department of Fish and Game California Natural Diversity Database were utilized for identification of known populations of State and Federally listed rare, threatened and endangered plant species on or in the vicinity of the project site. Plant identification was validated utilizing The Jepson Manual (Hickman 1993). Cultivar species were identified utilizing the Sunset Western Garden Book.

Annual Grassland


Annual grassland west of the developed areas of the property.

The grasslands of Paraiso Hot Springs consist mainly of annual non-native grasses with a few native grasses and forbs. The annual grasslands are typical of the hills and agricultural areas of the Salinas Valley. The plants in these areas include non-native soft chess (*Bromus hordeaceus*), foxtail chess (*Bromus madritensis* ssp. *rubens*), rattlesnake grass (*Briza maxima*), slender wild oats (*Avena fatua*), and English plantain (*Plantago lanceolata*). During the spring several annual native wildflowers are present include pink owl's clover (*Castelleja exserta*), blue dicks (*Dichelostemma capitatum*), popcorn flower (*Plagiobothrys nothofulvus*), and sky lupine (*Lupinus nanus*). The areas of annual grassland that have very few native species were most likely the areas that were farmed or historically had a high level of disturbance.

Landscaped and Disturbed

A majority of the area to be developed consists of areas of non-native landscaping and disturbance adapted non-native plants. A large area of lawn dominated by non-native Kikuyu grass (*Pennisetum clandestinum*) is located in the middle of the currently developed areas. There are a few areas within the lawn where common rush (*Juncus effusus*) is growing due to moisture from the leach fields. A major feature of the developed area is the stand of Mexican fan palms (*Washingtonia robusta*). The palms provide nesting habitat for a number of bird species, and are also used as granary trees by acorn woodpeckers. The majority of the palms will remain. Other common landscaping plants include: Peruvian pepper tree (*Schinus molle*), African daisy (*Osteospermum fruticosum*), pink cosmos (*Cosmos binnatus*), jade plant (*Crassula argentea*), Japanese honeysuckle (*Lonicera japonica*), regal geranium (*Pelargonium domesticum*), and many others.

Landscaped areas of Paraiso Hot Springs.

Diablan Sage Scrub: The majority of the north and western areas of the property outside of the development area consist of Diablan sage scrub. The dominant species include chamise (*Adenostoma fasiculatum*), California sagebrush (*Artemisia californica*), and black sage (*Salvia mellifera*).

Diablan Sage Scrub adjacent to the development areas.

Baccharis Scrub

This habitat type is sometimes called soft chaparral, as it does not contain *manzanita*, *ceanothus*, or other "hard" woody shrubs. The dominant plant of this community is coyote brush (*Baccharis piluaris*). The baccharis scrub areas are located near the riparian areas and slopes near the eastern edge of the property.

Baccharis scrub and riparian habitats with annual grassland in the foreground.

Seasonal Wet Seep

"The Army Corps of Engineers (Federal Register 1982) and the Environmental Protection Agency (Federal Register 1980) jointly define wetlands as: 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." (Army Corps of Engineers, Wetland Delineation Manual 1987)

There is a small area (0.21 acres) in the middle of weedy annual grasslands that contains a wet seep. According to the Army Corp of Engineers' definition above, the area would be defined as a jurisdictional wetland. There was no standing water in this area, but the soil showed evidence of seasonal saturation and supports creeping wild rye (*Leymus triticoides*), common rush (*Juncus effusus*), spreading rush (*Juncus patens*), as well as non-native aquatic adapted plants including curly dock (*Rumex crispus*). This area is outside the development zone.

Wet seep area in the southeastern portion of the property.

Willow Riparian

There are approximately 2 acres of riparian habitat along the intermittent stream course. The dominant tree species are California sycamore (*Platanus racemosa*), and arroyo willow (*Salix lasiolepis*) with some non-native Mexican fan palms (*Washingtonia robusta*) and Peruvian pepper trees (*Schinus molle*). The understory is a mixture of mostly non-native grasses and forbs. The riparian area also contains highly invasive species tree tobacco (*Nicotiana glauca*) and castor bean (*Ricinus communis*). These species are not limited to the riparian area, but seem to thrive in areas with more moisture.

Along this seasonal drainage, adjacent to the southeastern portion of the development window lies Willow Riparian habitat dominated by coyote brush and scattered willow trees. This area is flanked by stands of Eucalyptus trees, bare soil, and degraded ruderal vegetation. This area will not be impacted as a result of the development project.

Pond Area

There is an area of ponds and wetlands of approximately 0.45 acres near the eastern entrance of the property. The pond is fed by water from the hot spring baths. The edges of the pond contain cat-tails (*Typhacea angustifolia*), slough sedge (*Carex obnupta*), and non-native water loving weeds such as curly dock (*Rumex crispus*). The surface of the water was covered with duck weed (*Lemna sp.*). The area surrounding the pond consists of non-native annual grasses and forbs.

Pond area with duckweed (*Lemna sp.*) on the surface with cat-tails (*Typhacea angustifolia*) on the edges. This area will be protected during development.

Wetland

The small drainage area at the outlet of the pond contains wetland. The dominant species are cat-tails (*Typhacea angustifolia*). This area will be protected during development.

Oak Woodland

There are approximately 22.6 acres of oak woodland within the property. The oak woodland areas are in good health and have relatively few invasive weeds. Three species of oak occur on the property: coast live oak (*Quercus agrifolia*), blue oak (*Quercus douglasii*), and scrub oak (*Quercus berberidifolia*). The most dominant and common one is the coast live oak. The understory of the oaks outside of the current camping area contain typical herbaceous species of oak woodlands including wood mint (*Stachys bullata*), humming bird sage (*Salvia spathacea*), mugwart (*Artemisia douglasiana*), bracken fern (*Pteridium aquilinum*), coffee fern (*Pellaea andromedaefolia*), and miner's lettuce (*Claytonia perfoliata*). The understory of the oak woodlands contain several native grass and grass-like species including blue wild-rye (*Elymus glaucus*), Coast-Range melica (*Melica imperfecta*), leafy bent-grass (*Agrostis pallens*), Foothill sedge (*Carex tumulicola*), and common rush (*Juncus effusus*). Shrubs in the understory include ocean spray (*Holodiscus discolor*), California coffeeberry (*Rhamnus californica*), spiny redberry (*Rhamnus crocea*), poison oak (*Toxicodendron diversilobum*), and Northern sticky monkey flower (*Mimulus aurantiacus*). An oak tree survey was performed (see attached tree survey).

There are some oak woodland areas where the campgrounds are currently located. These areas also contain coast live oak (*Quercus agrifolia*) but the understory consists of bare ground and annual non-native grasses and forbs.

Oak woodland within the camping area west of the existing developed areas.

Mixed Hardwood Forest

The north-facing slope on the south side of the property is dominated by mixed hardwood forest. The dominant trees in this area are: coast live oak (*Quercus agrifolia*), blue oak (*Quercus douglasii*), California buckeye (*Aesculus californica*), and California bay (*Umbellularia californica*). This area is not proposed for development.

Mixed Hardwood Forest and Diablan Sage Scrub

6.3 Wildlife

The variety of habitat types provide local wildlife with habitat and food sources. During the site visits, several bird species were observed on the property. The trees and shrubs on the property provide habitat and nesting sites for birds. All nesting birds, excluding Rock Doves (common pigeon), English Sparrows, and European Starlings are protected by the California Department of Fish and Game Code (sections 3503 and 3801) as well as by the Federal Migratory Bird Treaty Act. It is the applicant's responsibility to assure that nesting birds will not be disturbed during construction. A survey for nesting birds should be made prior to disturbance to assure that no nesting birds on or near the property will be disturbed, particularly if tree removal and grading are scheduled to begin prior to August 1st. If nesting birds are discovered on or near the building site, the California Department of Fish and Game should be consulted regarding measures to avoid impact.

The following birds were observed 2002/2003:

Scientific Name	Common Name
Aphelocoma californica	Western scrub jay
Bubo virginianus	great horned owl
Buteo jamaicensis	red-tailed hawk
Buteo lineatus	red-shouldered hawk
Callipepla californica	California quail
Calypte anna	Anna's hummingbird
Cathartes aura	turkey vulture
Catharus ustulatu	Swainson's Thrush
Chamaea fasciata	wrentit
Colaptes auratus	red-shafted Northern flicker
Corvus brachyrhynchos	American crow
Cyanocitta stelleri	Steller's jay
Dendroica coronata	yellow-rumped warbler
Euphagus cyanocephalus	Brewer's blackbird
Junco hyemalis ssp. thurberi	dark-eyed junco
Melanerpes formicivorus	acorn woodpecker
Pipilo crissalis	California towhee
Pipilo maculatus	spotted towhee
Poecile rufenscens ssp. barlowi	chestnut-backed chickadee
Sitta carolinensis	white-breasted nuthatch
Toxostoma redivivum	California thrasher
Zenaida macroura	mourning dove
Zonotrichia atricapilla	golden-crowned sparrow

A search of the *California Natural Diversity Database* (CDFG 2002) was done for CRLF and CTS within five miles of the project sight, and an inventory of all aquatic habitat data contained within the National Wetlands Inventory, and the U.S Department of Forestry FRAP data was also inquired.

There were no records of rare amphibians within 5 miles of the project site. No amphibians were found on the property.

The following reptiles were observed 2002/2003:

Scientific Name	Common Name
Sceloporus graciosus	sagebrush lizard
Sceloporus occidentalis	Western fence lizard

The coast horned lizard (*Phrynosoma coronatum*), a CDFG Species of Concern, was searched for and not found.

The following mammals were observed 2002/2003:

Scientific Name	Common Name
Lynx rufus californicus	bobcat
Odocoileus hemionus californica	black-tailed deer
Thomomys bottae	Botta's pocket gopher

Mammals that were not observed but were found to be present from scat, nests, tracks, or scratch marks:

Scientific Name	Common Name
Canis latrans ochropus	coyote
Neotoma fuscipes luciana (CSC)	Monterey dusky-footed woodrat
*Sus scrofa**	European wild boar

(CSC) - California Species of Concern. * - Non-native species

Woodrat nest in the riparian area, outside of the proposed development.

7.0 Mitigation Recommendations

a. All areas where water drains off new roads and culverts shall have energy dissipaters to help prevent potential erosion. All erosion control measures shall be implemented in accordance with the Erosion Control Plan for the project.

b. Any Monterey Dusky-footed woodrat (California Species of Concern) nests found within a building envelope should be dismantled by hand before any heavy equipment is used to clear the site. This will allow the woodrats to escape and find new homes outside of the building area.

c. The highly invasive weeds tree tobacco (*Nicotiana glauca*) and castor bean (*Ricinus communis*) should be controlled. These species have the potential to escape into adjacent native habitats and displace native plants. Additionally, both of these plants contain toxins that can be fatal to humans if eaten or smoked.

d. The project proponent has analyzed the vegetation and located development within areas of historic land use and disturbance. Some development will occur adjacent to Willow Riparian habitat. Those sites should be demarcated and protected from disturbance during development.

8.0 Conclusion

The area of Paraiso Hot Springs Resort planned for development is approximately 50 acres of the 240 acre property. The total area to remain in open space is 27 acres or 54% of the project area, and 79 % of the total property. The development will not change the wildlife patterns in a dramatic way. There were no rare plant species found. Monterey Dusky-footed woodrat (California Species of Concern) nests were found outside of the area to be developed.

9.0 References

California Department of Fish and Game. *Natural Diversity Database, Special Animals.* January 2001.

California Department of Fish and Game. *Natural Diversity Database, Special Vascular Plants and Bryophytes, and Lichens List.* January 2001.

California Department of Fish and Game. *California Endangered Species Act.* 1984.

California Department of Fish and Game. Jeff Cann, *Personal Communication.* 2002

The California Native Plant Society Inventory of Rare Vascular Plants of California. 2000.

Hickman, James C. ed. 1996. The Jepson Manual, Higher Plants of California. University of California Press, Berkeley.

U.S. Fish & Wildlife Service. *Federal Endangered Species Act.* 1973.

10.0 Vascular Plant List

The following vascular plants were observed 2002/2003:

Scientific Name	Common Name
Achillea millefolium	common yarrow
Adenostoma fasiculatum	chamise
Aesculus californica	California Buckeye
*Agave americana var. marginata**	variegated giant agave
*Agave americana**	giant agave
Amsinckia menziesii var. intermedia	common fiddleneck
*Anagallis arvensis**	scarlet pimpernel
Anaphalis margaritacea	pearly everlasting
Artemisia californica	California sagebrush
Artemisia douglasuana	mugwart
*Arundo donax**	giant reed
Baccharis piluaris	Coyote brush
Baccharis salicifolia	mule fat
*Brassica rapa**	Field mustard
Brickelia californica	California brickellbush
*Bromus diandrus**	ripgut brome
*Bromus hordeaceus**	Soft chess
*Bromus madritensis ssp. rubens**	foxtail chess
Callistemon sp.	bottlebrush
Carex obnupta	slough sedge
Castelleja exserta	pink owl's clover
*Chenopodium murale**	nettle-leaved goosefoot
Claytonia perfoliata	miner's lettuce
*Conyza bonariensis**	S. American conyza
*Conyza canadensis**	horseweed
*Cortaderia jubata**	Jubata grass (pampas grass)
*Cosmos binnatus**	pink cosmos
*Crassula argentea**	Jade plant
*Cupressus macrocarpa***	Monterey cypress
*Cynodon dactylon**	Bermuda grass
*Cynosurus echinatus**	dog-tail grass
Cyperus squarrosus	awned cyperus
*Daucus carota**	Queen Ann's lace
Dichelostemma capitatum	blue dicks
*Dimorphotheca aurantiaca**	African daisy

Elymus glaucus	blue wild ryc
Epilobium ciliatum ssp. watsonii	willow-herb
Eremocarpus setigerus	turkey mullein
*Erodium botrys**	long-beaked filaree
*Erodium cicutarium**	red stemmed filaree
Eschscholzia californica	California poppy
*Eucalyptus camalsulensis**	red gum
*Eucalyptus globulous**	blue gum
*Euphorbia lathyris**	Gopher Plant
*Euryops pectinatus**	Euryops
Galium aparine	goose-grass
Galium porrigens	Climbing bedstraw
*Geranium molle**	dove's foot geranium
*Gnapthalium luteo-album**	weedy cudweed
*Hedera helix**	English ivy
Heteromeles arbutifolia	toyon
Heterotheca grandiflora	telegraph weed
*Hirschfeldia incana**	summer mustard
*Hordeum murinum ssp. leporinum**	barnyard foxtail
*Hypochaeris radicata**	hairy cat's ears
*Hypocharis glabra**	smooth cat's ear
*Iris germanica**	Bearded iris
Juncus effusus	Common Rush
Juncus patens	Spreading rush
*Juniperus sp.**	Juniper
*Lactuca serriola**	prickly lettuce
Lathyrus vestitus	Pacific pea
Lemna sp.	duckweed
Leymus triticoides	Creeping wild rye
*Limonium bonduellii**	statice
*Lolium perenne**	perennial ryegrass
Lonicera interupta	chaparral honeysuckle
*Lonicera japonica**	Japanese Honeysuckle
Lotus scoparius	deerweed
Lupinus hirsutissimus	stinging lupine
*Lycianthus ranronnei**	potato vine
*Malva parviflora**	common mallow
Marah fabaceus	man-root (wild cucumber)
*Marrubium vulgare**	horehound
*Medicago polymorpha**	bur clover

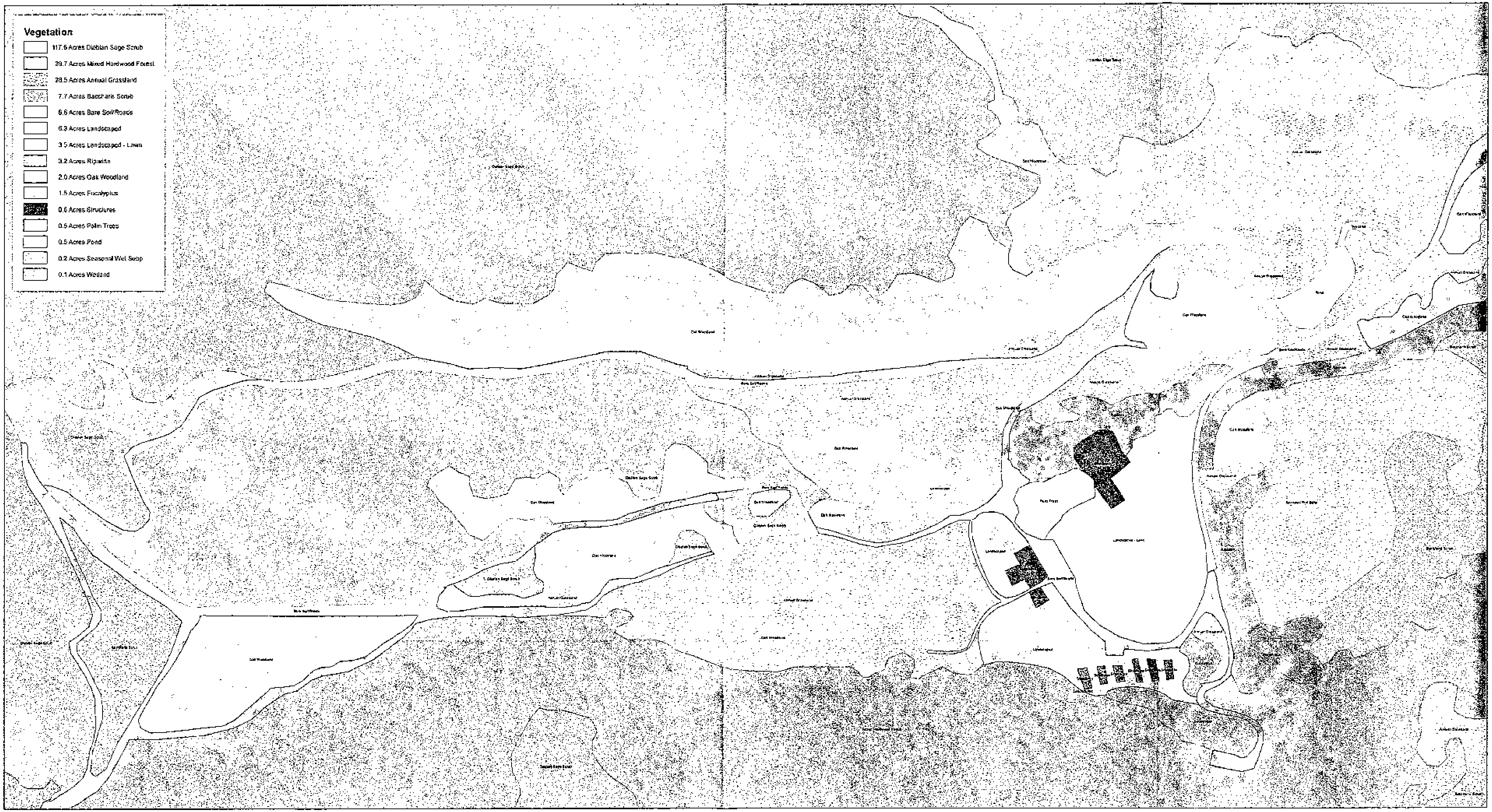
Melica imperfecta	Coast-Range melica
*Melilotus officinalis**	yellow sweet clover
Mimulus aurantiacus	Sticky monkey flower
Nassella pulchra	Purple needlegrass
*Nerium oleander**	oleander
*Nicotiana glauca**	tree tobacco
*Olea sp.**	olive tree
*Opuntia ficus-indica**	Missuion cactus
*Osteospermum fruticosum**	African daisy
*Oxalis pes-carpe**	Bermuda buttercup
*Pelargonium domesticum**	regal geranium
Pellaea andromedifolia	Coffee fern
Pellaea macromata	Birdsfoot Fern
*Pennisetum clandestinum**	Kikuyu grass
Pentagramma triangularis	California Goldback Fern
*Pinus radiata***	Monterey pine
Plagiobothrys nothofulvus	popcorn flower
*Plantago coronopus**	cut-leaved plantain
*Plantago lanceolata**	ribwort (English plantain)
*Polygonum arenastrum**	common knotweed
*Prunus cerasifera**	Purple Cherry Plum
Pteridium aquilinum	Western bracken fern
Quercus agrifolia	coast live oak
Quercus berberidifolia	California scrub oak
Quercus douglasii	blue oak
Rhamnus crocea	spiny redberry
Ribes californicum	hillside gooseberry
*Ricinus communis**	Castor Bean
Robinia pseudoacaci	Black locust tree
*Rumex acetosella**	sheep sorrel
*Rumex crispus**	curly dock
Salix lasiolepis	Arroyo willow
*Salvia leucantha**	Mexican bush sage
Salvia mellifera	black sage
Salvia spathacea	hummingbird sage
Sanicula crassicaulis	Pacific Sanicle
*Schinus molle**	Pepepr tree
*Sequoia sempervirens***	Coast redwood
*Sonchus asper**	prickly sow thistle
*Spergula arvensis**	spurry

Stachys bullata	Wood mint
Symphoricarpos mollis	creeping snowberry
*Torilis nodosa**	knotted hedge parsley
Toxicodendron diversilobum	Poison oak
Typhacea angustifolia	cat-tail
Umbellularia californica	California bay
Urtica dioica ssp. holosericea	Stinging nettle
*Vicia sativa**	spring vetch
*Vulpia bromoides**	sixweek fescue
*Vulpia myuros**	rattail fescue (*Festuca myuros*)
*Washingtonia robusta**	Mexican fan palm
*Zantedeschia aethiopica**	calla lily

* - Non-native species
** - California native, non native to the Paraiso Springs Area

Paraiso Hot Springs Resort

Vegetation Classification



N W E S

Map Disclaimer:

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Map Created for the Paraiso Hot Springs Resort June 12, 2005

0 120 240 480 720 960 1,200 1,440 1,680 1,920 Feet

0 30 60 120 180 240 300 360 420 480 Meters

0 0.02 0.04 0.08 0.12 0.16 0.2 Miles

Scale 1 : 1,400 **NAD83 UTM Zone 10N Feet**

Rana Creek Habitat Restoration
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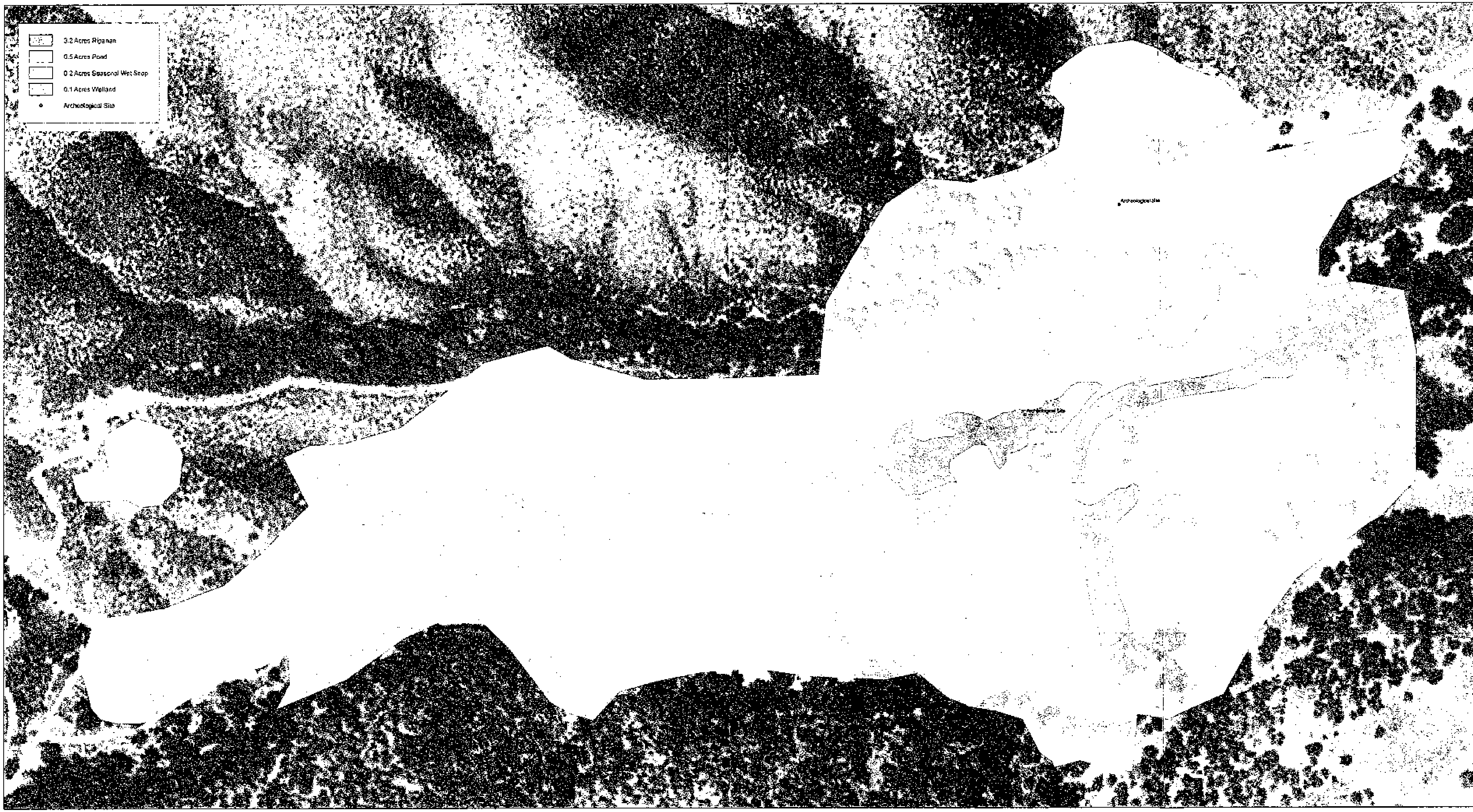
Paraiso Hot Springs Resort

Sensitive Habitat



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0 125 250 500 750 1,000 1,250 1,500 1,750 2,000 Feet

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0 0.02 0.04 0.08 0.12 0.16 0.2 Miles

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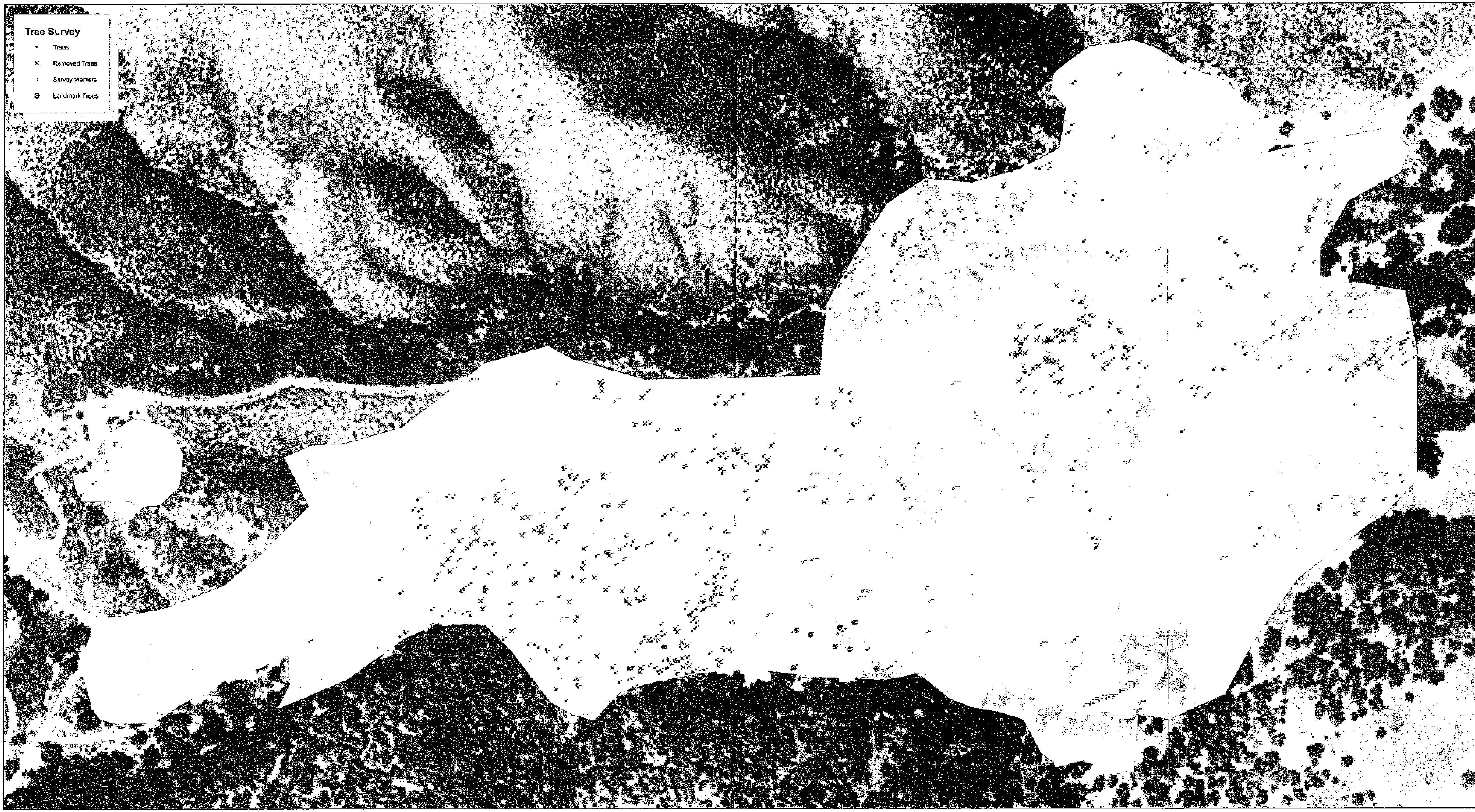
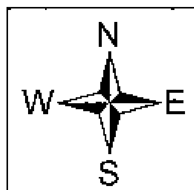
Paraiso Hot Springs Resort

Tree Survey





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Interim Report for the Bat Assessment Survey for Paraiso Springs Resort
March 25th, 2008

Introduction

Special-status bat species

There are fifteen bat species known to occur in the Monterey County area in California. Six of these species have some level of special-status (see Table 1). The focus of bat surveys was on existing structures at Paraiso Springs Resort that are planned to be demolished. Oak trees in development areas that represent potential roosting structures for bats were also assessed. A general habitat assessment was conducted to provide context of the local bat fauna and potential impact of proposed development.

Roosts

Bats use structures, such as bridges and buildings, for roosting habitats, including day roosts, night roosts, and maternity roosts. Day roosts are areas where bats are able to spend the non-active period of the day resting or in torpor, depending on the weather conditions. Day roosts provide shelter from the elements and safety from predators. Night roosts are used by bats to rest between foraging bouts, to allow for digestion of prey, to escape from predators, as shelter from weather, and possibly for social purposes. Night roosts are typically sites that retain heat from the day to aid the bats in maintaining the higher metabolism necessary for digestion. Maternity roosts are sites that provide protection from the elements and predators and provide the correct thermal environment for reproduction. Maternity roost sites tend to be warmer in temperature because breeding females need to maintain a high metabolism to aid in lactation and juvenile bats need to keep warm to maintain a metabolic rate that allows for rapid growth. Winter roosts are usually areas that have a stable low temperature suitable for hibernating or prolonged periods of torpor.

METHODS

Building surveys

All of the buildings in the project were visually investigated to determine if bats are using the structure for day roosting, night roosting, or maternity roosts. Buildings were surveyed during the day for day and maternity roost assessment. All bats were identified

to species and any sign such as guano, staining, or culled insect parts, were identified and quantified when possible.

Acoustic surveys for habitat assessment
Acoustic monitoring was done with four Anabat acoustic units, consisting of an Anabat II bat detector and storage zero crossing analyzers to collect acoustic files of the echolocation calls of the bats. The Anabat systems use a bat detector to detect bat ultrasonic echolocation calls in the field and use a zero-crossing unit to convert the detected signals into frequency/time graphs to be viewed on a computer. The graphs allow for bat species identification. Species are identified by their vocal signature graphs by comparing calls recorded during previous mist-netting activities, calls recorded from bats that are visually identified at the time of recording, and by comparing calls with existing bat vocal signature library databases. The Anabat system is commonly used for the survey of bats and is effective at identifying many species in the bat fauna assemblage (Table 3). Three acoustic detector units were deployed around the project area and ran four consecutive nights March 13th-17th, 2008.

Table 1. Bat Species Expected to Occur In the Monterey County Region

Family **VESPERTILIONIDAE** (Plain-nosed or mouse-eared bats)

Myotis yumanensis	MYYU	Yuma myotis	
Myotis evotis	MYEV	Long-eared myotis	**BLMS**
Myotis thysanodes	MYTH	Fringed myotis	**BLMS/WBWG**
Myotis volans	MYVO	Long-legged myotis	**BLMS/WBWG**
Myotis californicus	MYCA	California myotis	
Myotis ciliolabrum	MYCI	Western small-footed myotis	
Lasionycteris noctivagans	LANO	Silver-haired bat	
Eptesicus fuscus	EPFU	Big brown bat	
Lasiurus blossevillii	LABL	Western red bat	**FSS/WBWG**
Lasiurus cinereus	LACI	Hoary bat	
Corynorhinus townsendii	COTO	Townsend's big-eared bat	**CSC/FSS/BLMS/WBWG**
Antrozous pallidus	ANPA	Pallid bat	**CSC/FSS/BLMS/WBWG**
Pipistrellus hesperus	PIHE	Western pipistrelle	

Family **MOLOSSIDAE** (Free-tailed bats)

Tadarida brasiliensis	TABR	Mexican free-tailed bat
Eumops perotis	EUPE	Western mastiff bat

CSC = California Department of Fish and Game's California Special Concern species
FSS = Forest Service Sensitive species
BLMS = Bureau of Land Management Sensitive species
WBWG = Western Bat Working Group High Priority species

For more information on the meaning of these listings, please visit the Calif. Depart. of Fish and Game's California Natural Diversity Database website: www.dfg.ca.gov

Table 2. Species known to use structure roosts

Species	Structure Roost Type
M. yumanensis	DR, NR
M. evotis	DR,NR
M. thysanodes	DR, NR
M. volans	DR, NR
M. californicus	DR, NR
E. fuscus	DR, NR
C. townsendii	DR, NR
A. pallidus	DR, NR
L. noctivagans	NR
T. brasiliensis	DR, NR
Species not associated with structures	
L. cinereus	Trees
L. blossevilli	Trees

NR = night roost; DR = day roost;

Pierson, E.D., W.E. Rainey, and C.J. Corben. 2001. Seasonal patterns of bat distribution along an altitudinal gradient in the Sierra Nevada. Technical report for California Department of Transportation, California State University at Sacramento Foundation, The Yosemite Association, and The Yosemite Fund.

Table 3. Anabat Acoustic Analysis Capabilities

Species	Probability of detection	Probability of Identification	Phonic Group
M. lucifugus	high	low	M40 kHz
M.yumanensis	high	med	M50 kHz
M.evotis	med	high	
M. thysanodes	med	high	
M. volans	high	low	M40 kHz
M. californicus	high	med	M50 kHz
M. ciliolabrum	?	low	M40 kHz
E. fuscus	high	med	Q25 kHz
C. townsendii	low	high	
A. pallidus	med	med	Q25 kHz
P. hesperus	high	high	
L. cinereus	high	high	
L. blossevilli	high	high	
L. noctivagans	high	med	Q25 kHz
E. maculatum	audible by human ear (high)	high	
T. brasiliensis	high	med	Q25 kHz
E. perotis	audible by human ear (high)	high	

Probability of detection refers to how readily the species is recorded by the acoustic equipment. This varies because species echolocate at different decibel ranges and different frequencies, which affect how far the echolocation pulse travels and thus their range of detection.

Probability of identification refers to how easily each species is recognizable at the species level from the time versus frequency graph. *Low* indicates that a species will always be grouped at the phonic level and is indistinguishable from other species in that group. *Medium* indicates that the species will often be grouped at the phonic level but can sometimes have a signature call that allows for specific identification. *High* indicates reliable species level identification. Active acoustic monitoring with a spot light to obtain a visual on the bat as it is being recorded can be used to increase the probability of identification for both low and medium species.

Phonic group refers to the grouping of species that have calls that are indistinguishable.

Table 4. Bat Species Detected in the Project Area

Family VESPERTILIONIDAE (Plain-nosed or mouse-eared bats)

Myotis yumanensis	Yuma myotis	AC (50Khz)
Myotis californicus	California myotis	DR, AC (50Khz)
Myotis volans	Long-legged myotis	DR, AC (40Khz)
Eptesicus fuscus	Big brown bat	DR
Lasiurus blossevillii	Western red bat	AC
Lasiurus cinereus	Hoary bat	AC
Antrozous pallidus	Pallid bat	DR, NR

Family MOLOSSIDAE (Free-tailed bats)

Tadarida brasiliensis	Mexican free-tailed bat	DR, AC

AC = Detected acoustically
AC (XXKhz) = Possibly detected in a phonic group
DR = Observed Day Roosting, NR= Observed Night Roosting, MR=Maternity Roost observed

Results

Building Surveys

All buildings or structures in the project area were surveyed on March 13th and 14th 2008.

STRUCTURE	BATS or SIGN OF BAT USE	RECOMEMDATIONS
Lower Trailer Restrooms	Day roosting Mysp and Tabr	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition
House Trailers	No sign	No mitigation measures necessary
Pool Bathrooms	Sign of historic use. Guano flecking on walls. Sheet Rock has been removed limiting day roosting potential. High night roost potential	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended
Rec. Room	Potential Night Roost and Maternity Roost	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended
Boiler Room	Potential Coto Guano and Night roost. Night roost sign on exterior	No
Fire Equipment Room	No sign	
Main Pump House	Minimal Night roost activity	
Workshop	Major Day and Maternity roosts in West and East ends. Multiple species. ANPA confirmed.	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended
Main Lodge	Light Day roosting sign in attic. 1 Myotis volans day roosting in attic.	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended
Hill Side Cabins	All Hill Side Cabins and restrooms provide roosting habitat in the form of exterior crevices. Anpa, Tabr, Epfu, Myvo, and Mysp were observed during visual surveys March 14th	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended

Tree Surveys

Oak trees
The majority of oak trees surveyed in development zones do not offer roost habitat (small dbh, absence of appropriate tree decay). A few large oak trees with suitable hollow limb features for roosting sites exist on the property and were identified as being potentially important bat habitat. We recommend keeping these trees when possible. One large, senescing oak tree (#145) is designated a hazard tree and proper mitigation would require pre-removal surveys and a qualified bat ecologist on hand during tree removal activities.

Palm trees
The palm trees on the Paraiso Springs Resort property offer minimal habitat potential for local bat species. Common bat species may use palm skirts for roosts and species that roost singly or in small groups could use this feature during summer for maternity roosts. Recommended mitigation is removal of palm trees during winter months (Nov-Mar) to avoid accidental take during tree removal. No replacement habitat is necessary.

Eucalyptus grove
Eucalyptus trees are not associated with critical bat roosting habitats in California. Acoustic monitoring in March indicated very low bat activity levels in the Eucalyptus grove. Bat activity could be higher during summer months and should be re-assessed during June. Recommended mitigation would include removal of trees in winter months, if possible, if June surveys indicate higher bat activity levels after June surveys. No replacement habitat is necessary.

Acoustic Surveys

Acoustic monitoring was conducted four nights in March 2008. Only 102 Acoustic files were recorded and analyzed. Four species and two phonic groups were recorded during the four nights of surveys.

Site	Bat	MY50	MY40	PIHE	LABL	LACI	TABR
Eucalyptus Grove	0	0	0	0	0	0	0
Palms Near Hot Springs	82	72	8	0	0	0	2
East end of Workshop	4	2	0	2	0	0	0
Lower Indian Valley	16	11	1	0	2	1	1
Total	102	85	9	2	2	1	3

MY50=*Myotis yumannensis, Myotis californicus*
MY40=*Myotis volans, Myotis ciliolabrum*
PIHE= *Pipestrelus hesperus*
LABL=*Lasiurus blossevillii*
LACI=*Lasiurus cinereus*
TABR=*Tadarida brasiliensis*

General Conclusions and Recommendations

The Paraiso Springs Resort property has healthy intact oak woodland habitat that offers natural roosting and foraging habitats surrounding the proposed development zones. The proposed development and removal of existing structures poses minimal impact to the local bat fauna. The proximity of plenty of natural habitat features that offer suitable roosting habitat (rock outcrops, old oak trees, etc) precludes the need to provide replacement habitat for bats that may use existing structures for day roosting. Efforts should be taken to prevent the accidental take of animals during structure or tree demolition, including scheduling demolition activities to not occur during the peak breeding season (May-August) and requiring a qualified bat biologist to perform pre-demolition surveys to remove animals that may be present immediately prior to demolition activities.

Paraiso Hot Springs Resort
Landscape Tree Survey

The purpose of this document is to address the comments of the consulting biologist Bill Davilla, in the memo dated January 8, 2008, about the proposed removal of introduced landscape trees, native and non-native, and the significance of potential impacts to resident wildlife.

Tree surveys were conducted on March 12, 2008, by Matt Horowitz, Forest City Consulting and Kimberly Takacs, Rana Creek. Rana Creek using a Trimble ProXR collected locations of landscape trees. The data was postprocessed to sub-meter accuracy. The survey was used to document location and number of trees within the development area that are slated for impact (Figure 1, Table 1). Only those trees greater than 14" DBH were mapped, with the exception of Palm trees. In the case of palm trees and where there were stands of trees, an area was mapped to show location, and the number of trees and average DBH was documented. There is no indication of a Heritage Tree designation for non-native species in Monterey County.

Table 1. Results of tree survey conducted March 12, 2008 of impacted landscape trees.

SPIECIES Common Name	*Scientific Name*	**COUNT**	**NUMBER REMOVED**
Buckeye	*Aesculus californica*	5	4
Cypress	*Cupressus sp.*	2	1
Blue Gum Eucalyptus	*Eucalyptus globulus*	45	45
Juniper	*Juniperus sp.*	1	1
Mexican Fan Palm	*Washingtonia robusta*	353	353
Pine	*Pinus sp.*	26	26
California sycamore	*Platanus racemosa*	6	6

Josh Koepke, Wildlife Biologist with Rana Creek, conducted an observational survey on March 13, 2008 focused mostly on avian uses of the landscape trees. At the time of the field visit, white washing, owl pellets, and small rodent carcasses were observed at the base of a few palm and eucalyptus trees. The owl pellets could be evidence of roosting behavior or nesting activity. A large nest was located in the eucalyptus grove on the south side of the development area (Figure 2). Judging from the size of the nest (about three feet wide) and the location (about 70-80 feet high), the nest is likely from a Red-tailed hawk (*Buteo jamaicencis*). The nest appeared to be in good condition and could be in the process of nest construction. Red Tailed Hawks are common permanent breeding and winter residents as well as migratory visitors throughout California. Although additional surveys and observations in May and July indicate no current use of this nest, it is our recommendation that all tree removal necessary for the redevelopment of the resort should occur between August and February, when nests would not be active.

There are additional riparian areas on the property with established willow and Sycamore trees that can provide nesting habitat for passerine songbirds, but these areas are not within the impacted areas and were not included in the impacted tree survey.

Conclusions:

It is our understanding that all of the landscape trees have the potential to be removed with the exception of a single buckeye and cypress, which due to their size and splendor, the client wishes to keep. A review of the development plan shows the projects willingness to enhance and create new habitat throughout the development. The subject property contains over 8500 native trees and more than enough suitable habitat to offset the removal of any of the exotic landscape trees in the course of redevelopment. It is our conclusion that the removal of the exotic trees will not have a significant impact to the native wildlife habitat provided by the Paraiso Hot Springs resort property.

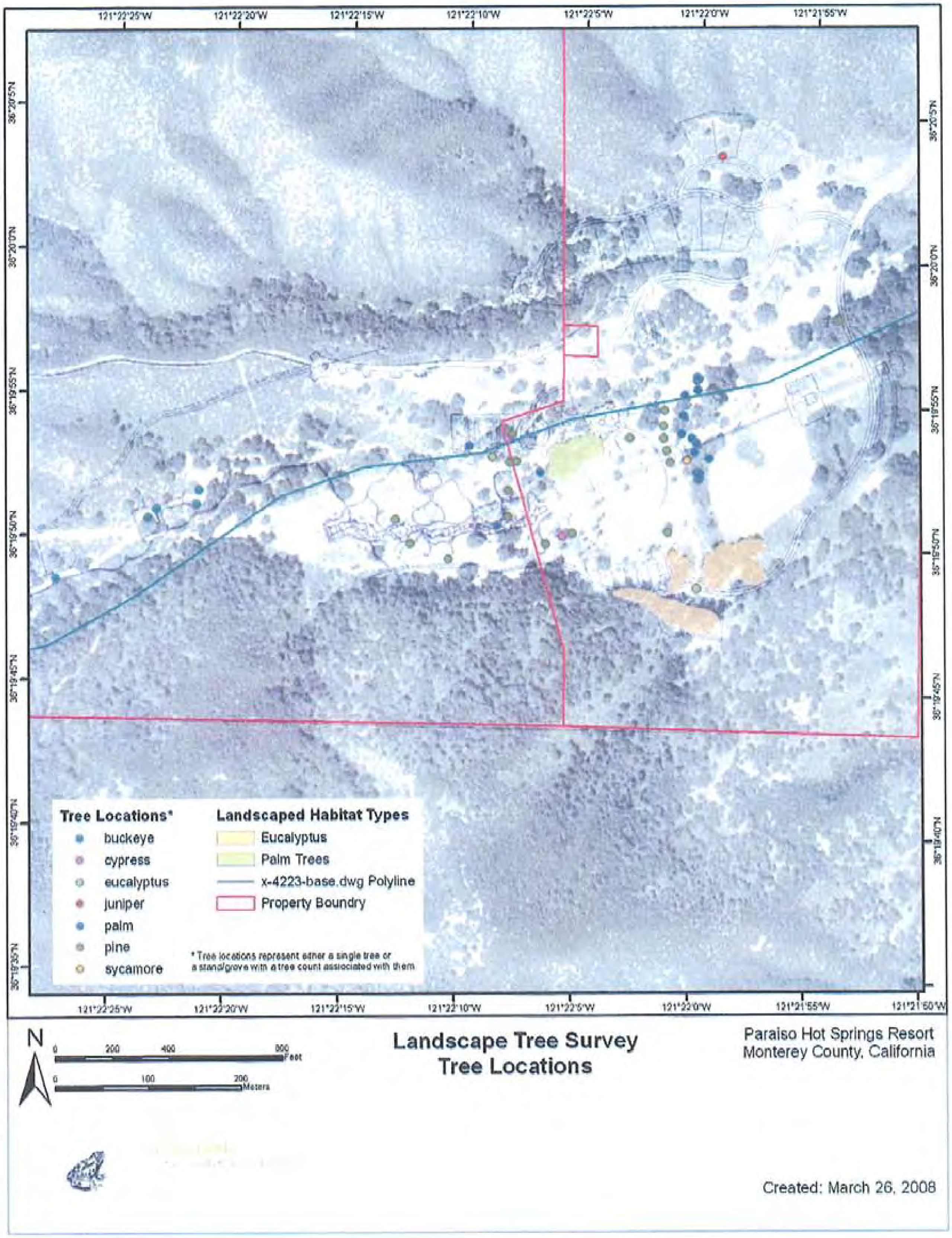

Figure 1. Tree Location Map.

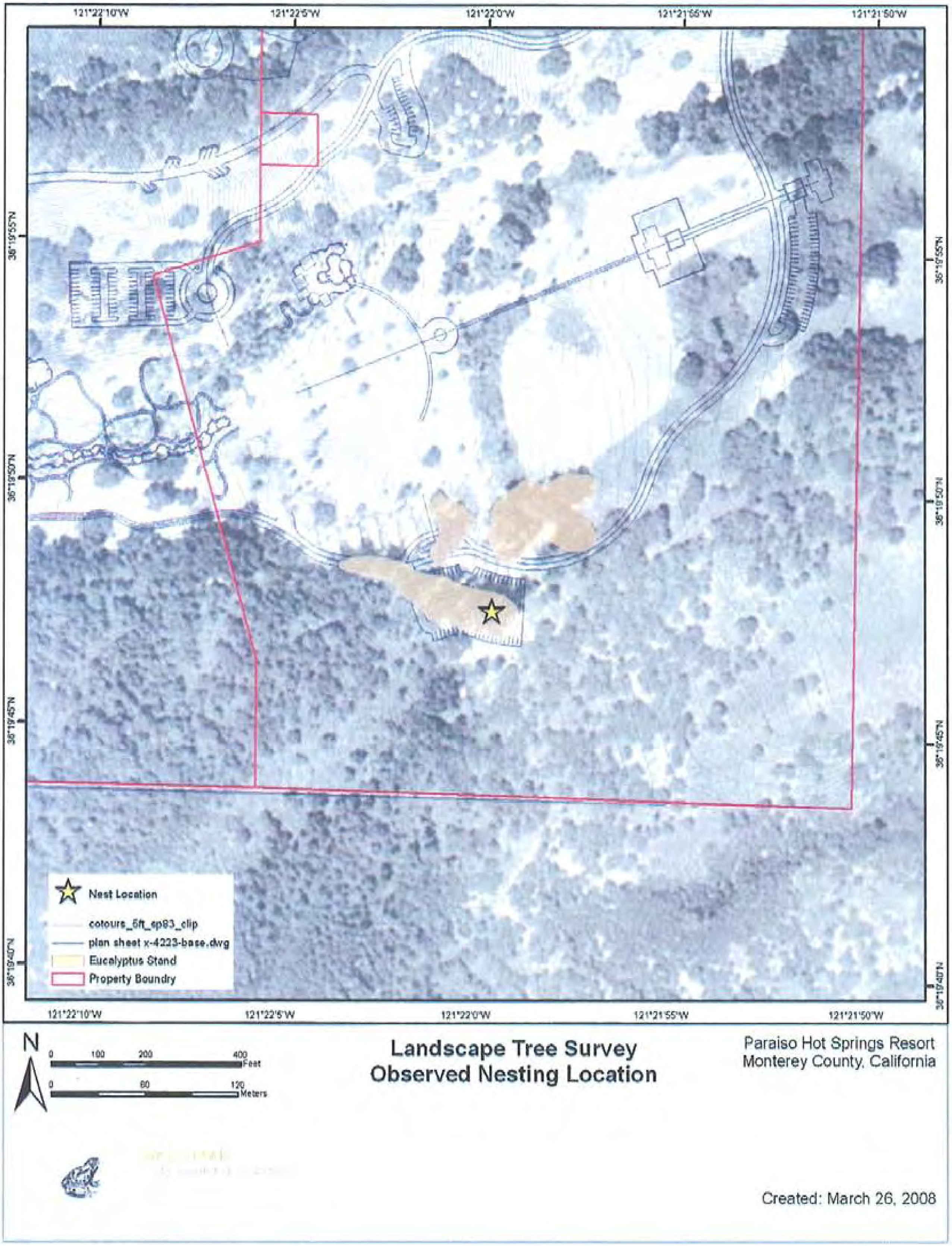

Figure 2. Observed nesting location map.

Habitat Assessment
for
California Tiger Salamander
and
California Red-legged Frog
at

Paraiso Hot Springs Resort
34358 Paraiso Springs Road
Soledad, Ca 93960

Prepared for
Paraiso Resorts L.L.C.
PO Box 1925
Horsham, PA 19044

Prepared by
Rana Creek Environmental Planning

June 2008

Rana Creek Environmental Planning
35351 East Carmel Valley Road, Carmel Valley, California 93924 Tele.(831) 659 - 3820 Fax.(831) 659 - 4851

SUMMARY

Protocol habitat assessments and night visual encounter surveys were conducted in March 2008 for California red-legged frog and California tiger salamander at the proposed project site at Paraiso Hot Springs Resort in Soledad, Monterey County, California. Additional daytime visual surveys and one protocol level larval netting survey were completed in May and June of 2008. Tree frogs and one California toad was observed, and no sensitive species were found during any surveys. The project site appears to provide suitable habitat for California red-legged frog and California tiger salamander, but certain factors including the water quality of the pond water may have or be reducing habitat quality for these species and their likelihood to be present on the project site.

METHODS

Prior to conducting the field portion of the assessment, the California Department of Fish and Game's *California Natural Diversity Data Base* (CNDDB) was queried to determine the locations of California tiger salamanders (CTS) and California red-legged frog (CRLF) in the vicinity of the project site. Previous biological assessments for the project site were also reviewed. The site was surveyed on March 12 and 13, 2008 by Pat Regan and Sarah Millus of Rana Creek Environmental Planning, and then again with Chris Diel of the USFWS on April 29, 2008. The assessment included evaluating the potential habitat on site for both aquatic and upland habitat as outlined in USFWS protocol for CTS (USFWS 2003) and CRLF (USFWS 2005). Information regarding the characteristics and timing of natural processes on the project site were obtained from the property caretakers at the time of the site assessment. Sarah Millus conducted both a daytime and nighttime visual encounter spotlight survey for amphibians on March 12 and April 23, 2008. These surveys followed the methodology in the USFWS CRLF protocol. Data sheets are attached. Additionally, a larval survey was performed in early June 2008, which revealed no larvae of any kind.

RESULTS

Review of previous assessments

Biological surveys were conducted at the property site between December 12 and March 11, 2003 and Rana Creek conducted a night survey for amphibians in March 2003. No amphibians were found on the property during these surveys (Rana Creek 2003).

Protocol CTS and CRLF Habitat Assessment

Element 1. Is the project site within the range of the CTS and CRLF?

The project site is within the range of CTS and CRLF. The project site is not located in designated critical habitat (50 Federal Registrar 49380) for either CTS or CRLF.

Element 2. What are the known localities of CTS within the project site and within 3.1 miles (5.0 km) of the project boundaries? What are the known records of CRLF at the site or within a 1.6 km (1 mile) radius of the site?

Known localities of CTS and CRLF in the vicinity of the project site are shown in Map 1. All locality information is from CNDDB records. There are no known localities for either species within 5 km of the project site.

The nearest known location for CTS is approximately 9 mi (15 km) northeast of the project site, 0.8 mile east of San Vicente road, 2.5 miles north of Soledad in the foothills of the Gabilan Mountain Range (CNDDB 2008). This is a hybrid population.

The nearest known location for CRLF is approximately 10 mi (16 km) northwest of the project site at Hastings Natural History Reserve at Robertson Creek, 1 mile east of Jamesburg Road.

Element 3. What are the habitats within the project site and within 2 km of the project boundaries?

The project site is located in a small valley in the foothills of the Sierra de Salinas Range. The total property area covers 235 acres. Elevations on the site range from 985 ft to 1,500 ft. The major habitat on the project site is diablan sage scrub, which covers approximately 117 acres of the site. Other major habitat types include mixed hardwood forest (40 acres), annual grassland (28 acres), oak woodland (23 acres), and landscaped areas (7 acres).

A man-made, mud-bottom pond is located at the eastern end of the property (Photopoints 1-3). It measured 59 ft. by 155 ft. and covered approximately 0.1 acres at the time of the assessment. The pond was about 80% covered with emergent vegetation, the vast majority of which was cattails (*Typha* sp.). The majority of the remaining open portions of the pond were covered with duck weed (*Lemna* sp.). Some dead oak debris was present at the edges of the pond and provided some overhanging cover. Willows (*Salix* sp.) were present on the western end of the pond, but did not overhang the pond. The maximum depth recorded was 14 in. The pond dries in May or June during years of average rainfall. The pond is now filled by rainwater, but used to be fed by water coming from the hot springs on the property, as was the case during the 2003 survey. A small drainage fed by spring water runs north-south near the pond (Photopoint 5). Overhanging riparian vegetation (willows, California sycamore, California blackberry) was present around this drainage, which held 1.5 in. of slow-moving water (Photopoint 4). A small water seep was observed outside the property boundary, past the east fence line. This seep had little standing water and was overhung by large oak trees. Downed wood from the oak trees was present in and around the seep.

Upland habitat around the pond is annual grassland with scattered oak trees and scrub vegetation, which consisted mostly of California sage (*Artemisia californica*) and coyote brush (*Baccharis pilularis*). Gopher burrows were observed in the grassland on the north end of the pond. Tree frogs (*Pseudacris regilla*) were seen using these burrows for cover during the day survey.

Habitat within 2 km of the project site is mostly oak woodland and sage scrub of the Sierra de Salinas (Fig. 1). The remaining area is covered by agricultural land. The topography consists of mountain ridges up to 1,500 ft in elevation separated by small valleys. Aquatic habitat within 2 km of the project site consists of several drainages and a small 'freshwater forested/shrub wetland' approximately 0.5 mi. north of the project site (USFWS 2008; Map 3). Neither this wetland nor the drainages outside the project area were surveyed. No wetland data were available for the area west of the property.

Water samples were taken from the pond in June and tested by Soil Control lab of Watsonville California. The results showed elevated levels of dissolved solids, Sulfates, Fluoride, and exceptionally high levels of Iron and Magnesium and a low pH (acidic). See appendix A for water quality information.

Survey Results

One treefrog (*Pseudacris regilla*) egg mass as well as mosquito larvae were observed during the day survey on March 12, 2008. Approximately fifty treefrogs and one California toad (*Bufo boreas halophilus*) were heard and observed in the pond during the night survey on March 12, 2008. Amplexus of treefrogs was also observed. Treefrog larvae were observed on the north side of the pond on the day of April 23, 2008. Approximately twelve treefrogs were heard and observed during the nighttime survey on April 23, 2008. One treefrog metamorph was also observed.

Pacific treefrog breeding and egg-laying typically occurs during a brief period from March to May depending on local conditions. Tadpoles require 40 to 75 days to transform (Stebbins 1951). Pacific Treefrogs commonly breed in ephemeral ponds such as this one. A major source of mortality for tadpoles is pond drying. When these ponds dry early in the year, any Pacific Treefrog tadpole that cannot metamorphose into a small froglet will be killed. However, tadpoles have an adaptation to improve their chance of surviving in these ephemeral habitats as well. When Pacific Treefrog tadpoles detect that their pond is drying, they can accelerate their development rate so that they metamorphose earlier in the year. While this does not always save the tadpoles, it can improve their chances of survival in some ponds.

A larval survey conducted by consulting Biologist Bryan Mori on June 3 found no amphibian larvae, juvenile or adult individuals of treefrog, toad, CTS or CRLF. It should be noted that, during surveys on the same day, at a similar ephemeral pond approximately 24 km north, a fair number of Pacific treefrog tadpoles and metamorphs were found in the rapidly drying pond.

CONCLUSIONS

The pond appears to provide breeding habitat for amphibians, given that mating treefrogs and egg masses were observed here. The project site also appears to provide suitable potential upland habitat for California red-legged frog (CRLF) and California tiger salamander (CTS). The pond also appears to provide suitable breeding habitat, while the surrounding grassland and woodland habitat provides upland habitat for both CRLF and CTS and the nearby drainage may provide habitat for juvenile CRLF. However, to date no eggs, tadpoles, juveniles or adult CTS or CRLF have been located in or around the areas of suitable habitat on the property. Whereas the required habitat components for these species appear to be present, the likelihood that they are present on the project site is substantially reduced by a few factors:

A. **Chemical Properties Of Pond**. During the time when the pond was being filled by hot spring water, the high mineral content of the water and other chemical factors may have prevented amphibians from breeding or reduced their breeding success. Over the years of filling and evaporation, there appears to be an increasing concentration of minerals and salts as indicated by the water test samples. This may explain why no amphibians were observed during 2003 surveys. If CTS or CRLF were in the project area, they may have not been able to successfully breed in the pond and either died off or moved to other, more suitable habitat.

B. **Hydroperiod And Depth Of Pond**. In years of normal rainfall, the pond appears to fill and go dry around May or June, an ideal situation for CRLF and CTS. However, the large amount of emergent vegetation at the pond may contribute to early drying of the pond, which would lead to desiccation and death of eggs and larvae before they undergo metamorphosis and move away from the pond.

C. **Known localities of CRLF and CTS**. The CNDDB reveals that the closest documented CRLF and CTS are greater than 15 km from the project site. Current known extremes of travel between breeding and upland areas for these two species is one mile and 3.1 miles respectively.

D. **Absence of any species during June larval survey.** It is noteworthy that the June larval survey revealed no larval stage or metamorphs of any kind of amphibian. A survey of a pond, similar to the Paraiso pond, but with obviously different water quality, within 24 km of this site revealed substantial larval activity, despite low depth and rapid dessication of the pond, indicating that the Paraiso site may be much less likely to support breeding of Treefrogs or our two subject species, the CTS and CRLF.

LITERATURE CITED

Rana Creek Habitat Restoration. 2003. Paraiso Hot Spring Biological Assessment.

[USFWS] US Fish and Wildlife Service. 2008. National Wetlands Inventory. Wetlands Geodatabase.

[USFWS] U.S. Fish and Wildlife Service. 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog.

[USFWS] U.S. Fish and Wildlife Service. 2003. Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander

Photopoint 1. View of pond looking north.

Photopoint 2. View of pond looking east.

Photograph 3. View of pond looking south.

Close-up of west bank of pond, showing dense cattails and disturbed areas.

Photopoint 4. Intermittent drainage and associated riparian vegetation.

Photopoint 5. Water spout feeding intermittent creek.

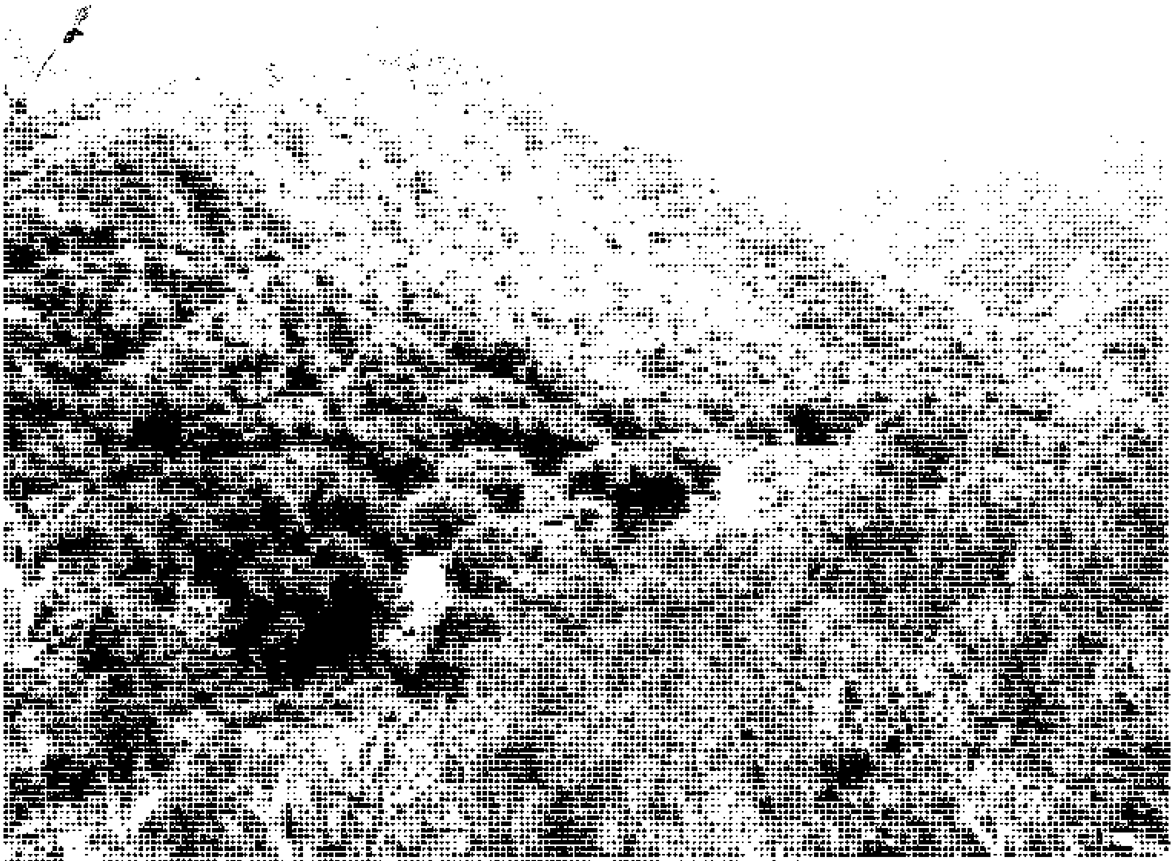

Figure 1. Diablian sage scrub and oak woodland of the Sierra de Salinas range, west of the project site.

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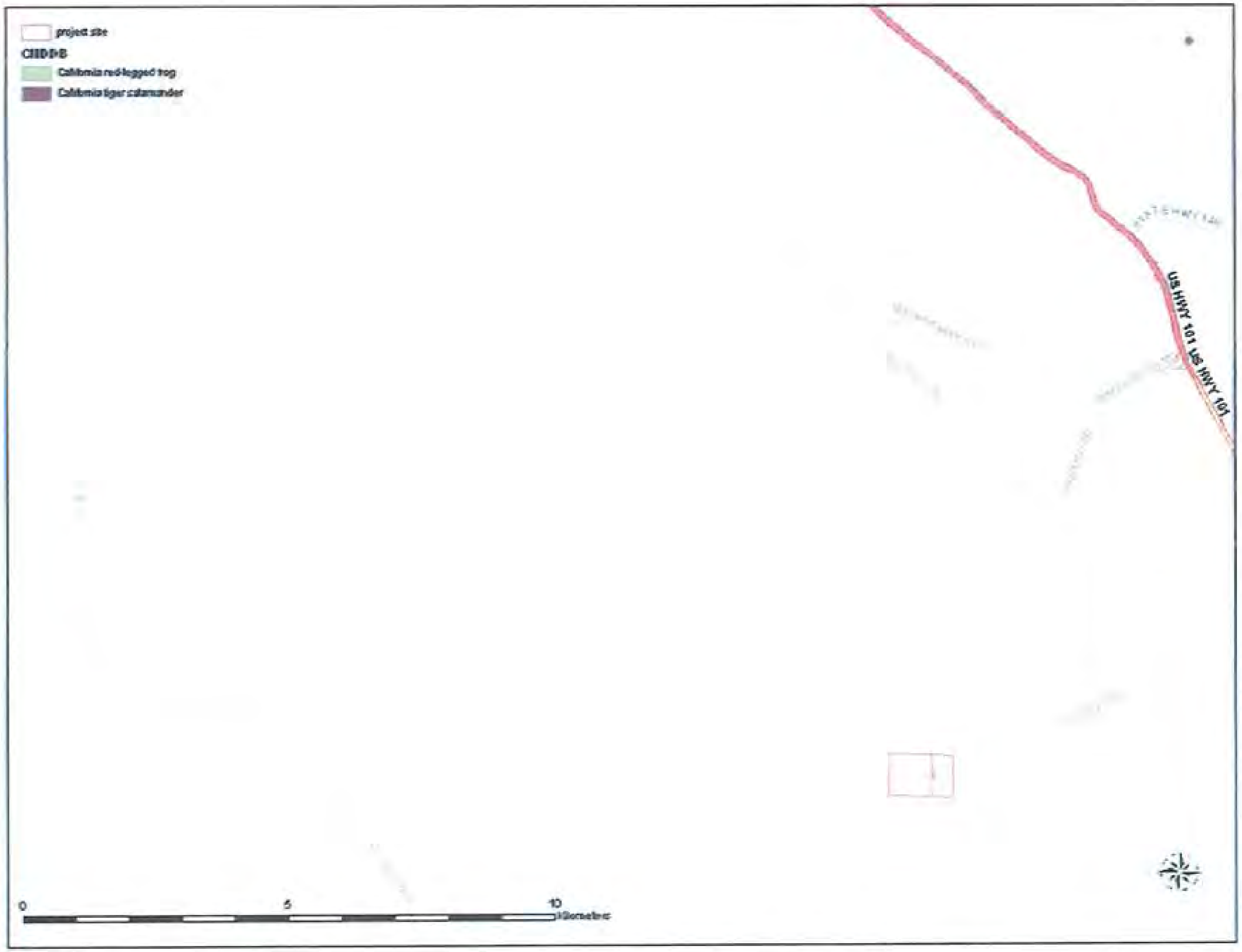
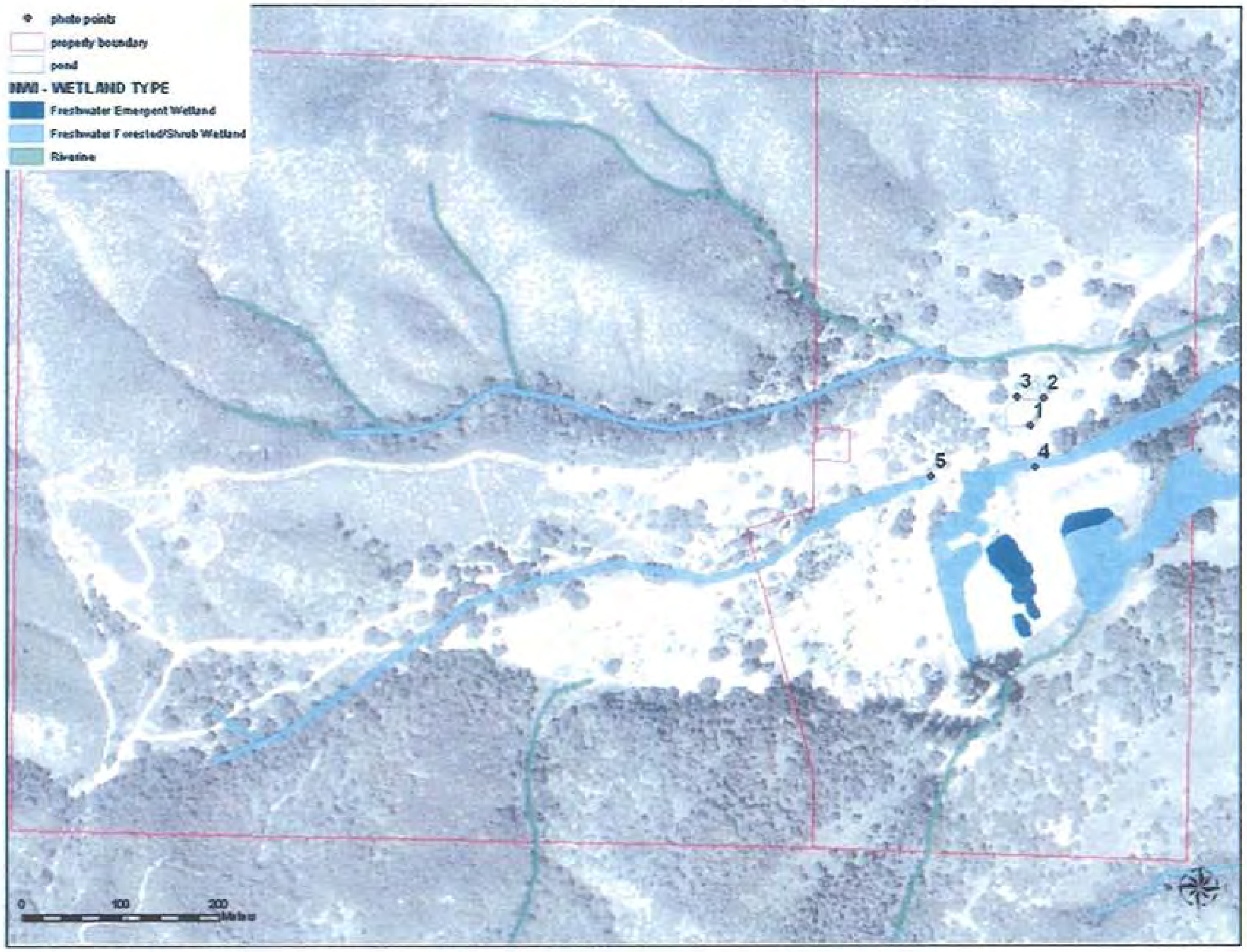
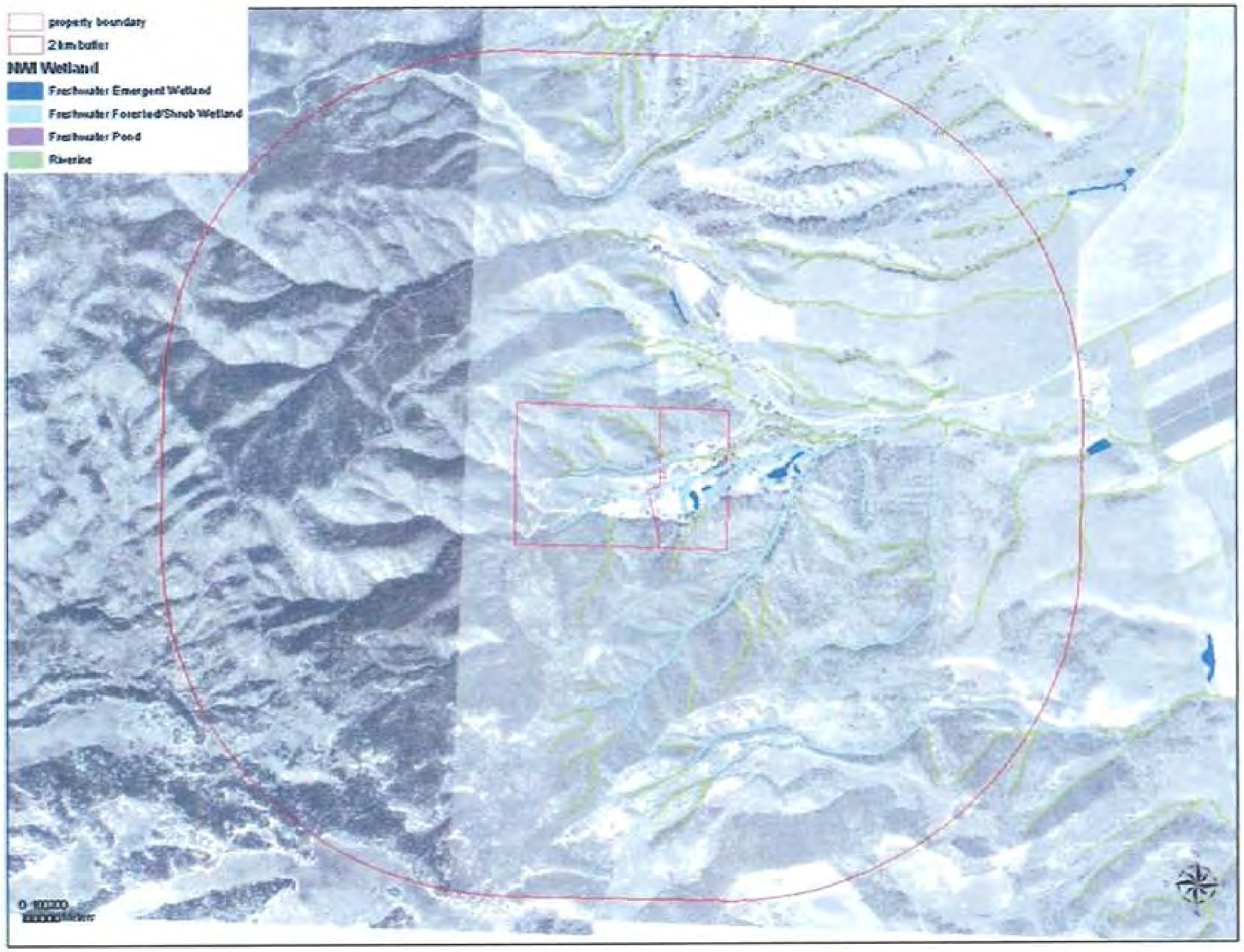


Map 1. Locations of CTS and CRLF near project site.



Map 2. Aquatic habitat and photo points.



Map 3. National Wetland Inventory data within 2 km of the project site.

Appendix A - Water Quality Test Results

ANALYTICAL CHEMISTS
and
BACTERIOLOGISTS
Approved by State of California

TEL: 831-724-5422
FAX: 831-724-3188

SOIL CONTROL LAB

42 HANGAR WAY
WATSONVILLE
CALIFORNIA
95076
USA

Paraiso, LLC / Paraiso Hot Springs
4358 Paraiso Springs Road
oledad, CA 93960
Attn: John Thompson

Work Order #: 8060135
Reporting Date: June 6, 2008

ate Received: June 3, 2008
Project # / Name: None / Pond Water & Spring Water
/ater System #: NA
ample Identification: Pond Water, sampled 6/3/2008 1:30:00PM
Sampler Name / Co.: Josie Ortiz-Lopez / Paraiso Hot Springs
Matrix: Water
aboratory #: 8060135-01

	Results	Units	RL	State Drinking Water Limits	Analysis Method	Date Analyzed	Flags
eneral Mineral							
pH	3.4	pH Units	0.1	-	EPA 150.1	06/04/08	
* Specific Conductance (EC)	4900	uS/cm	1.0	1600	EPA 120.1	06/04/08	
Hydroxide as OH	ND	mg/L	2.5	-	EPA 310.1	06/04/08	
Carbonate as CO3	ND	mg/L	2.5	-	EPA 310.1	06/04/08	
Bicarbonate as HCO3	ND	mg/L	2.5	-	EPA 310.1	06/04/08	
Total Alkalinity as CaCO3	ND	mg/L	2.5	-	EPA 310.1	06/04/08	
Hardness	1700	mg/L	20	-	SM 2340 B	06/05/08	
* Total Dissolved Solids	3200	mg/L	50	1000	EPA 160.1	06/05/08	
Nitrate as NO3	ND	mg/L	2.5	45	EPA 300.0	06/04/08	
Chloride	150	mg/L	5.0	500	EPA 300.0	06/04/08	
* Sulfate as SO4	3500	mg/L	25	500	EPA 300.0	06/04/08	
Fluoride	40	mg/L	2.5	2	EPA 300.0	06/04/08	
Calcium	530	mg/L	10	-	EPA 200.7	06/05/08	
Magnesium	120	mg/L	2.0	-	EPA 200.7	06/05/08	
Potassium	31	mg/L	2.0	-	EPA 200.7	06/05/08	
Sodium	740	mg/L	10	-	EPA 200.7	06/05/08	
* Iron	50000	ug/L	100	300	EPA 200.7	06/05/08	
Manganese	13000	ug/L	80	50	EPA 200.7	06/05/08	
Copper	63	ug/L	50	1000	EPA 200.7	06/05/08	
Zinc	1300	ug/L	50	5000	EPA 200.7	06/05/08	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.
State Drinking Water Limits - as listed by California Administrative Code, Title 22.
* - a * in the left hand margin of the report means that particular constituent is above the California Drinking Water Limits.

Mike Galloway

ANALYTICAL CHEMISTS
and
BACTERIOLOGISTS
Approved by State of California

TEL: 831-724-5422
FAX: 831-724-3188

SOIL CONTROL LAB

42 HANGAR WAY
WATSONVILLE
CALIFORNIA
95076
USA

Paraiso, LLC / Paraiso Hot Springs
34358 Paraiso Springs Road
Soledad, CA 93960
Attn: John Thompson

Work Order #: 8060135
Reporting Date: June 6, 2008

Date Received:	June 3, 2008
Project # / Name:	None / Pond Water & Spring Water
Water System #:	NA
Sample Identification:	Spring Water, sampled 6/3/2008 1:30:00PM
Sampler Name / Co.:	Josie Ortiz-Lopez / Paraiso Hot Springs
Matrix:	Water
Laboratory #:	8060135-02

	Results	Units	RL	State Drinking Water Limits	Analysis Method	Date Analyzed	Flags
General Mineral							
pH	8.6	pH Units	0.1	-	EPA 150.1	06/04/08	
Specific Conductance (EC)	1300	uS/cm	1.0	1600	EPA 120.1	06/04/08	
Hydroxide as OH	ND	mg/L	2.5	-	EPA 310.1	06/04/08	
Carbonate as CO3	6.0	mg/L	2.5	-	EPA 310.1	06/04/08	
Bicarbonate as HCO3	32	mg/L	2.5	-	EPA 310.1	06/04/08	
Total Alkalinity as CaCO3	36	mg/L	2.5	-	EPA 310.1	06/04/08	
Hardness	62	mg/L	5.0	-	SM 2340 B	06/05/08	
Total Dissolved Solids	880	mg/L	20	1000	EPA 160.1	06/05/08	
Nitrate as NO3	ND	mg/L	1.0	45	EPA 300.0	06/04/08	
Chloride	55	mg/L	1.0	500	EPA 300.0	06/04/08	
* Sulfate as SO4	660	mg/L	5.0	500	EPA 300.0	06/04/08	
* Fluoride	9.7	mg/L	0.50	2	EPA 300.0	06/04/08	
Calcium	24	mg/L	0.50	-	EPA 200.7	06/05/08	
Magnesium	ND	mg/L	0.50	-	EPA 200.7	06/05/08	
Potassium	3.4	mg/L	0.50	-	EPA 200.7	06/05/08	
Sodium	290	mg/L	2.5	-	EPA 200.7	06/05/08	
Iron	220	ug/L	50	300	EPA 200.7	06/05/08	
Manganese	ND	ug/L	20	50	EPA 200.7	06/05/08	
Copper	ND	ug/L	50	1000	EPA 200.7	06/05/08	
Zinc	ND	ug/L	50	5000	EPA 200.7	06/05/08	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.
State Drinking Water Limits: - as listed by California Administrative Code, Title 22.
* - a * in the left hand margin of the report means that particular constituent is above the California Drinking Water Limits.

Mike Galloway

Site Assessment reviewed by ____________ (FWS Field Office) ____________ (date) ____________ (biologist)

Date of Site Assessment: 03/12/2008 (mm/dd/yyyy)

Site Assessment Biologists: Millus (Last name) Sarah (first name) - Rana Creek Environmental Plan (Last name) (first name)

(Last name) (first name) (Last name) (first name)

Site Location: Paraiso Hot Springs Resort, Soledad, Monterey Co.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Paraiso Hot Springs Resort
Brief description of proposed action:

Improvement of existing hot spring facilities, including hotel, spa, day-use & camping area, road improvements, etc.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
if yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 59 ft. x 155 ft. Maximum depth: 14 in.

Vegetation: emergent, overhanging, dominant species: 80% covered by emergent cattails. Most open water covered by duck weed. No overhanging vegetation - willows & coyote bush near edges of pond. Downed oak debris on south end.

Substrate: mud

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring / early sum

Bank full width: 10 ft.
Depth at bank full: 6 ft.
Stream gradient: low

Are there pools (circle one)? YES NO
If yes,
Size of stream pools: ___
Maximum depth of stream pools: ___

Characterize non-pool habitat: run, riffle, glide, other: run, slow-moving, shallow - 1.5 in. deep

Vegetation: emergent, overhanging, dominant species: dense overhanging vegeta willows, California sycamore, Ca. blackberry, poison oak, stinging nettle
Substrate: mud, gravel

Bank description: steep & tall (6 ft.) in places, gentle slopes in other places. Dense vegetation.

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/early summ

Other aquatic habitat characteristics, species observations, drawings, or comments:
Upland area around pond: grassland & oak woodland, scrub. Gopher activity in grassland adjacent to pond. One tree frog was observed jumping to gopher burrow near pond.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species location

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by ______ (FWS Field Office) ______ (date) ______ (biologist)

Date of Survey: 03/12/2008 (mm/dd/yyyy) Survey Biologist: Millus (Last name) Sarah - Rana Creek Envi... Pla... (first name)

Survey Biologist: ______ (Last name) ______ (first name)

Site Location: Paraiso Hot Springs Resort, Soledad, Monterey Co. (County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Paraiso Hot Springs Resort
Brief description of proposed action:
Improvement of existing hot springs facilities, including hotel, spa, day-use & camping area, road improvements, etc.

Type of Survey (circle one): DAY NIGHT BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 10:00 End Time: 11:00

Cloud cover: 20 % Precipitation: —

Air Temperature: 55° F Water Temperature: ______

Wind Speed: light breeze Visibility Conditions: good

Moon phase: last quarter Humidity: low

Description of weather conditions: mild spring morning

Brand name and model of light used to conduct surveys: —

Were binoculars used for the surveys (circle one)? YES NO
Brand, model, and power of binoculars: ______

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Pseudacris regilla Pacific treefrog	1	O	egg mass ~ 12 eggs		positive

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: No fish or bull frogs. Racoons are known in the area.

Other notes, observations, comments, *etc.*

High cover of duck weed in open water areas, obscured view of eggs or larvae in the water.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.

California Red-legged Frog Survey Data Sheet

Survey results reviewed by ______ (FWS Field Office) ______ (date) ______ (biologist)

Date of Survey: 3/12/2008 (mm/dd/yyyy) Survey Biologist: Millus, Sarah (Last name) (first name) - Rana Creek Environmental Planning

Survey Biologist: ______ (Last name) (first name)

Site Location: Paraiso Hot Springs Resort, Soledad, Monterey Co. (County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)**

Proposed project name: Paraiso Hot Springs Resort
Brief description of proposed action:
Improvements to existing hot springs facilities, including hotel, spa, day-use & camping area, road improvements, etc.

Type of Survey (circle one): DAY **NIGHT** **BREEDING** NON-BREEDING

Survey number (circle one): **1** 2 3 4 5 6 7 8

Begin Time: 20:00 End Time: 21:00

Cloud cover: 0 % Precipitation: —

Air Temperature: 55° Water Temperature: —

Wind Speed: Very light breeze Visibility Conditions: good

Moon phase: last quarter Humidity: low

Description of weather conditions: mild spring evening

Brand name and model of light used to conduct surveys: Everready Floating Lantern 6V

Were binoculars used for the surveys (circle one)? **YES** NO

Brand, model, and power of binoculars: ______

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Pseudacris regilla Pacific tree frog	~50	O, H	adult		positive
Bufo boreas halophilus California toad	1	O	adult		positive

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: ______________________

Other notes, observations, comments, *etc.*

Lots of calling treefrogs. Amplexus also observed.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Survey results reviewed by ______ (FWS Field Office) ______ (date) ______ (biologist)

Date of Survey: 04/23/2008 (mm/dd/yyyy) Survey Biologist: Millus, Sarah - Rana Creek (Last name) (first name)

Survey Biologist: ______ (Last name) (first name)

Site Location: Paraiso Hot Springs Resort, Soledad, Monterey Co.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Paraiso Hot Springs Resort

Brief description of proposed action:

Improvements to existing hot springs facilities, including hotel, spa, day-use & camping area, road improvements, etc.

Type of Survey (circle one): DAY NIGHT   BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 16:00   End Time: 16:30

Cloud cover: 10%   Precipitation: —

Air Temperature: 60° F   Water Temperature: —

Wind Speed: light breeze, gusty at times   Visibility Conditions: good

Moon phase: last quarter   Humidity: low

Description of weather conditions: ______

Brand name and model of light used to conduct surveys: —

Were binoculars used for the surveys (circle one)? YES NO

Brand, model, and power of binoculars: ______

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Pseudacris regilla Pacific tree frog	~50	O	larval		positive

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: ___________________________

Other notes, observations, comments, *etc.*

Pond has ~~also~~ dried down since March visit. Tadpoles observed only on north end of pond, in the few remaining pools.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Survey results reviewed by ____________ (FWS Field Office) ________ (date) ____________ (biologist)

Date of Survey: 04/23/2008 (mm/dd/yyyy) Survey Biologist: Millus (Last name) Sarah (first name) - Rana Creek En Pl

Survey Biologist: ____________ (Last name) ____________ (first name)

Site Location: Paraiso Hot Spring Resort, Soledad, Monterey County (County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Paraiso Hot Springs Resort

Brief description of proposed action:

Improvements to existing hot springs facilities, including hotel, spa, day-use & camping area, road improvements, etc.

Type of Survey (circle one): DAY **NIGHT** **BREEDING** NON-BREEDING

Survey number (circle one): 1 **2** 3 4 5 6 7 8

Begin Time: 19:30 End Time: 20:30

Cloud cover: 10 % Precipitation: —

Air Temperature: 45° Water Temperature: —

Wind Speed: light breeze, gusty at times Visibility Conditions: good

Moon phase: last quarter Humidity: low

Description of weather conditions: unusually cold for this time of year

Brand name and model of light used to conduct surveys: Everready Floating Lant

Were binoculars used for the surveys (circle one)? **YES** NO

Brand, model, and power of binoculars: ____________

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Pseudacris regilla Pacific treefrog	20	O, H	adult metamorph		positive

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: ______

Other notes, observations, comments, *etc.*

Much less treefrogs than March survey.
Breeding appears to be over.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

rana creek

Elizabeth Caraker
RBF Consulting
3180 Imjin Road, Suite 110
Marina, CA 93933

July 16, 2008

Re: Paraiso Springs Resort development project

Dear Elizabeth;

In a letter dated January 8, 2008, Bill Davilla of Eco Systems West Consulting Group, addressed a number of concerns and tasks that he felt needed to be updated or revised from the 2005 Biotic assessment for Paraiso Springs Resort. He specified that Plant and animal survey techniques and dates were deficient and that no specific target list of special status species that may be present in the area was prepared or included. He also requested maps and details of locations of existing sensitive resources including species from the target list, woodrat nests, bird nests and the nearest known locations of species such as the California tiger salamander, California Red legged frog, San Jaaquin kit fox and American badger. Additionally he requested additional information to determine the types and significance of potential project impacts to onsite wetlands, existing landscape trees slated for removal and Bats that were known to be occupying some of the older existing structures.

As a supplement to our 2005 Biotic assessment, this package contains our response to the above requests with the exception of a wetland delineation report that will be completed and submitted along with a hydrology report prepared by CH2MHILL in the near future. Included is; a methodology section delineating when various surveys were completed and what methods were used; a target list of plant and animal species from the California Natural Diversity Database, which could potentially accur at the project site; general descriptions of the plant species including details regarding habitat types and blooming season; general descriptions of the animal species including habitat types; maps showing documented occurrences of special status species within 10 miles of the project site and existing sensitive species on the project site; a table and map describing habitat types on the project site; supplemental habitat assessment for California tiger salamanders and California red-legged frogs; supplemental assessment and survey for bats; and a supplemental landscape tree survey map and habitat value assessment.

Please feel free to contact us if you have any questions.

Sincerely,

Patrick Regan

CC: John Thompson, Sheri Damon.

METHODS

The *California Natural Diversity Database* (CDFG 2002) and the *California Native Plant Society's Inventory of Rare and Endangered Plants of California* (CNPS 2001) were used to identify known or potential populations of sensitive plant and animal species in the vicinity of the project site prior to surveys. In addition, the *National Wetlands Inventory* was used to locate aquatic habitat within 5 miles of the site.

Dale Hameister and Ryan Heacock of Rana Creek Habitat Restoration conducted biological surveys over a period between December 12th and March 11, 2003. Additional botanic and wildlife surveys were completed by Paul Kephart and Dale Hameister in May of 2005. The timing of the surveys was adequate to assess the habitat types and presence of special status species of plants and animals. Visual surveys were conducted by walking throughout the property and focusing on structures, streamside areas and those that interfaced with surrounding un-developed areas. The entire property to be developed was inspected for sensitive species or communities and lists of plant and animal species observed were compiled. Plant identification was validated using *The Jepson Manual* (Hickman 1993) and *An Illustrated Guide to the Flowering Plants of Monterey County* (Matthews 1997). Field surveys were conducted using a global positioning system (GPS) survey unit was used in conjunction with 1995 aerial photographs to map vegetation.

On March 11, 12 and 13 and April 23, 2008, Pat Regan, Sarah Millus, Kim Takacs and Joe Rigney conducted additional field assessments. The assessments included:

- Searching for individuals of sensitive species, including those listed in the CNDDB search results; Timing of plant surveys was appropriate for locating sensitive plant species in new herbaceous growth, bloom or fruiting.
- Searching for animal signs (e.g., nests, tracks);
- Examining burrows and any other special habitat features; and
- Taking representative photographs of the site.
- Visual assessment of wetlands boundaries.

Prior to conducting the field portion of the updated assessment, we queried the California Department of Fish and Game's *California Natural Diversity Data Base* (CNDDB - CDFG 2008) to determine the special-status species that had been documented in the Paraiso Springs and Sycamore Flats quads and the surrounding ten quadrangles.

On March 12 and April 23, 2008 a nighttime visual encounter spotlight survey for amphibians was conducted between approximately 20:00 and 21:00. These surveys followed the night survey methodology in the USFWS CRLF protocol (USFWS 2005). On June 3, 2008 Bryan Mori completed a larval survey for amphibians.

Paul Heady and Winifred Frick of Central Coast Bat Research Group conducted surveys for sensitive bat species in March and July 2008.

Building surveys
All of the buildings in the project were visually investigated to determine if bats are using the structure for day roosting, night roosting, or maternity roosts. Buildings were surveyed during the day for day and maternity roost assessment. All bats were identified to species and any sign such as guano, staining, or culled insect parts, were identified and quantified when possible.

Acoustic surveys for habitat assessment
Acoustic monitoring was done with four Anabat acoustic units, consisting of an Anabat II bat detector and storage zero crossing analyzers to collect acoustic files of the echolocation calls of the bats. The Anabat systems use a bat detector to detect bat ultrasonic echolocation calls in the field and use a zero-crossing unit to convert the detected signals into frequency/time graphs to be viewed on a computer. The graphs allow for bat species identification. Species are identified by their vocal signature graphs by comparing calls recorded during previous mist-netting activities, calls recorded from bats that are visually identified at the time of recording, and by comparing calls with existing bat vocal signature library databases. The Anabat system is commonly used for the survey of bats and is effective at identifying many species in the bat fauna assemblage. Three acoustic detector units were deployed around the project area and ran four consecutive nights March 13 - 17, 2008.

Paraiso Hot Springs Resort 9-quad CNDDB query results

Common name *Scientific name*	Status	Habitat	Potential to occur at site	Found on Site
Plants				
Santa Lucia fir *Abies bracteata*	CNPS 1B.3	Steep rocky slopes. Mixed evergreen forest. 210-1600 m. Outer South Coast ranges Santa Lucia range	No habitat at site	NO
False indigo *Amorpha californica var. napensis*	CNPS 1B.2	Wooded shrubby, or open slopes, or chaparral, below 2300 m. Flowers May to June	Potential habitat at site	NO
Monterey manzanita *Arctostaphylos montereyensis*	CNPS 1B.2	Chaparral, coastal scrub, cismontane woodland. Sandy soils, with chaparral associates. 30-730m. Flowers January to March	Potential habitat at site	NO
Large leaved filaree *California macrophylla*	CNPS 1B.1	Open areas, grassland, scrub below 1200m. Flowers March to May	Potential habitat at site	NO
Coulter's jewel flower *Caulanthus coulteri var. lemmonii*	CNPS 1B	Dry exposed slopes. Chaparral and Coastal scrub. 80-800m. Flowers March to May.	Potential habitat at site	NO
Congdon's tar plant *Centromadia parryi ssp. congdonii*	CNPS 1B.2	Seasonally wet grasslands below 100m Flowers June to November.	Potential habitat at site	NO
Monterey spineflower *Chorizanthe pungens* var. *pungens*	FT, CNPS 1B	Cismontane woodland, coastal dunes, coastal scrub. Sandy terraces and bluffs or in loose sand. 3-120m. Flowers April to July.	Potential habitat at site	NO
Robust spineflower *Chorizanthe robusta* var. *robusta*	FE, CNPS 1B	Cismontane woodland. 500m. Flowers April to July	Potential habitat at site	NO
Jolon clarkia *Clarkia jolonensis*	CNPS 1B	Closed-cone coniferous forest, coastal scrub. On decomposed shale (mudstone) mixed with humus. 30-250m. Flowers April to June.	No habitat at site	NO

Paraiso Hot Springs Resort 9-quad CNDDB query results

Common name ***Scientific name***	**Status**	**Habitat**	**Potential to occur at site**	**Found on Site**
Umbrella Larkspur *Delphinium umbraculorum*	CNPS 1B.3	Shaded woodland slopes. Eastern Santa Lucia range Flowers May to June.	Potential habitat at site	NO
Norris's beard moss *Didymodon norrisii*	CNPS 2.2	Cismontane woodland, lower montane coniferous forest. 600-200m	No habitat at site	NO
Butterworth's buckwheat *Eriogonum butterworthianum*	CNPS 1B.3	Dry sandstone openings in coastal scrub, chaparral.650-700m Flowers June to July	Potential habitat at site	NO
Pinnacles buckwheat *Eriogonum nortonii*	CNPS 1B.3	Rocky, sandy slopes. 300- 700m. Flowers May to June	Potential habitat at site	NO
Santa Lucia bedstraw *Galium clementis*	CNSP 1B.3	Outer South coast ranges. North facing slopes, open woodlands. 1100-1780m Flowers May to June	Potential habitat at site	NO
Pale yellow tidy tips *Layia heterotricha*	CNPS 1B.1	Cismontane woodland, Coastal scrub, Pinyon and juniper woodland, Valley and Foothill grassland. 300-1700m. Flowers May to June.	Potential habitat at site	NO
Indian Valley Bush mallow *Malacothamnus aboriginum*	CNPS 1B.2	Rocky slopes, Chaparral, inner South Coast ranges. 150-1700m. Flowers March to September	Potential habitat at site	NO
Davidson's Bush mallow *Malacothamnus davidsonii*	CNPS 1B.2	Slopes and washes. Chaparral, Cismontane woodland, Coastal scrub. 185-855m. Flowers June to August.	Potential habitat at site	NO
Arroyo Seco bush mallow *Malacothamnus palmeri* var. *lucianus*	CNPS 1B.2	Chaparral. Dry rocky slopes, mostly near summits, but occasionally extending down canyons to the sea. 60 365m. Flowers May to June.	Potential habitat at site	NO
Santa Lucia bush mallow *Malacothamnus palmeri* var. *palmeri*	CNPS 1B	Chaparral. Rock outcrops or steep rocky road cuts. 25-1215m. Flowers May to July	No habitat at site	NO

Paraiso Hot Springs Resort 9-quad CNDDB query results

Common name *Scientific name*	**Status**	**Habitat**	**Potential to occur at site**	**Found on Site**
Carmel Valley malacothrix *Malacothrix saxatilis* var. *arachnoidea*	CNPS 1B.2	Rocky open banks and road cuts. Chaparral and Coastal scrub. Below 100m. Flowers June to December.	Potential habitat at site	NO
Bristle moss *Orthotrichum kellmanii*	CNPS 1B.2	Closed-cone coniferous forest, Chaparral, Sandstone outcrops overlooking Pacific ocean	No habitat at site	NO
Salinas Valley popcorn flower *Plagiobothrys uncinatus*	CNPS 1B.2	Canyon sides, Chaparral, Cismontane woodland, valley and foothill grassland. Gabilan and Santa Lucia Mtns. 300-7600m Flowers April to May.	Potential habitat at site	NO
Invertebrates				
Arroyo Seco short-tailed whipscorpion *Hubbardia secoensis*	CSA	Rock undersurfaces on granitic cliff talus in moist, lush oak canyon.	Potential habitat at site in woodland areas.	NO
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT	Native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. *Plantago erecta* is the primary host plant; *Orthocarpus densiflorus* & *O. purpurscens* are the secondary host plants.	No habitat at site.	NO
Monterey socalchemmis spider *Socalchemmis monterey*	CSA	Known from only two localities in Monterey Co.: Los Padres NF; Arroyo Seco and Cone Peak Trail.	Habitat requirements unknown.	NO
Pinnacles optioservus riffle beetle *Optioservus canus*	CSA; CC	Aquatic. Found on rocks and in gravel of riffles in cool, swift, clear streams.	No habitat at site.	NO
Pinnacles shieldback katydid *Idiostatus kathleenae*	CSA	Known only from Pinnacles National Monument. Found in bottom of broad arroyo. Stream is usually dry by mid-July and is vegetated by *Baccharis* sp. and *Eriogonum fasciculatum* with *Chamise adenostema fasciculatum* abundant on the periphery.	Potential habitat at site in intermittent drainage.	NO
Tulare cuckoo wasp *Chrysis tularensis*	CSA	Arroyo Seco Camp.	Habitat requirements unknown.	NO

Paraiso Hot Springs Resort 9-quad CNDDB query results

Common name *Scientific name*	**Status**	**Habitat**	**Potential to occur at site**	**Found on Site**
Ubick's leptonetid spider *Calileptoneta ubicki*	CSA	Known only from the type locality, Arroyo Seco, Monterey County. One male taken under granite.	No habitat at site.	NO
Fish				
steelhead - south/central California coast ESU *Oncorhynchus mykiss irideus*	FT	Spawns in the spring in cool or cold streams with a gravel bottom and clear and swift running water.	No habitat at site.	NO
Amphibians				
California red-legged frog *Rana aurora draytonii*	FT, CSC	Lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to upland habitat.	Potential breeding site at pond; upland habitat in surrounding grassland and woodland.	NO
California tiger salamander *Ambystoma californiense*	FT, CSC	Grassland and open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Potential breeding site at pond; upland habitat in surrounding grassland and woodland.	NO
Coast Range newt *Taricha torosa torosa*	CSC	Found in wet forests, oak forests, chaparral, and rolling grasslands. Enters ponds, reservoirs, and sluggish pools in streams to breed. Will migrate over 1 km to breed.	Potential breeding site at pond; upland habitat in surrounding grassland and woodland.	NO
Reptiles				
San Joaquin whipsnake *Masticophis flagellum ruddocki*	CSC	Open, dry habitats with little or no tree cover. Found in valley grassland & saltbush scrub in the San Joaquin Valley.	Potential habitat at site in grassland areas.	NO

Paraiso Hot Springs Resort 9-quad CNDDB query results

Common name *Scientific name*	Status	Habitat	Potential to occur at site	Found on Site
Western pond turtle *Actinemys marmorata*; southwestern pond turtle *Actinemys marmorata pallida*	CSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches with aquatic vegetation. Inhabits permanent or nearly permanent bodies of water in many habitat types below 1800 m. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks and suitable (sandy banks or grassy open fields) upland habitat for egg-laying.	Marginal habitat on site.	NO
Birds				
American peregrine falcon *Falco peregrinus anatum*	CE	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape on a depression or ledge in an open site.	Potential foraging habitat at site.	NO
bank swallow *Riparia riparia*	CT	Colonial nester. Nests primarily in riparian and other lowland habitats. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes or ocean to dig nesting hole.	Potential foraging habitat at site.	NO
Cooper's hawk *Accipiter cooperii*	CSC	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains and also in live oaks.	Potential nesting and foraging habitat at site.	NO
long-eared owl *Asio otus*	CSC	Riparian bottomlands grown to tall willows & cottonwoods; also belts of live oak paralleling stream courses. Require adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Potential nesting and foraging habitat at site.	NO
prairie falcon *Falco mexicanus*	CSC	Dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	Potential foraging habitat at site.	NO

Paraiso Hot Springs Resort 9-quad CNDDB query results

Common name *Scientific name*	**Status**	**Habitat**	**Potential to occur at site**	**Found on Site**
sharp-shinned hawk *Accipiter striatus*	CSC	Ponderosa pine, black oak, riparian deciduous, mixed conifer & Jeffrey pine habitats. Prefers riparian areas. North-facing slopes, with plucking perches are critical requirements. Nests usually within 85 m. of water.	Potential nesting and foraging habitat at site.	NO
white-tailed kite *Elanus leucurus*	CFP	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Potential nesting and foraging habitat at site.	NO
Mammals				
American badger *Taxidea taxus*	CSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Need sufficient food (e.g., burrowing rodents), friable soils & open, uncultivated ground.	Potential habitat at site.	NO
big-eared kangaroo rat *Dipodomys venustus elephantinus*	CSC	Chaparral-covered slopes of the southern part of the Gabilian Range, in the vicinity of the Pinnacles. Forages under shrubs & in the open. Burrows for cover and for nesting.	Potential habitat at site.	NO
fringed myotis *Myotis thysanodes*	CSA	A wide variety of habitats; optimal habitats are pinyon-juniper, valley foothill hardwood & hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	Potential habitat in buildings and palm and large oak trees.	NO
hoary bat *Lasiurus cinereus*	CSA	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Detected in the lower Indian Valley at project site.	YES

Paraiso Hot Springs Resort 9-quad CNDDB query results

Common name *Scientific name*	**Status**	**Habitat**	**Potential to occur at site**	**Found on Site**
long-eared myotis *Myotis evotis*	CSA	Found in all brush, woodland & forest habitats from sea level to about 2700 m. Prefers coniferous woodlands & forests. Nursery colonies in buildings, crevices, spaces under bark, & snags. Caves used primarily as night roosts.	Potential habitat in buildings and palm and large oak trees.	NO
Monterey dusky-footed woodrat *Neotoma macrotis luciana*	CSC	Forest habitats of moderate canopy and moderate to dense understory. Also in chaparral habitats. Nests constructed of grass, leaves, sticks, feathers, etc.	Found nesting in riparian areas on east end of property.	YES
pallid bat *Antrozous pallidus*	CSC	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Found roosting in the workshop and hillside cabins.	YES
Salinas pocket mouse (*Perognathus inornatus psammophilus*)	CSC	Annual grassland & desert shrub communities in the Salinas Valley. Fine-textured, sandy, friable soils. Burrows for cover & nesting.	Potential habitat at site.	NO
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing and a suitable prey base.	No habitat within project site	NO
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSC	A wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Potential habitat in buildings and palm and large oak trees.	NO
western mastiff bat (*Eumops perotis californicus*)	CSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral. Roosts in crevices in cliff faces, high buildings, trees & tunnels.	Potential habitat in buildings and palm and large oak trees.	NO

Paraiso Hot Springs Resort 9-quad CNDDB query results

Common name *Scientific name*	Status	Habitat	Potential to occur at site	Found on Site
western red bat (*Lasiurus blossevillii*)	CSC	Roosts primarily in trees, 1-13 m. above ground, from sea level up through mixed conifer forests. Prefers habitat edges & mosaics with trees that are protected from above & open below with open areas for foraging.	Detected in lower Indian Valley.	YES
western small-footed myotis (*Myotis ciliolabrum*)	CSA	Wide range of habitats; mostly arid wooded & brushy uplands near water. Seeks cover in caves, buildings, mines & crevices. Prefers open stands in forests and woodlands. Requires drinking water.	Potential habitat in buildings and palm and large oak trees.	NO
Yuma myotis (*Myotis yumanensis*)	CSA	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Detected in palm trees near hot springs, the east end of the workshop building, and in lower Indian Valley.	YES

FE: Federally Endangered

FT: Federally Threatened
CE: Listed as Endangered in California.

CT: Listed as Threatened in California
CR: Listed as Rare in California

CSA: California Special Animal; refers to all of the taxa the State of California is interested in tracking, regardless of their legal or protection status. Protected by CEQA.
CC: Candidate for listing as Threatened or Endangered in California.
CNPS 1A, 2, etc.: California Native Plant Society rare, threatened, endangered list classification:

1A. Presumed extinct in California
1B. Rare or Endangered in California and elsewhere
2. Rare or Endangered I in California, more common elsewhere
3. Plants for which we need more information – Review list
4. Plants of limited distribution – Watch list

INVERTEBRATES

Arroyo Seco short-tailed whipscorpion (*Hubbardia secoensis*)
No current list status; California Special Animal. Known only from Los Padres National Forest, west side of Arroyo Seco campground at 'The Lakes.' All specimens were collected on rock undersurfaces at a granitic cliff talus in a moist, lush oak canyon. Because this species is not known to occur outside of Los Padres National Forest, there is a low potential that it occurs on the project site. No Arroyo Seco short-tailed whipscorpions were observed at the project site.

Bay checkerspot butterfly (*Euphydryas editha bayensis*)
Federally threatened. Bay checkerspots are restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. *Plantago erecta* is the primary host plant, and *Orthocarpus densiflorus* and *O. purpurscens* are the secondary host plants. No serpertine soil exists at the project site, so there is no suitable habitat at the project site for bay checkerspot butterflies. No Bay checkerspot butterflies were observed at the project site.

Monterey socalchemmis spider (*Socalchemmis monterey*)
No current list status; California Special Animal. Known from only two localities in Monterey Co., Los Padres National Forest and Arroyo Seco and Cone Peak Trail. Habitat requirements are not currently known for this species. Since this species is not know outside two locality records, there is a low potential that it occurs on the project site. No Monterey socalchemmis spiders were observed at the project site.

Pinnacles optioservus riffle beetle (*Optioservus canus*) (Coleoptera)
Proposed for California Listing. This species is aquatic, and is found on rocks and in gravel of riffles in cool, swift, clear streams. Because the stream courses are not permanent, there is no habitat for this species on the project site. No Pinnacles optioservus riffle beetles were observed at the project site.

Pinnacles shieldback katydid (*Idiostatus kathleenae*)
No current list status; California Special Animal. Known only from Pinnacles National Monument, where it was found in the bottom of broad arroyo. This stream is usually dry by mid-July and is vegetated by *Baccharis* sp. and *Eriogonum fasciculatum* with Chamise *(Adenostema fasciculatum)* abundant on the periphery. Because this species is not known to occur outside of Pinnacles National Monument, there is a low potential that it occurs on the project site. No Pinnacles shieldback katydids were observed at the project site.Tulare cuckoo wasp (*Chrysis tularensis*)
No current list status; California Special Animal. Known only from Arroyo Seco campground and Woodlake, Tulare Co. Habitat characteristics are not known for this species. Because this species is not known to occur outside of the Arroyo Seco campground, there is a low potential that it occurs on the project site. No Tulare cuckoo wasps were observed at the project site.

Ubick's leptonetid spider (*Calileptoneta ubicki*) (Arachnidae)
No current list status; California Special Animal. The only specimens are from Arroyo Seco Campground and were found under moist rocks on a loose granitic slope, beneath tightly woven sheet webs 3– 4 cm in diameter. The potential for this species to occur at the project site is low because there are no moist granite slopes present. No Ubick's leptonetid spiders were observed at the project site.

FISH

Steelhead (*Oncorhynchus mykiss irideus*)

The central California coastal population of steelhead is Federally listed as Threatened. Steelhead are anadromous fish that come to streams in the spring to spawn in cool or cold waters with a gravel bottom, and clear and swift running water. Excessive sediment caused by construction or overgrazing can cause siltation of gravel bottoms, rendering the habitat unsuitable for spawning. Adequate summer flow in streams is critical to providing adequate rearing habitat for yearling fish and in maintaining steelhead run.

Steelhead are known to occur in the Arroyo Seco River, approximately 5 miles south of the project. The project site does not contain habitat for steelhead. No steelhead was observed at the project site.

AMPHIBIANS

<u>California red-legged frog (*Rana aurora draytonii*)</u>
Federally Threatened and a California Species of Special Concern. California red-legged frogs are found in freshwater aquatic habitats including streams, shallow ponds and drainages usually associated with riparian vegetation. Breeding occurs from November through April; egg masses are attached to emergent vegetation and tadpoles metamorphose from July to September. California red-legged frogs require aquatic habitat that stays hydrated for a minimum of 15 weeks to allow complete metamorphoses of tadpoles. Adult frogs may disperse from breeding sites at any time of year and use a variety of upland habitat to escape desiccation during the summer months. Upland habitat includes anything that provides shade and moisture, such as rocks, downed wood, moist leaf litter and small mammal burrows.

The nearest known occurrence for this species is approximately 10 miles from the project site. California red-legged frogs have a low potential to occur at the project site. The pond at the project site appears to provide suitable breeding habitat, but may be limited due to water quality conditions, while the surrounding grassland and woodland habitat provides upland habitat. No CRLF were observed on the project site. A more detailed analysis of California red-legged frog habitat can be found in the habitat assessment in Appendix B

<u>California tiger salamander (*Ambystoma californiense*)</u>
Federally Threatened and a California Species of Special Concern. California tiger salamanders occur in lowland grasslands and low foothill regions of central and northern California. They are associated with vernal pools or other semi-permanent freshwater aquatic habitat. Adults spend most of their lives in upland habitat in the cover of small mammal burrows, mostly California ground squirrel and pocket gopher. Beginning as early as November with the first winter rains, adults move to aquatic breeding habitat to breed and lay eggs during late winter and early spring rains. Following metamorphosis, juveniles move from drying ponds to upland refuge sites, up to 2 mi from aquatic habitat.

The nearest known occurrence for this species is approximately 9 miles from the project site. CTS have a low potential to occur at the project site. The pond at the project site may provide suitable breeding habitat for California tiger salamanders, but may be limited due to water quality conditions, while the surrounding grassland and woodland habitat provides upland habitat. No CTS were observed on the project site. A more detailed analysis of California tiger salamander habitat can be found in the habitat assessment in Appendix B.

<u>Coast Range newt (*Taricha torosa torosa*)</u>
California Species of Special Concern. Adult Coast Range newts frequent terrestrial habitats and use mammal burrows, rocks and logs in woodland or forest habitats during the non-breeding season. In spring, adults move to breeding habitat, at slow moving creek pools, ponds, or lakes. Eggs are laid January through April and larvae reach metamorphosis in 3-6 months.

The nearest known location for this species is at the Hasting Natural History Preserve, 10 miles west of the project site. The pond and stream channel at the project site may provide suitable breeding habitat for Coast Range newt, but may be limited due to water quality conditions, while the surrounding grassland and woodland habitat provides upland habitat. No Coast Range newts were observed at the project site.

REPTILES

San Joaquin whipsnake (*Masticophis flagellum ruddocki*)
California Species of Special Concern. Occurs in open, dry, treeless areas, including grassland and scrubland. Takes refuge in rodent burrows, under shaded vegetation, and under surface objects. This snake overwinters in mammal burrows and emerges relatively late in the season (usually April-early May). Mating is thought to occur in May and oviposition probably occurs in June or early July, probably in the wall of a rodent burrow.

The nearest known location for this species is in the Salinas Valley, 3 miles east of the project site. The annual grassland and sage shrub on the project site provide suitable habitat for San Joaquin whipsnake. There is moderate potential for San Joaquin whipsnake to occur on the project site. No San Joaquin whipsnakes were observed at the project site.

Western pond turtle (*Emys [=Clemmys] marmorata*);
Southwestern pond turtle (*Actinemys marmorata pallida*)
California Species of Special Concern. The western pond turtle inhabits permanent or nearly permanent bodies of water in many habitat types. Within suitable aquatic habitats the western pond turtle requires basking sites such as partially submerged logs, vegetation mats or open mud banks. Along the central coast of California, western pond turtles may be active year-round or may overwinter in aquatic or terrestrial habitat. Mating typically occurs in late April or early May, and oviposition occurs in upland habitat in an excavated burrow during May and June. Hatchlings are thought to overwinter in the nest and move to the aquatic site in the spring, where they feed on nekton found in shallow water with dense vegetation.

There are no records in the CNDDB within 10 mi of the project site. There is no permanent aquatic habitat for western pond turtle on the project site. Western pond turtles have a low potential to occur at the project site. No western pond turtles or southwestern pond turtles were observed at the project site.

BIRDS

American peregrine falcon (*Falco peregrinus anatum*)
California Endangered Species and a California Fully Protected Species. Peregrine falcons inhabit a variety of habitats, most often riparian areas and coastal and inland wetlands. Breeding occurs early March to late August near wetlands, lakes, rivers or other water on high cliffs, banks or dunes. Nests consist of a scrape on a depression or ledge in an open site. Peregrines will nest on human-made structures, and occasionally uses tree or snag cavities or old nests of other raptors. Preferred prey consists of birds, but other vertebrates are occasionally taken.

There are no records in the CNDDB within 10 mi of the project site. Rock outcroppings in the hills at the higher elevations of the project site may provide nesting habitat for peregrines, if appropriate ledges are present. Habitats at lower elevations provide suitable foraging habitat. No American peregrine falcons were observed at the project site.

Bank swallow (*Riparia riparia*)

California Threatened Species. A neotropical migrant found primarily in riparian and other lowland habitats in California west of the deserts. Bank swallows breed in California from April to August and spend the winter months in South America. Requires vertical banks and cliffs with fine-textured or sandy soils near streams, rivers, ponds, lakes, and the ocean for nesting. Feeds primarily over grassland, shrubland, savannah, and open riparian areas during breeding season and over grassland, brushland, wetlands, and cropland during migration.

There are no records in the CNDDB within 10 mi of the project site. The grassland and shrub habitats on the project site provide suitable foraging habitat for bank swallow. No nesting habitat is present on the project site. No bank swallows were observed on the project site.

Cooper's hawk (*Accipiter cooperi*)
California Species of Special Concern. Cooper's hawks are found in dense stands of live oak (*Quercus* spp.), riparian deciduous, or other forest habitats, often near water. Cooper's hawk hunt in broken woodland and habitat edges, where they capture small birds and mammals in the air, on the ground and in vegetation. This species nests in deciduous trees in crotches usually 6-15 m above the ground, in second-growth conifer stands or in deciduous riparian areas, usually near streams. Breeding occurs March through August, with peak activity May through July.

There are no records in the CNDDB within 10 mi of the project site. The oak and riparian woodland on the project site provides suitable nesting and foraging habitat for Cooper's hawk. No Cooper's hawks were observed at the project site.

Long-eared owl (*Asio otus*)
California Species of Special Concern. Found in dense, riparian and live oak thickets near meadow edges, and nearby woodland and forest habitats and other dense stands of trees. Usually hunts in open areas, occasionally in woodland and forested habitats. Uses old crow, magpie, hawk, heron, and squirrel nests in a variety of trees with dense canopy. Nest usually 10-50 ft above ground. Riparian or other thickets with small, densely canopied trees required for roosting and nesting.

There are no records in the CNDDB within 10 mi of the project site. The riparian and oak woodland on the project site provides suitable nesting and roosting habitat and the annual grassland and open landscaped areas provide suitable foraging habitat for long-eared owl. No long-eared owls were observed at the project site.

Prairie falcon (*Falco mexicanus*)
California Species of Special Concern. Prairie falcons are most commonly found in dry, open terrain such as perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. The species uses open terrain often far from the nest for foraging, and usually nests on cliffs overlooking treeless areas.

There are no records in the CNDDB within 10 mi of the project site. The grassland areas on the project site provide potential foraging habitat for prairie falcon, but is probably less preferred habitat compared to the extensive open agricultural land near the project site. There is no nesting habitat on the project site. Prairie falcon have a low potential to occur on the project site. No prairie falcons were observed at the project site.

Sharp-shinned hawk (*Accipiter striatus*)
California Species of Special Concern. Breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers, but not restricted to, riparian habitats. North facing slopes with

plucking perches are critical requirements. Often forages in openings at edges of woodlands, hedgerows, brushy pastures, and shorelines, especially where migrating birds are found. Roosts in intermediate to high-canopy forest. Winters in woodlands. Nests in dense, even-aged, single-layered forest canopy which are cool, moist, well shaded, with little ground-cover and near water. Nest is a platform or cup in dense foliage against trunk, or in main crotch of tree, usually 6-80 ft above ground and usually located within 275 ft of water.

There are no records in the CNDDB within 10 mi of the project site. The dense oak woodland and riparian woodland at the project site provides low quality nesting habitat and the grassland habitats provides foraging habitat for sharp-shinned hawk. No sharp-shinned hawks were observed at the project site.

<u>White-tailed kite (*Elanus leucurus*)</u>
California Fully Protected Species. White-tailed kites breed in lowland grasslands, wetlands, oak-woodland and savannah habitats, and riparian areas associated with open areas. Habitats which support larger rodent prey populations are more suitable; ungrazed lands support higher prey populations than grazed lands. Summer habitat preferences include riparian zones and dry pastures. Nests are built in trees, either in single isolated trees or those within large stands. Kites are non-migratory and winter habitat is similar to breeding habitat, but without the need for nest trees. Riparian corridors represent a preferred landscape characteristic for kites in both the breeding and non-breeding season.

There are no records in the CNDDB within 10 mi of the project site. The riparian and oak woodland habitats provide suitable breeding habitat for white-tailed kite. No white-tailed kites were observed at the project site.

MAMMALS

<u>American badger (*Taxidea taxus*)</u>
California Species of Special Concern. The American badger is a semi-fossorial mustelid that occurs in a variety of habitats in California. American badgers require friable soils and open, uncultivated land for burrowing, preferably in grasslands, savannas and mountain meadows near timberline. Badgers also need a sufficient source of prey, primarily burrowing rodents such as gophers and ground squirrels. Badgers are predatory specialists on these rodents, although they will eat a variety of other animals, including mice, woodrats, reptiles, birds and insects.

The nearest known location for this species is near the town of Soledad, 5 miles northeast of the project site. Because the project site contains a small, limited area of the open grassland required by badgers, the project site has a low potential to support badgers. No American badgers were observed at the project site.

<u>Big-eared kangaroo rat (*Dipodomys venustus elephantinus*)</u>
California Species of Special Concern. Restricted to chaparral habitat in the southern part of the Gabilan Range in San Benito and Monterey Counties. Because the project site is outside the range of this species and does not provide suitable habitat, there is a very low likelihood that big-eared kangaroo rat is present on the project site. There are no records in the CNDDB within 10 mi of the project site. No big-eared kangaroo rats were observed at the project site.

<u>Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*)</u>
California Species of Special Concern. These woodrats are found close to water in areas of dense overgrowth such as willows and live oak and tend to avoid open grasslands or oak woodlands with small amounts of underbrush. Woodrats build multi-chamber houses on the ground, usually next to trees, out of

dead wood, leaves and grass. Within suitable habitats, woodrats live in small colonies of three to fifteen or more nests. Availability of building materials may limit woodrat populations. Woodrats are primarily herbivorous, eating plant material including leaves, flowers and acorns. The reproductive period of this species usually extends from December to September, but individuals can be reproductively active year-round. Most females are reproductively active in April and May.

Woodrat nests were observed in the riparian areas of the project site during surveys in 2003 and in the willow riparian areas on the east end of the property during surveys in 2008. The riparian and oak woodland habitats on the project site provide suitable habitat for Monterey dusky-footed woodrat. Locations of woodrat nests found during 2008 surveys are shown in Map C

Salinas pocket mouse (*Perognathus inornatus psammophilus*)
California Species of Special Concern. Occurs in dry, open grasslands or scrub areas on fine-textured soils in the Salinas Valley. Seeds probably constitute the majority of the diet, but it also eats green vegetation and insects.

The nearest known locations for this species are near the town of Soledad, 4 miles northeast of the project site. The annual grassland on the site provides potential habitat for Salinas pocket mouse. No Salinas pocket mice were observed at the project site.

San Joaquin kit fox (*Vulpes macrotis mutica*)
Federally endangered and California threatened species. Annual grasslands or grassy open stages with scattered shrubby vegetation. They require loose-textured sandy soils for burrowing, and a suitable prey base consisting of small mammals, ground nesting birds, and insects. In the northern portion of their range, kit foxes commonly are associated with annual grassland and valley oak woodland.

The nearest known locality of San Joaquin kit fox is near the city of Greenfield, 3 miles east of the project site. The last time kit fox were spotted in this area was no later 1975, and no sighting from this locality has been reported since. No San Joaquin kit fox were observed at the project site.

BATS[1]

Fringed myotis (*Myotis thysanodes*)
California Special Animal. Found in a wide variety of habitats. Optimal habitats are pinyon-juniper, valley foothill hardwood & hardwood-conifer. Fringed myotis use caves, mines, buildings or crevices for maternity colonies and roosts.

There are no records for fringed myotis in the CNDDB within 10 mi of the project site and none were detected at the project site during surveys. The buildings and palm and large oak trees provide potential roosting habitat.

Hoary bat (*Lasiurus cinereus*)
California Special Animal. Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Preferred sites are hidden from above, with few branches below, and have ground cover of low reflectivity. Feeds primarily on moths and requires water. Young are born from mid-May through early July.

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[1] See Bat Survey, Appendix ____.

Hoary bat was detected in the lower Indian Valley at project site. The buildings and palms and large oak trees at the project site provide potential roosting habitat.

<u>Long-eared myotis (*Myotis evotis*)</u>

California Special Animal. Long-eared myotis are found in all brush, woodland & forest habitats from sea level to about 9000 ft. Prefers coniferous woodlands and forests. Nursery colonies in buildings, crevices, spaces under bark and snags. Caves used primarily as night roosts. The young are born from May-July, with a peak in June. Most young are flying by early August. The single yearly litter averages 1 young.

The nearest known location of long-eared myotis is 10.5 miles from the project site, near the Bear Creek Picnic Area in Pinnacles National Monument. This species was not detected during surveys.

<u>Pallid bat (*Antrozous pallidus*)</u>

California Species of Special Concern. Pallid bats are found year-round across the western US in a wide variety of habitats, including grasslands, shrublands, woodlands and forests. This species is most common in open, dry habitats with rocky areas for roosting. Day roosts are in caves, crevices, mines and occasionally in hollow trees and buildings and must protect bats from high temperatures. Night roosts may be in more open sites, such as porches and open buildings. Maternity colonies form in early April, and may have a dozen to 100 individuals. Males may roost separately or in the nursery colony. Mating occurs from late October to February and an average of two young are born from April through July.

Pallid bats were found roosting in the workshop and hillside cabins at the project site.

<u>Townsend's big-eared bat (*Corynorhinus townsendii*)</u>

California Species of Special Concern. Townsend's big-eared bats are found in a wide variety of habitats and are most common in mesic sites. This species roosts in the open, caves, tunnels, mines, and buildings. Roosting sites are the most important limiting resource. Individuals are at hibernacula from October to April. Births occur in May and June, peaking in late May. A single litter of 1 is produced annually. Young are weaned in 6 weeks and fly about 3 weeks after birth. This species is extremely sensitive to human disturbance.

There are no records for Townsend's big-eared bat in the CNDDB within 10 mi of the project site and none were detected at the project site during surveys.

<u>Western mastiff bat (*Eumops perotis californicus*)</u>

California Species of Special Concern. Most frequent in broad open areas in a variety of habitats, from dry desert washes, flood plains, chaparral, oak woodland, grassland, and agricultural areas. Roosts in crevices in rock outcroppings and cliff faces, tunnels and tall buildings that have vertical drops of at least 10 feet to allow for flight. Mating occurs in early spring and parturition usually extends into July.

The nearest known location of western mastiff bat is 8 miles from the project site, near the town of Soledad. This species was not detected during surveys.

<u>Western red bat (*Lasiurus blossevillii*)</u>

California Species of Special Concern. Roosts primarily in trees, less often in shrubs in a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging. Roost sites often are in edge habitats adjacent to streams, fields, or urban areas. Preferred roost sites are protected from above, open below, and located above dark ground-cover. In cold climates spends the winter in hibernation, with arousals on warm winter days. Births are from late May through early July. Most females bear 2 or 3 young.

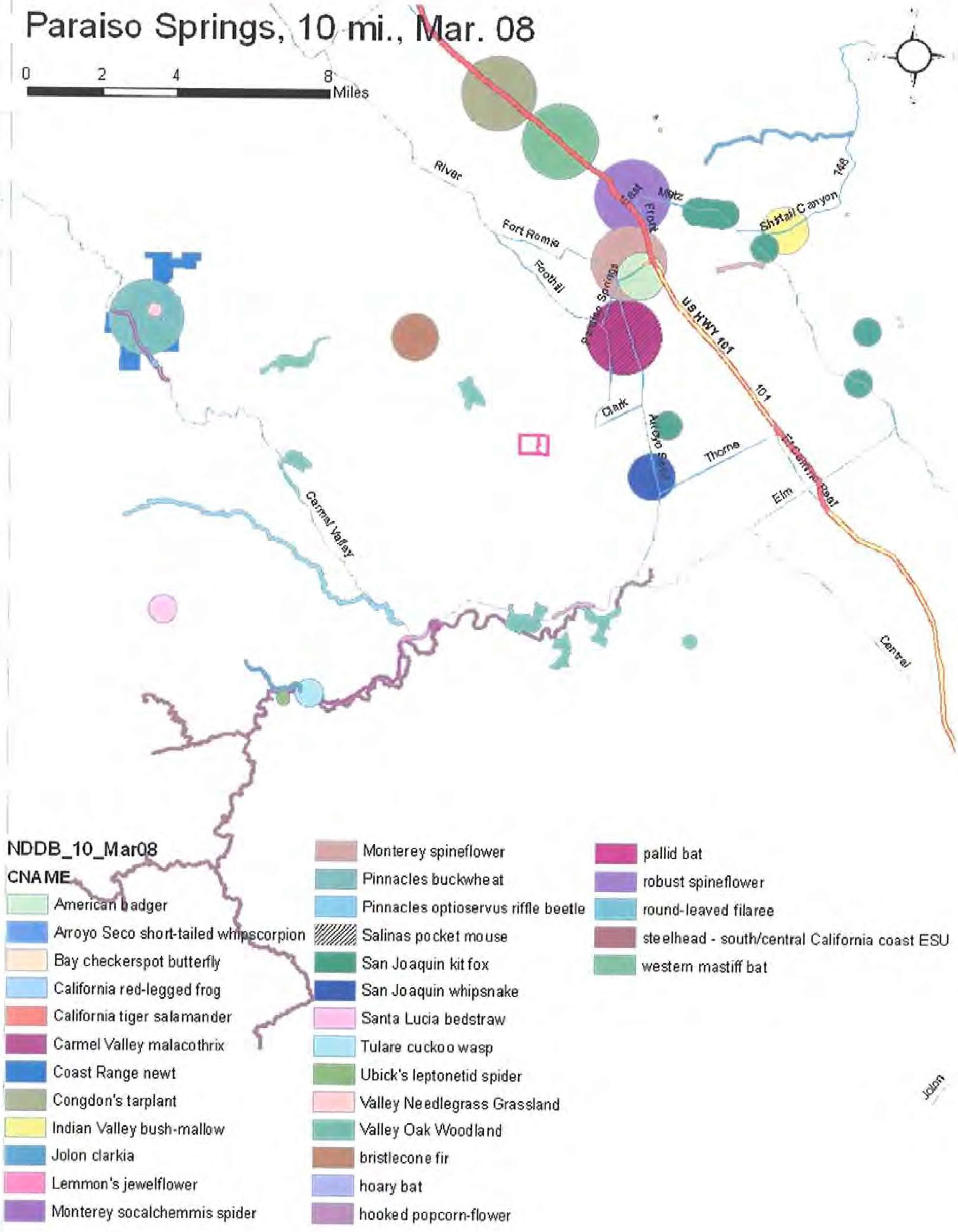
Western red bat was detected in lower Indian Valley at the project site.

Western small-footed myotis (*Myotis ciliolabrum*)
California Special Animal. Western small-footed myotis occurs in a wide range of habitats, primarily arid wooded and brushy uplands near water. They seek cover in caves, buildings, mines and crevices and occasionally under bridges and under bark. This species hibernates from November-March. The young are born from May through June, with a peak in late May. Usually there is a single young, but twins are common.

There are no records for western small-footed myotis in the CNDDB within 10 mi of the project site and none were detected at the project site during surveys.

Yuma myotis (*Myotis yumanensis*)
California Special Animal. The Yuma myotis is common and widespread in California. Optimal habitats for this species are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. The Yuma myotis roosts in buildings, mines, caves, or crevices. The species also has been seen roosting in abandoned swallow nests and under bridges. Maternity colonies are in caves, mines, buildings or crevices. Births last from late May to mid-June with a peak in early June. It is likely that some young are born in July in some areas. A single litter of 1 young is produced yearly.

Yuma myotis were detected in the palm trees near the hot springs, in the east end of the workshop building, and in lower Indian Valley.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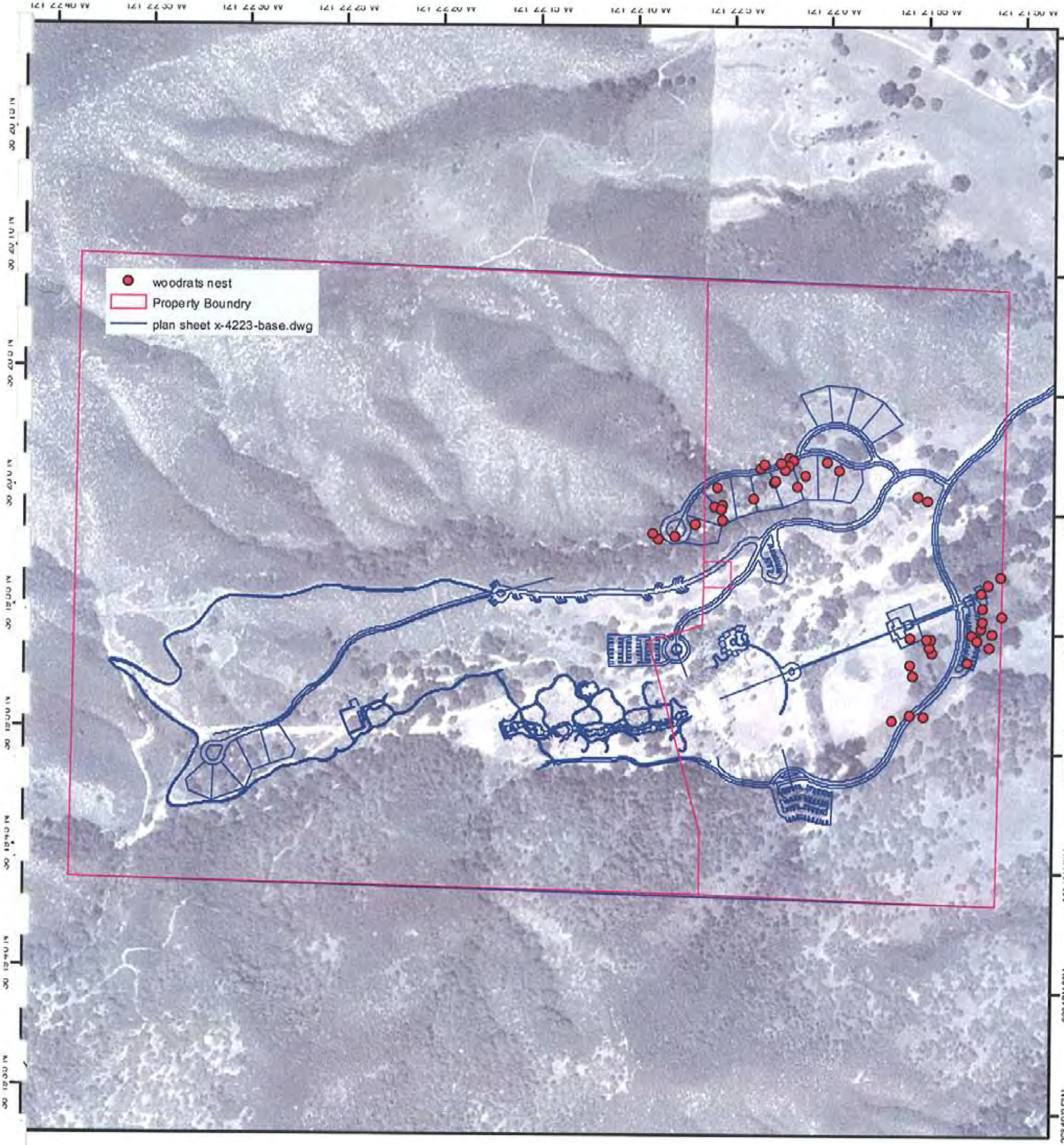
Arroyo Seco short-tailed whipscorpion
Bay checkerspot butterfly
California red-legged frog
California tiger salamander
Carmel Valley malacothrix
Coast Range newt
Congdon's tarplant
Indian Valley bush-mallow
Jolon clarkia
Lemmon's jewelflower
Monterey socalchemmis spider
Monterey spineflower
Pinnacles buckwheat
Pinnacles optioservus riffle beetle
Salinas pocket mouse
San Joaquin kit fox
San Joaquin whipsnake
Santa Lucia bedstraw
Tulare cuckoo wasp
Ubick's leptonetid spider
Valley Needlegrass Grassland
Valley Oak Woodland
bristlecone fir
hoary bat
hooked popcorn-flower
pallid bat
robust spineflower
round-leaved filaree
steelhead - south/central California coast ESU
western mastiff bat



N

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0 60 120 Meters

Location of Woodrat Nests (*Neotoma sp.*) Within the Development Area

Paraiso Hot Springs Resort
Monterey County, California

rana creek
ENVIRONMENTAL PLANNING

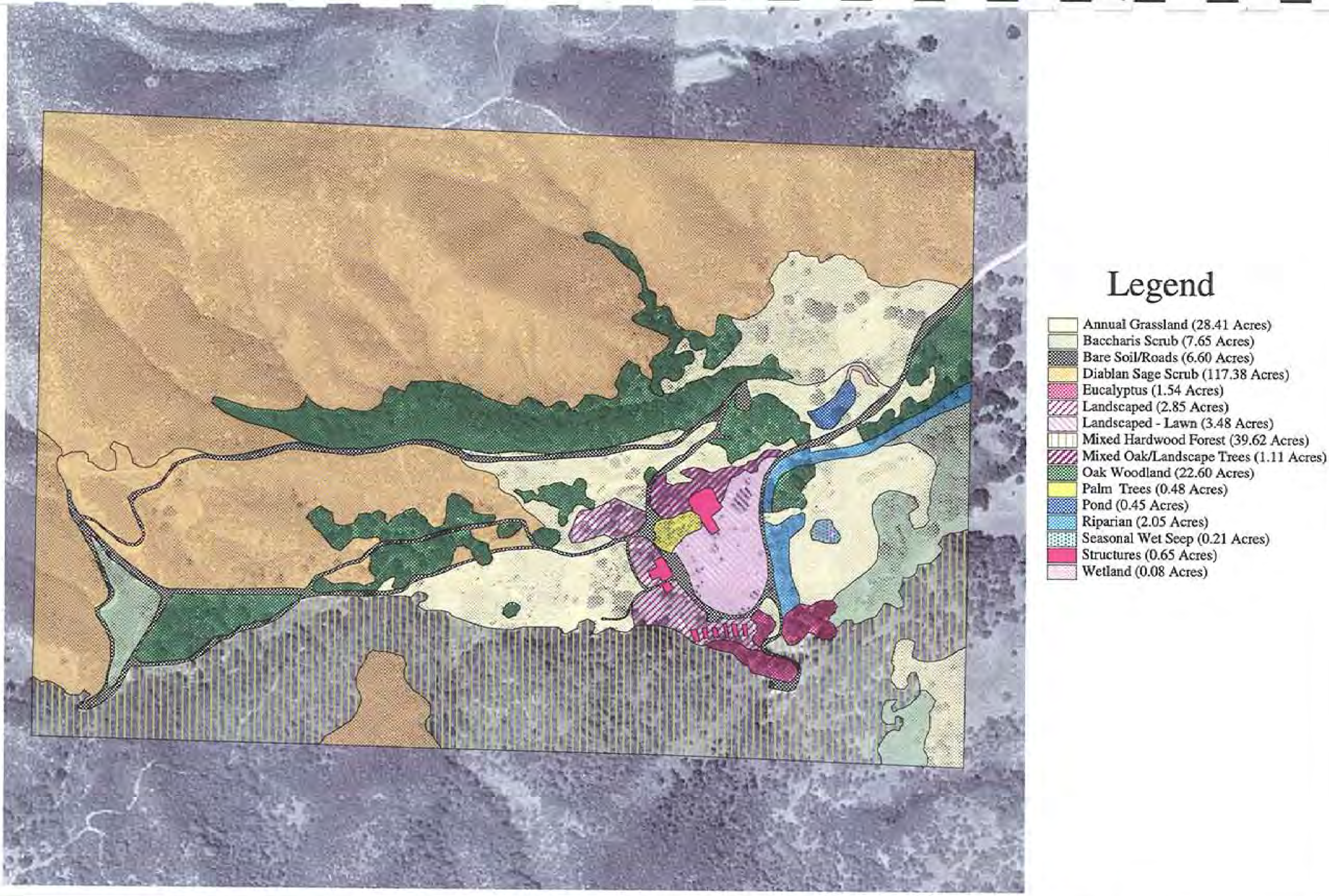
Created: May 14, 2008

Habitat	Description	Potential sensitive species occurrence	
		Plants	Animals
Annnal grassland	Annual non-native grasses with a few native grasses and forbs. Plants include non-native soft chess (*Bromus hordeaceus*), foxtail chess (*Bromus madritensis* ssp. *rubens*), rattlesnake grass (*Briza maxima*), slender wild oats (*Avena fatua*), and English plantain (*Plantago lanceolata*). During spring annual native wildflowers are present that include pink owl's clover (*Castelleja exserta*), blue dicks (*Dichelostemma capitatum*), popcorn flower (*Plagiobothrys nothofulvus*), and sky lupine (*Lupinus nanus*). The areas of annual grassland that have very few native species were most likely the areas that were farmed or historically had a high level of disturbance.	round-leaved filaree Lemmon's jewelflower Pinnacles buckwheat pale-yellow layia Carmel Valley malacothrix hooked popcorn-flower Hickman's checkerbloom	California red-legged frog California tiger salamander Coast Range newt San Joaquin whipsnake American peregrine falcou bank swallow Cooper's hawk long-eared owl prairie falcon sharp-shiuned hawk white-tailed kite American badger Salinas pocket mouse San Joaquin kit fox
Baccharis Scrub	The dominant plant of this community is coyote brush (*Baccharis piluaris*). The baccharis scrub areas are located near the riparian areas and slopes near the eastern edge of the property.	Napa false indigo Toro manzanita Congdon's tarplant Jolon clarkia Butterworth's buckwheat Pinnacles buckwheat Santa Lucia bedstraw pale-yellow layia Indian Valley bush-mallow hooked popcorn-flower Hickman's checkerbloom	California red-legged frog California tiger salamander Coast Range newt American peregrine falcon bank swallow Cooper's hawk long-eared owl sharp-shiuned hawk big-eared kangaroo rat Salinas pocket mouse San Joaquin kit fox

Habitat	Description	Potential sensitive species occurrence	
		Plants	Animals
Eucalyptus	Red gum (*Eucalyptus camalsulensis*) and blue gum (*Eucalyptus globulous*) trees are present scattered throughout the property, close to the developed areas of the property. Dense aggregations are present in the southeast portion of the property. These trees provide potential roosting and breeding habitat for birds.	N/A	Cooper's hawk long-eared owl sharp-shinned hawk white-tailed kite
Landscaped	A majority of the area to be developed consists of areas of non-native landscaping and disturbance adapted non-native plants. A large area of lawn dominated by non-native Kikuyu grass (*Pennisetum clandestinum*) is located in the middle of the currently developed areas. The majority of the palms will remain. Other common landscaping plants include: Peruvian pepper tree (*Schinus molle*), African daisy (*Osteospermum fruticosum*), pink cosmos (*Cosmos binnatus*), jade plant (*Crassula argentea*), Japanese honeysuckle (*Lonicera japonica*), regal geranium (*Pelargonium domesticum*).		American peregrine falcon Bank swallow Cooper's hawk long-eared owl prairie falcon sharp-shinned hawk white-tailed kite
Mixed Hardwood Forest	The north-facing slope on the south side of the property is dominated by mixed hardwood forest. The dominant trees in this area are: coast live oak (*Quercus agrifolia*), blue oak (*Quercus douglasii*), California buckeye (*Aesculus californica*), and California bay (*Umbellularia californica*).	Napa false indigo Toro manzanita round-leaved filaree Congdon's tarplant Monterey spineflower robust spineflower umbrella larkspur Norris' beard moss pale-yellow layia Indian Valley bush-mallow hooked popcorn-flower	California red-legged frog California tiger salamander Coast Range newt Cooper's hawk long-eared owl sharp-shinned hawk white-tailed kite Monterey dusky-footed woodrat San Joaquin kit fox

Habitat	Description	Potential sensitive species occurrence	
		Plants	Animals
Palm Trees	A major feature of the developed area is the stand of Mexican fan palms (*Washingtonia robusta*). The palms provide nesting habitat for a number of bird species, and are also used as granary trees by acorn woodpecker.	N/A	Cooper's hawk long-eared owl sharp-shinned hawk white-tailed kite
Pond	The pond is located near the eastern entrance of the property. The edges of the pond contain cat-tails (*Typhacea angustifolia*), slough sedge (*Carex obnupta*), and non-native water loving weeds such as curly dock (*Rumex crispus*). The surface of the water is covered with duck weed (*Lemna sp.*). The area surrounding the pond consists of non-native annual grasses and forbs.		California red-legged frog California tiger salamander Coast Range newt bank swallow
Riparian	Associated with the intermittent stream on the east end of the property. Dominant tree species are California sycamore (*Platanus racemosa*) and arroyo willow (*Salix lasiolepis*) with some non-native Mexican fan palms (*Washingtonia robusta*) and Peruvian pepper trees (*Schinus molle*). The understory is a mixture of mostly non-native grasses and forbs and also contains the highly invasive species tree tobacco (*Nicotiana glauca*) and castor bean (*Ricinus communis*).	umbrella larkspur Norris' beard moss	California red-legged frog California tiger salamander Coast Range newt American peregrine falcon bank swallow Cooper's hawk long-eared owl sharp-shinned hawk white-tailed kite Monterey dusky-footed woodrat

Habitat	Description	Potential sensitive species occurrence	
		Plants	Animals
Seasonal Wet Seep/Wetland	Located in the middle of weedy annual grasslands. There was no standing water in this area, but the soil showed evidence of seasonal saturation and supports creeping wild rye (*Leymus triticoides*), common rush (*Juncus effusus*), spreading rush (*Juncus patens*), as well as non-native aquatic adapted plants including curly dock (*Rumex crispus*).		American peregrine falcon bank swallow Cooper's hawk long-eared owl prairie falcon sharp-shinned hawk white-tailed kite



Rana Creek
Habitat Restoration
35351 E. Carmel Valley Rd.
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Paraiso Hot Springs Resort

Vegetation

1/28/03

Habitat Assessment
for
California Tiger Salamander
and
California Red-legged Frog
at

Paraiso Hot Springs Resort
34358 Paraiso Springs Road
Soledad, Ca 93960

Prepared for
Paraiso Resorts L.L.C.
PO Box 1925
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Prepared by
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June 2008

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SUMMARY

Protocol habitat assessments and night visual encounter surveys were conducted in March 2008 for California red-legged frog and California tiger salamander at the proposed project site at Paraiso Hot Springs Resort in Soledad, Monterey County, California. Additional daytime visual surveys and one protocol level larval netting survey were completed in May and June of 2008. Tree frogs and one California toad was observed, and no sensitive species were found during any surveys. The project site appears to provide suitable habitat for California red-legged frog and California tiger salamander, but certain factors including the water quality of the pond water may have or be reducing habitat quality for these species and their likelihood to be present on the project site.

METHODS

Prior to conducting the field portion of the assessment, the California Department of Fish and Game's *California Natural Diversity Data Base* (CNDDB) was queried to determine the locations of California tiger salamanders (CTS) and California red-legged frog (CRLF) in the vicinity of the project site. Previous biological assessments for the project site were also reviewed. The site was surveyed on March 12 and 13, 2008 by Pat Regan and Sarah Millus of Rana Creek Environmental Planning, and then again with Chris Diel of the USFWS on April 29, 2008. The assessment included evaluating the potential habitat on site for both aquatic and upland habitat as outlined in USFWS protocol for CTS (USFWS 2003) and CRLF (USFWS 2005). Information regarding the characteristics and timing of natural processes on the project site were obtained from the property caretakers at the time of the site assessment. Sarah Millus conducted both a daytime and nighttime visual encounter spotlight survey for amphibians on March 12 and April 23, 2008. These surveys followed the methodology in the USFWS CRLF protocol. Data sheets are attached. Additionally, a larval survey was performed in early June 2008, which revealed no larvae of any kind.

RESULTS

Review of previous assessments

Biological surveys were conducted at the property site between December 12 and March 11, 2003 and Rana Creek conducted a night survey for amphibians in March 2003. No amphibians were found on the property during these surveys (Rana Creek 2003).

Protocol CTS and CRLF Habitat Assessment

Element 1. Is the project site within the range of the CTS and CRLF?

The project site is within the range of CTS and CRLF. The project site is not located in designated critical habitat (50 Federal Registrar 49380) for either CTS or CRLF.

Element 2. What are the known localities of CTS within the project site and within 3.1 miles (5.0 km) of the project boundaries? What are the known records of CRLF at the site or within a 1.6 km (1 mile) radius of the site?

Known localities of CTS and CRLF in the vicinity of the project site are shown in Map 1. All locality information is from CNDDB records. There are no known localities for either species within 5 km of the project site.

The nearest known location for CTS is approximately 9 mi (15 km) northeast of the project site, 0.8 mile east of San Vicente road, 2.5 miles north of Soledad in the foothills of the Gabilan Mountain Range (CNDDB 2008). This is a hybrid population.

The nearest known location for CRLF is approximately 10 mi (16 km) northwest of the project site at Hastings Natural History Reserve at Robertson Creek, 1 mile east of Jamesburg Road.

Element 3. What are the habitats within the project site and within 2 km of the project boundaries?

The project site is located in a small valley in the foothills of the Sierra de Salinas Range. The total property area covers 235 acres. Elevations on the site range from 985 ft to 1,500 ft. The major habitat on the project site is diablan sage scrub, which covers approximately 117 acres of the site. Other major habitat types include mixed hardwood forest (40 acres), annual grassland (28 acres), oak woodland (23 acres), and landscaped areas (7 acres).

A man-made, mud-bottom pond is located at the eastern end of the property (Photopoints 1-3). It measured 59 ft. by 155 ft. and covered approximately 0.1 acres at the time of the assessment. The pond was about 80% covered with emergent vegetation, the vast majority of which was cattails (*Typha* sp.). The majority of the remaining open portions of the pond were covered with duck weed (*Lemna* sp.). Some dead oak debris was present at the edges of the pond and provided some overhanging cover. Willows (*Salix* sp.) were present on the western end of the pond, but did not overhang the pond. The maximum depth recorded was 14 in. The pond dries in May or June during years of average rainfall. The pond is now filled by rainwater, but used to be fed by water coming from the hot springs on the property, as was the case during the 2003 survey. A small drainage fed by spring water runs north-south near the pond (Photopoint 5). Overhanging riparian vegetation (willows, California sycamore, California blackberry) was present around this drainage, which held 1.5 in. of slow-moving water (Photopoint 4). A small water seep was observed outside the property boundary, past the east fence line. This seep had little standing water and was overhung by large oak trees. Downed wood from the oak trees was present in and around the seep.

Upland habitat around the pond is annual grassland with scattered oak trees and scrub vegetation, which consisted mostly of California sage (*Artemisia californica*) and coyote brush (*Baccharis pilularis*). Gopher burrows were observed in the grassland on the north end of the pond. Tree frogs (*Pseudacris regilla*) were seen using these burrows for cover during the day survey.

Habitat within 2 km of the project site is mostly oak woodland and sage scrub of the Sierra de Salinas (Fig. 1). The remaining area is covered by agricultural land. The topography consists of mountain ridges up to 1,500 ft in elevation separated by small valleys. Aquatic habitat within 2 km of the project site consists of several drainages and a small 'freshwater forested/shrub wetland' approximately 0.5 mi. north of the project site (USFWS 2008; Map 3). Neither this wetland nor the drainages outside the project area were surveyed. No wetland data were available for the area west of the property.

Water samples were taken from the pond in June and tested by Soil Control lab of Watsonville California. The results showed elevated levels of dissolved solids, Sulfates, Fluoride, and exceptionally high levels of Iron and Magnesium and a low pH (acidic). See appendix A for water quality information.

Survey Results

One treefrog (*Pseudacris regilla*) egg mass as well as mosquito larvae were observed during the day survey on March 12, 2008. Approximately fifty treefrogs and one California toad (*Bufo boreas halophilus*) were heard and observed in the pond during the night survey on March 12, 2008. Amplexus of treefrogs was also observed. Treefrog larvae were observed on the north side of the pond on the day of April 23, 2008. Approximately twelve treefrogs were heard and observed during the nighttime survey on April 23, 2008. One treefrog metamorph was also observed.

Pacific treefrog breeding and egg-laying typically occurs during a brief period from March to May depending on local conditions. Tadpoles require 40 to 75 days to transform (Stebbins 1951). Pacific Treefrogs commonly breed in ephemeral ponds such as this one. A major source of mortality for tadpoles is pond drying. When these ponds dry early in the year, any Pacific Treefrog tadpole that cannot metamorphose into a small froglet will be killed. However, tadpoles have an adaptation to improve their chance of surviving in these ephemeral habitats as well. When Pacific Treefrog tadpoles detect that their pond is drying, they can accelerate their development rate so that they metamorphose earlier in the year. While this does not always save the tadpoles, it can improve their chances of survival in some ponds.

A larval survey conducted by consulting Biologist Bryan Mori on June 3 found no amphibian larvae, juvenile or adult individuals of treefrog, toad, CTS or CRLF. It should be noted that, during surveys on the same day, at a similar ephemeral pond approximately 24 km north, a fair number of Pacific treefrog tadpoles and metamorphs were found in the rapidly drying pond.

CONCLUSIONS

The pond appears to provide breeding habitat for amphibians, given that mating treefrogs and egg masses were observed here. The project site also appears to provide suitable potential upland habitat for California red-legged frog (CRLF) and California tiger salamander (CTS). The pond also appears to provide suitable breeding habitat, while the surrounding grassland and woodland habitat provides upland habitat for both CRLF and CTS and the nearby drainage may provide habitat for juvenile CRLF. However, to date no eggs, tadpoles, juveniles or adult CTS or CRLF have been located in or around the areas of suitable habitat on the property. Whereas the required habitat components for these species appear to be present, the likelihood that they are present on the project site is substantially reduced by a few factors:

A. **Chemical Properties Of Pond**. During the time when the pond was being filled by hot spring water, the high mineral content of the water and other chemical factors may have prevented amphibians from breeding or reduced their breeding success. Over the years of filling and evaporation, there appears to be an increasing concentration of minerals and salts as indicated by the water test samples. This may explain why no amphibians were observed during 2003 surveys. If CTS or CRLF were in the project area, they may have not been able to successfully breed in the pond and either died off or moved to other, more suitable habitat.

B. **Hydroperiod And Depth Of Pond**. In years of normal rainfall, the pond appears to fill and go dry around May or June, an ideal situation for CRLF and CTS. However, the large amount of emergent vegetation at the pond may contribute to early drying of the pond, which would lead to desiccation and death of eggs and larvae before they undergo metamorphosis and move away from the pond.

C. **Known localities of CRLF and CTS**. The CNDDB reveals that the closest documented CRLF and CTS are greater than 15 km from the project site. Current known extremes of travel between breeding and upland areas for these two species is one mile and 3.1 miles respectively.

D. **Absence of any species during June larval survey.** It is noteworthy that the June larval survey revealed no larval stage or metamorphs of any kind of amphibian. A survey of a pond, similar to the Paraiso pond, but with obviously different water quality, within 24 km of this site revealed substantial larval activity, despite low depth and rapid dessication of the pond, indicating that the Paraiso site may be much less likely to support breeding of Treefrogs or our two subject species, the CTS and CRLF.

LITERATURE CITED

Rana Creek Habitat Restoration. 2003. Paraiso Hot Spring Biological Assessment.

[USFWS] US Fish and Wildlife Service. 2008. National Wetlands Inventory. Wetlands Geodatabase.

[USFWS] U.S. Fish and Wildlife Service. 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog.

[USFWS] U.S. Fish and Wildlife Service. 2003. Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander


Photopoint 1. View of pond looking north.


Photopoint 2. View of pond looking west.

Photopoint 3. View of pond looking south.

Close-up of west bank of pond, showing dense cattails and duckweed cover.

Photopoint 4. Intermittent drainage and associated riparian vegetation.

Photopoint 5. Water spout feeding intermittent creek.

Figure 1. Diablian sage scrub and oak woodland of the Sierra de Salinas range, west of the project site.

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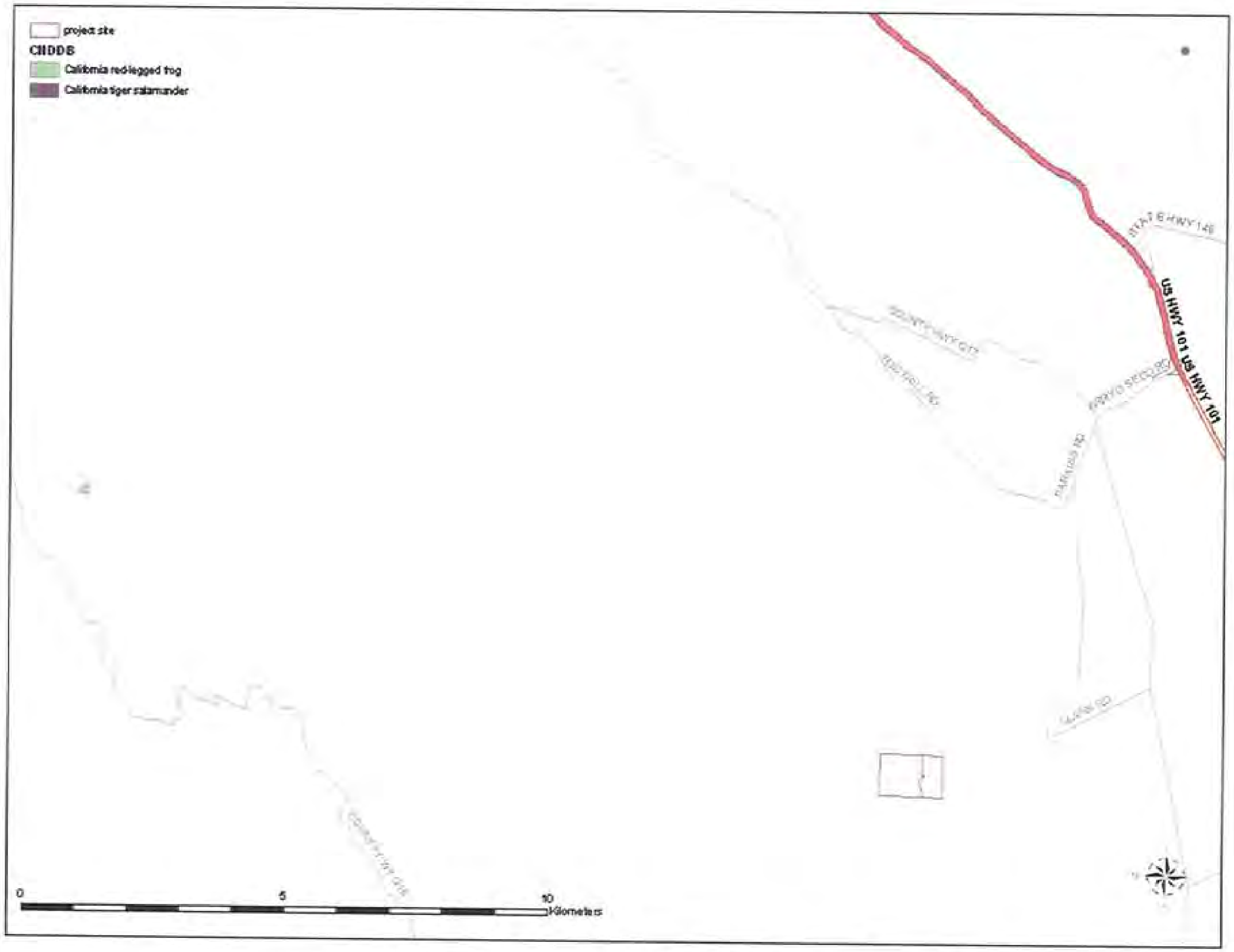
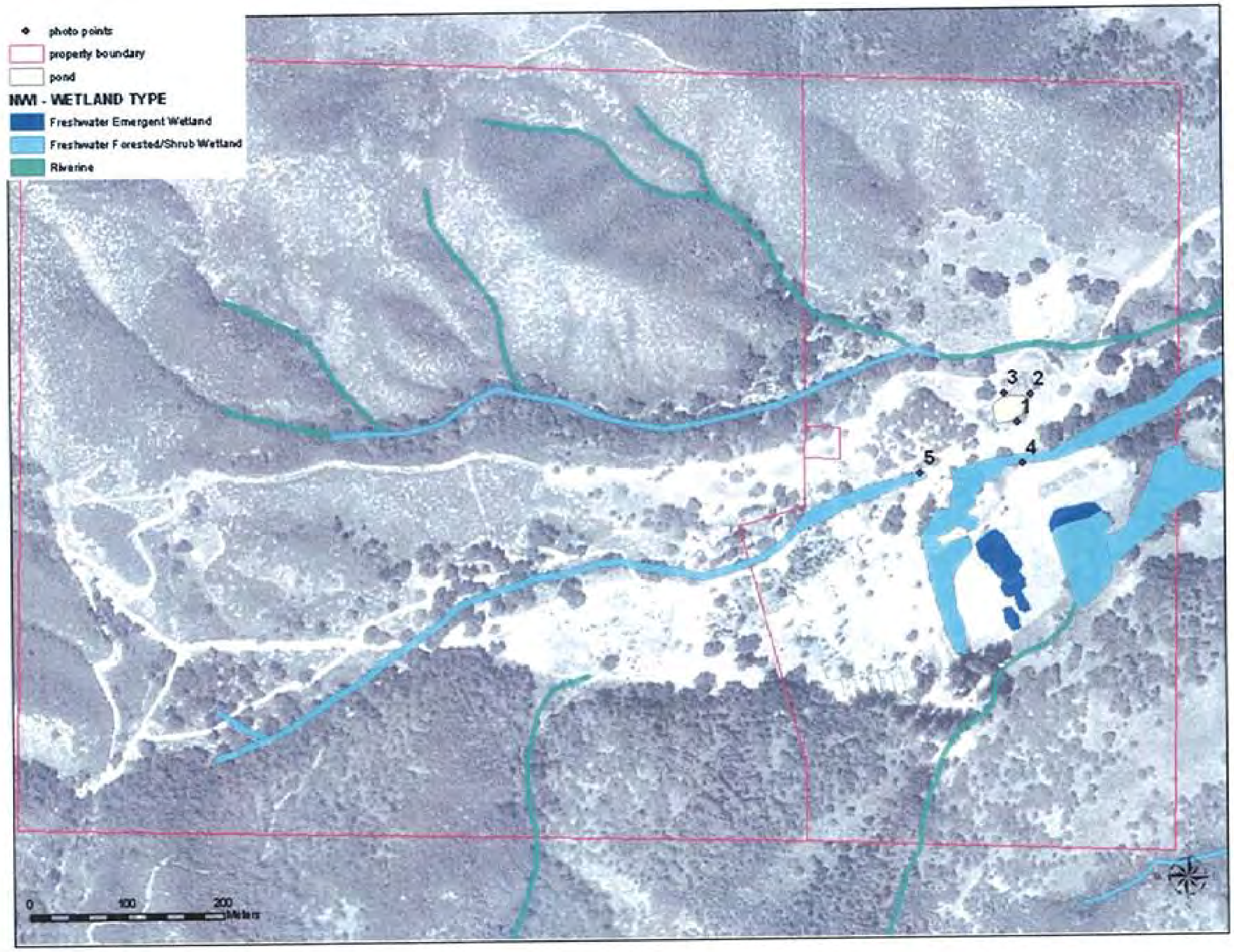
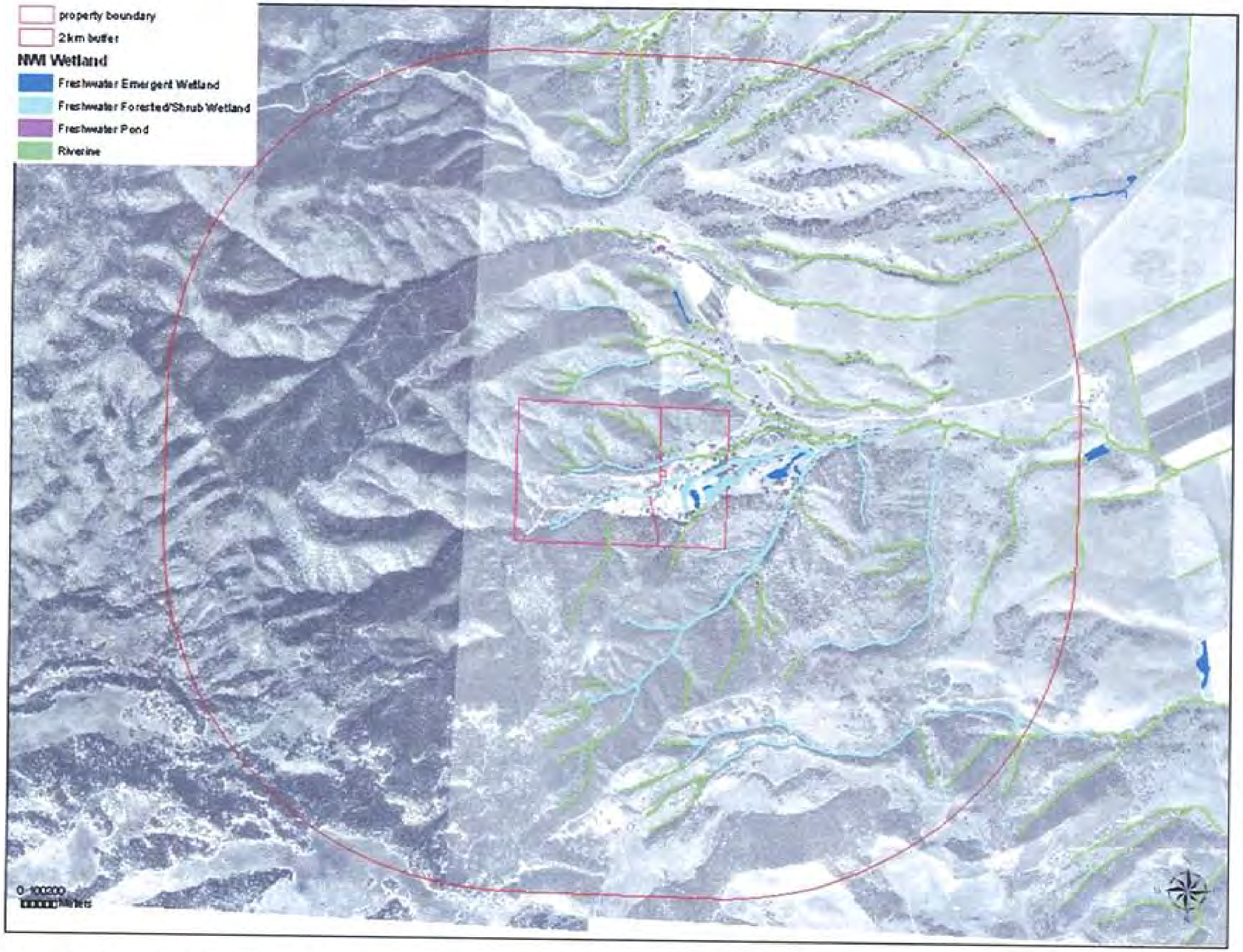


Map 1. Locations of CTS and CRLF near project site.



Map 2. Aquatic habitat and photo points.



Map 3. National Wetland Inventory data within 2 km of the project site.

Appendix A - Water Quality Test Results

ANALYTICAL CHEMISTS
and
BACTERIOLOGISTS
Approved by State of California

TEL: 831-724-5422
FAX: 831-724-3188

SOIL CONTROL LAB

42 HANGAR WAY
WATSONVILLE
CALIFORNIA
95076
USA

Paraiso, LLC / Paraiso Hot Springs
358 Paraiso Springs Road
oledad, CA 93960
Attn: John Thompson

Work Order #: 8060135
Reporting Date: June 6, 2008

ate Received:	June 3, 2008
Project # / Name:	None / Pond Water & Spring Water
ater System #:	NA
ample Identification:	Pond Water, sampled 6/3/2008 1:30:00PM
Sampler Name / Co.:	Josie Ortiz-Lopez / Paraiso Hot Springs
atrix:	Water
iboratory #:	8060135-01

	Results	Units	RL	State Drinking Water Limits	Analysis Method	Date Analyzed	Flags
eneral Mineral							
pH	3.4	pH Units	0.1	-	EPA 150.1	06/04/08	
* Specific Conductance (EC)	4900	uS/cm	1.0	1600	EPA 120.1	06/04/08	
Hydroxide as OH	ND	mg/L	2.5	-	EPA 310.1	06/04/08	
Carbonate as CO3	ND	mg/L	2.5	-	EPA 310.1	06/04/08	
Bicarbonate as HCO3	ND	mg/L	2.5	-	EPA 310.1	06/04/08	
Total Alkalinity as CaCO3	ND	mg/L	2.5	-	EPA 310.1	06/04/08	
Hardness	1700	mg/L	20	-	SM 2340 B	06/05/08	
* Total Dissolved Solids	3200	mg/L	50	1000	EPA 160.1	06/05/08	
Nitrate as NO3	ND	mg/L	2.5	45	EPA 300.0	06/04/08	
Chloride	150	mg/L	5.0	500	EPA 300.0	06/04/08	
* Sulfate as SO4	3500	mg/L	25	500	EPA 300.0	06/04/08	
Fluoride	40	mg/L	2.5	2	EPA 300.0	06/04/08	
Calcium	530	mg/L	10	-	EPA 200.7	06/05/08	
Magnesium	120	mg/L	2.0	-	EPA 200.7	06/05/08	
Potassium	31	mg/L	2.0	-	EPA 200.7	06/05/08	
Sodium	740	mg/L	10	-	EPA 200.7	06/05/08	
* Iron	50000	ug/L	100	300	EPA 200.7	06/05/08	
Manganese	13000	ug/L	80	50	EPA 200.7	06/05/08	
Copper	63	ug/L	50	1000	EPA 200.7	06/05/08	
Zinc	1300	ug/L	50	5000	EPA 200.7	06/05/08	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.
State Drinking Water Limits - as listed by California Administrative Code, Title 22.
* - a * in the left hand margin of the report means that particular constituent is above the California Drinking Water Limits.

Mike Galloway

ANALYTICAL CHEMISTS
and
BACTERIOLOGISTS
Approved by State of California

TEL: 831-724-5422
FAX: 831-724-3188

SOIL CONTROL LAB

42 HANGAR WAY
WATSONVILLE
CALIFORNIA
95076
USA

Paraiso, LLC / Paraiso Hot Springs
34358 Paraiso Springs Road
Soledad, CA 93960
Attn: John Thompson

Work Order #: 8060135
Reporting Date: June 6, 2008

Date Received: June 3, 2008
Project # / Name: None / Pond Water & Spring Water
Water System #: NA
Sample Identification: Spring Water, sampled 6/3/2008 1:30:00PM
Sampler Name / Co.: Josie Ortiz-Lopez / Paraiso Hot Springs
Matrix: Water
Laboratory #: 8060135-02

	Results	Units	RL	State Drinking Water Limits ₁	Analysis Method	Date Analyzed	Flags
General Mineral							
pH	8.6	pH Units	0.1	-	EPA 150.1	06/04/08	
Specific Conductance (EC)	1300	uS/cm	1.0	1600	EPA 120.1	06/04/08	
Hydroxide as OH	ND	mg/L	2.5	-	EPA 310.1	06/04/08	
Carbonate as CO3	6.0	mg/L	2.5	-	EPA 310.1	06/04/08	
Bicarbonate as HCO3	32	mg/L	2.5	-	EPA 310.1	06/04/08	
Total Alkalinity as CaCO3	36	mg/L	2.5	-	EPA 310.1	06/04/08	
Hardness	62	mg/L	5.0	-	SM 2340 B	06/05/08	
Total Dissolved Solids	880	mg/L	20	1000	EPA 160.1	06/05/08	
Nitrate as NO3	ND	mg/L	1.0	45	EPA 300.0	06/04/08	
Chloride	55	mg/L	1.0	500	EPA 300.0	06/04/08	
* Sulfate as SO4	550	mg/L	5.0	500	EPA 300.0	06/04/08	
* Fluoride	9.7	mg/L	0.50	2	EPA 300.0	06/04/08	
Calcium	24	mg/L	0.50	-	EPA 200.7	06/05/08	
Magnesium	ND	mg/L	0.50	-	EPA 200.7	06/05/08	
Potassium	3.4	mg/L	0.50	-	EPA 200.7	06/05/08	
Sodium	290	mg/L	2.5	-	EPA 200.7	06/05/08	
Iron	220	ug/L	50	300	EPA 200.7	06/05/08	
Manganese	ND	ug/L	20	50	EPA 200.7	06/05/08	
Copper	ND	ug/L	50	1000	EPA 200.7	06/05/08	
Zinc	ND	ug/L	50	5000	EPA 200.7	06/05/08	

RL - are levels down to which we can quantify with reliability, a result below this level is reported as "ND" for Not Detected.
State Drinking Water Limits₁ - as listed by California Administrative Code, Title 22.
* - a * in the left hand margin of the report means that particular constituent is above the California Drinking Water Limits.

Mike Galloway

Site Assessment reviewed by ______ ______ ______
(FWS Field Office) (date) (biologist)

Date of Site Assessment: 03/12/2008
(mm/dd/yyyy)

Site Assessment Biologists: Millus Sarah - Rana Creek Environmental Plan
(Last name) (first name) (Last name) (first name)

(Last name) (first name) (Last name) (first name)

Site Location: Paraiso Hot Springs Resort, Soledad, Monterey Co.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Paraiso Hot Springs Resort
Brief description of proposed action:

Improvement of existing hot spring facilities, including hotel, spa, day-use & camping area, road improvements, etc.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 59 ft. x 155 ft. Maximum depth: 14 in.

Vegetation: emergent, overhanging, dominant species: 80% covered by emergent cattails. Most open water covered by duck weed. No overhanging vegetation - willows & coyote bus[h] near edges of pond. Downed oak debris on south end.
Substrate: mud

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring / early su[mmer]

Bank full width: 10 ft.
Depth at bank full: 6 ft.
Stream gradient: low

Are there pools (circle one)? YES NO
If yes,
Size of stream pools: ___
Maximum depth of stream pools: ___

Characterize non-pool habitat: run, riffle, glide, other: run, slow-moving, shallow - 1.5 in. deep

Vegetation: emergent, overhanging, dominant species: dense over hanging vegeta willows, California sycamore, Ca. blackberry, poison oak, stinging nettle

Substrate: mud, gravel

Bank description: steep & tall (6 ft.) in places, gentle slopes in other places. Dense vegetation.

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late spring/early summ

Other aquatic habitat characteristics, species observations, drawings, or comments:

Upland area around pond: grassland & oak woodland. scrub. Gopher activity in grassland adjacent to pond. One tree frog was observed jumping to gopher burrow near pond.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species location

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by ___ (FWS Field Office) ___ (date) ___ (biologist)

Date of Survey: 03/12/2008 (mm/dd/yyyy) **Survey Biologist:** Millus (Last name) Sarah (first name) - Rana Creek Envi ?/q1

Survey Biologist: ___ (Last name) ___ (first name)

Site Location: Paraiso Hot Springs Resort, Soledad, Monterey Co.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Paraiso Hot Springs Resort Brief description of proposed action: Improvement of existing hot springs facilities, including hotel, spa, day-use & camping area, road improvements, etc.

Type of Survey (circle one): **DAY** **NIGHT** **BREEDING** **NON-BREEDING**

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 10:00 **End Time:** 11:00

Cloud cover: 20 % **Precipitation:** —

Air Temperature: 55° F **Water Temperature:** ___

Wind Speed: light breeze **Visibility Conditions:** good

Moon phase: last quarter **Humidity:** low

Description of weather conditions: mild spring morning

Brand name and model of light used to conduct surveys: —

Were binoculars used for the surveys (circle one)? **YES** **NO**
Brand, model, and power of binoculars: ___

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Pseudacris regilla Pacific treefrog	1	O	egg mass ~ 12 eggs		positive

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: No fish or bull frogs. Racoons are known in the area.

Other notes, observations, comments, *etc.*

High cover of duck weed in open water areas, obscured view of eggs or larvae in the water.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by ____________ ____________ ____________
(FWS Field Office) (date) (biologist)

Date of Survey: 3/12/2008 (mm/dd/yyyy)

Survey Biologist: Millus, Sarah - Rana Creek Environmental Planning
(Last name) (first name)

Survey Biologist: ____________
(Last name) (first name)

Site Location: Paraiso Hot Springs Resort, Soledad, Monterey Co.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Paraiso Hot Springs Resort

Brief description of proposed action:

Improvements to existing hot springs facilities, including hotel, spa, day-use & camping area, road improvements, etc.

Type of Survey (circle one): DAY **NIGHT** — **BREEDING** NON-BREEDING

Survey number (circle one): **1** 2 3 4 5 6 7 8

Begin Time: 20:00 — End Time: 21:00

Cloud cover: 0% — Precipitation: —

Air Temperature: 55° — Water Temperature: —

Wind Speed: Very light breeze — Visibility Conditions: good

Moon phase: last quarter — Humidity: low

Description of weather conditions: mild spring evening

Brand name and model of light used to conduct surveys: Everready Floating Lantern 6V

Were binoculars used for the surveys (circle one)? **YES** NO

Brand, model, and power of binoculars: ____________

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Pseudacris regilla Pacific tree frog	~50	O, H	adult		positive
Bufo boreas halophilus California toad	1	O	adult		positive

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: ______________________

Other notes, observations, comments, *etc.*

Lots of calling treefrogs. Amplexus also observed.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Survey results reviewed by ______ (FWS Field Office) ______ (date) ______ (biologist)

Date of Survey: 04/23/2008 (mm/dd/yyyy) Survey Biologist: Millus, Sarah - Rana Creek (Last name) (first name)

Survey Biologist: ______ (Last name) (first name)

Site Location: Paraiso Hot Springs Resort, Soledad, Monterey Co. (County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Paraiso Hot Springs Resort

Brief description of proposed action:

Improvements to existing hot springs facilities, including hotel, spa, day-use & camping area, road improvements, etc.

Type of Survey (circle one): DAY NIGHT BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 16:00 End Time: 16:30

Cloud cover: 10 % Precipitation: —

Air Temperature: 60° F Water Temperature: —

Wind Speed: light breeze, gusty at times Visibility Conditions: good

Moon phase: last quarter Humidity: low

Description of weather conditions: ______

Brand name and model of light used to conduct surveys: —

Were binoculars used for the surveys (circle one)? YES NO

Brand, model, and power of binoculars: ______

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Pseudacris regilla Pacific tree frog	~50	O	larval		positive

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: ______________________________

Other notes, observations, comments, *etc.*

Pond has ~~dw~~ dried down since March visit. Tadpoles observed only on north end of pond, in the few remaining pools.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Survey results reviewed by ______ (FWS Field Office) ______ (date) ______ (biologist)

Date of Survey: 04/23/2008 (mm/dd/yyyy) Survey Biologist: Millus (Last name) Sarah - Rana Creek En Pl (first name)

Survey Biologist: ______ (Last name) ______ (first name)

Site Location: Paraiso Hot Spring Resort Soledad, Monterey County (County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: Paraiso Hot Springs Resort

Brief description of proposed action:

Improvements to existing hot springs facilities, including hotel, spa, day-use & camping area, road improvements, etc.

Type of Survey (circle one): DAY NIGHT BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 19:30 End Time: 20:30

Cloud cover: 10 % Precipitation: —

Air Temperature: 45° Water Temperature: —

Wind Speed: light breeze, gusty at times Visibility Conditions: good

Moon phase: last quarter Humidity: low

Description of weather conditions: unusually cold for this time of year

Brand name and model of light used to conduct surveys: Everready Floating Lant

Were binoculars used for the surveys (circle one)? YES NO

Brand, model, and power of binoculars: ______

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Pseudacris regilla Pacific treefrog	20	O, H	adult metamorph		positive

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: ______

Other notes, observations, comments, *etc.*

Much less treefrogs than March survey.
Breeding appears to be over.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

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Interim Report for the Bat Assessment Survey for Paraiso Springs Resort
March 25th, 2008

Introduction

Special-status bat species

There are fifteen bat species known to occur in the Monterey County area in California. Six of these species have some level of special-status (see Table 1). The focus of bat surveys was on existing structures at Paraiso Springs Resort that are planned to be demolished. Oak trees in development areas that represent potential roosting structures for bats were also assessed. A general habitat assessment was conducted to provide context of the local bat fauna and potential impact of proposed development.

Roosts

Bats use structures, such as bridges and buildings, for roosting habitats, including day roosts, night roosts, and maternity roosts. Day roosts are areas where bats are able to spend the non-active period of the day resting or in torpor, depending on the weather conditions. Day roosts provide shelter from the elements and safety from predators. Night roosts are used by bats to rest between foraging bouts, to allow for digestion of prey, to escape from predators, as shelter from weather, and possibly for social purposes. Night roosts are typically sites that retain heat from the day to aid the bats in maintaining the higher metabolism necessary for digestion. Maternity roosts are sites that provide protection from the elements and predators and provide the correct thermal environment for reproduction. Maternity roost sites tend to be warmer in temperature because breeding females need to maintain a high metabolism to aid in lactation and juvenile bats need to keep warm to maintain a metabolic rate that allows for rapid growth. Winter roosts are usually areas that have a stable low temperature suitable for hibernating or prolonged periods of torpor.

METHODS

Building surveys

All of the buildings in the project were visually investigated to determine if bats are using the structure for day roosting, night roosting, or maternity roosts. Buildings were surveyed during the day for day and maternity roost assessment. All bats were identified

to species and any sign such as guano, staining, or culled insect parts, were identified and quantified when possible.

Acoustic surveys for habitat assessment
Acoustic monitoring was done with four Anabat acoustic units, consisting of an Anabat II bat detector and storage zero crossing analyzers to collect acoustic files of the echolocation calls of the bats. The Anabat systems use a bat detector to detect bat ultrasonic echolocation calls in the field and use a zero-crossing unit to convert the detected signals into frequency/time graphs to be viewed on a computer. The graphs allow for bat species identification. Species are identified by their vocal signature graphs by comparing calls recorded during previous mist-netting activities, calls recorded from bats that are visually identified at the time of recording, and by comparing calls with existing bat vocal signature library databases. The Anabat system is commonly used for the survey of bats and is effective at identifying many species in the bat fauna assemblage (Table 3). Three acoustic detector units were deployed around the project area and ran four consecutive nights March 13th-17th, 2008.

Table 1. Bat Species Expected to Occur In the Monterey County Region

Family VESPERTILIONIDAE (Plain-nosed or mouse-eared bats)

Myotis yumanensis	MYYU	Yuma myotis	
Myotis evotis	MYEV	Long-eared myotis	**BLMS**
Myotis thysanodes	MYTH	Fringed myotis	**BLMS/WBWG**
Myotis volans	MYVO	Long-legged myotis	**BLMS/WBWG**
Myotis californicus	MYCA	California myotis	
Myotis ciliolabrum	MYCI	Western small-footed myotis	
Lasionycteris noctivagans	LANO	Silver-haired bat	
Eptesicus fuscus	EPFU	Big brown bat	
Lasiurus blossevillii	LABL	Western red bat	**FSS/WBWG**
Lasiurus cinereus	LACI	Hoary bat	
Corynorhinus townsendii	COTO	Townsend's big-eared bat	**CSC/FSS/BLMS/WBWG**
Antrozous pallidus	ANPA	Pallid bat	**CSC/FSS/BLMS/WBWG**
Pipistrellus hesperus	PIHE	Western pipistrelle	

Family MOLOSSIDAE (Free-tailed bats)

Tadarida brasiliensis	TABR	Mexican free-tailed bat
Eumops perotis	EUPE	Western mastiff bat

CSC = California Department of Fish and Game's California Special Concern species
FSS = Forest Service Sensitive species
BLMS = Bureau of Land Management Sensitive species
WBWG = Western Bat Working Group High Priority species

For more information on the meaning of these listings, please visit the Calif. Depart. of Fish and Game's California Natural Diversity Database website: www.dfg.ca.gov

Table 2. Species known to use structure roosts

Species	Structure Roost Type
M.yumanensis	DR, NR
M.evotis	DR,NR
M. thysanodes	DR, NR
M. volans	DR, NR
M. californicus	DR, NR
E. fuscus	DR, NR
C. townsendii	DR, NR
A. pallidus	DR, NR
L. noctivagans	NR
T. brasiliensis	DR, NR
Species not associated with structures	
L. cinereus	Trees
L. blossevilli	Trees

NR = night roost; DR = day roost;

Pierson, E.D., W.E. Rainey, and C.J. Corben. 2001. Seasonal patterns of bat distribution along an altitudinal gradient in the Sierra Nevada. Technical report for California Department of Transportation, California State University at Sacramento Foundation, The Yosemite Association, and The Yosemite Fund.

Table 3. Anabat Acoustic Analysis Capabilities

Species	Probability of detection	Probability of Identification	Phonic Group
M. lucifugus	high	low	M40 kHz
M.yumanensis	high	med	M50 kHz
M.evotis	med	high	
M. thysanodes	med	high	
M. volans	high	low	M40 kHz
M. californicus	high	med	M50 kHz
M. ciliolabrum	?	low	M40 kHz
E. fuscus	high	med	Q25 kHz
C. townsendii	low	high	
A. pallidus	med	med	Q25 kHz
P. hesperus	high	high	
L. cinereus	high	high	
L. blossevilli	high	high	
L. noctivagans	high	med	Q25 kHz
E. maculatum	audible by human ear (high)	high	
T. brasiliensis	high	med	Q25 kHz
E. perotis	audible by human ear (high)	high	

Probability of detection refers to how readily the species is recorded by the acoustic equipment. This varies because species echolocate at different decibel ranges and different frequencies, which affect how far the echolocation pulse travels and thus their range of detection.

Probability of identification refers to how easily each species is recognizable at the species level from the time versus frequency graph. *Low* indicates that a species will always be grouped at the phonic level and is indistinguishable from other species in that group. *Medium* indicates that the species will often be grouped at the phonic level but can sometimes have a signature call that allows for specific identification. *High* indicates reliable species level identification. Active acoustic monitoring with a spot light to obtain a visual on the bat as it is being recorded can be used to increase the probability of identification for both low and medium species.

Phonic group refers to the grouping of species that have calls that are indistinguishable.

Table 4. Bat Species Detected in the Project Area

Family VESPERTILIONIDAE (Plain-nosed or mouse-eared bats)		
Myotis yumanensis	Yuma myotis	AC (50Khz)
Myotis californicus	California myotis	DR, AC (50Khz)
Myotis volans	Long-legged myotis	DR, AC (40Khz)
Eptesicus fuscus	Big brown bat	DR
Lasiurus blossevillii	Western red bat	AC
Lasiurus cinereus	Hoary bat	AC
Antrozous pallidus	Pallid bat	DR, NR
Family MOLOSSIDAE (Free-tailed bats)		
Tadarida brasiliensis	Mexican free-tailed bat	DR, AC

AC = Detected acoustically
AC (XXKhz) = Possibly detected in a phonic group
DR = Observed Day Roosting, NR= Observed Night Roosting, MR=Maternity Roost observed

Results

Building Surveys

All buildings or structures in the project area were surveyed on March 13th and 14th 2008.

STRUCTURE	BATS or SIGN OF BAT USE	RECOMEMDATIONS
Lower Trailer Restrooms	Day roosting Mysp and Tabr	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition
House Trailers	No sign	No mitigation measures necessary
Pool Bathrooms	Sign of historic use. Guano flecking on walls. Sheet Rock has been removed limiting day roosting potential. High night roost potential	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended
Rec. Room	Potential Night Roost and Maternity Roost	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended
Boiler Room	Potential Coto Guano and Night roost. Night roost sign on exterior	No
Fire Equipment Room	No sign	
Main Pump House	Minimal Night roost activity	
Workshop	Major Day and Maternity roosts in West and East ends. Multiple species. ANPA confirmed.	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended
Main Lodge	Light Day roosting sign in attic. 1 Myotis volans day roosting in attic.	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended
Hill Side Cabins	All Hill Side Cabins and restrooms provide roosting habitat in the form of exterior crevices. Anpa, Tabr, Epfu, Myvo, and Mysp were observed during visual surveys March 14th	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended

Tree Surveys

Oak trees
The majority of oak trees surveyed in development zones do not offer roost habitat (small dbh, absence of appropriate tree decay). A few large oak trees with suitable hollow limb features for roosting sites exist on the property and were identified as being potentially important bat habitat. We recommend keeping these trees when possible. One large, senescing oak tree (#145) is designated a hazard tree and proper mitigation would require pre-removal surveys and a qualified bat ecologist on hand during tree removal activities.

Palm trees
The palm trees on the Paraiso Springs Resort property offer minimal habitat potential for local bat species. Common bat species may use palm skirts for roosts and species that roost singly or in small groups could use this feature during summer for maternity roosts. Recommended mitigation is removal of palm trees during winter months (Nov-Mar) to avoid accidental take during tree removal. No replacement habitat is necessary.

Eucalyptus grove
Eucalyptus trees are not associated with critical bat roosting habitats in California. Acoustic monitoring in March indicated very low bat activity levels in the Eucalyptus grove. Bat activity could be higher during summer months and should be re-assessed during June. Recommended mitigation would include removal of trees in winter months, if possible, if June surveys indicate higher bat activity levels after June surveys. No replacement habitat is necessary.

Acoustic Surveys

Acoustic monitoring was conducted four nights in March 2008. Only 102 Acoustic files were recorded and analyzed. Four species and two phonic groups were recorded during the four nights of surveys.

Site	Bat	MY50	MY40	PIHE	LABL	LACI	TABR
Eucalyptus Grove	0	0	0	0	0	0	0
Palms Near Hot Springs	82	72	8	0	0	0	2
East end of Workshop	4	2	0	2	0	0	0
Lower Indian Valley	16	11	1	0	2	1	1
Total	102	85	9	2	2	1	3

MY50=*Myotis yumannensis, Myotis californicus*
MY40=*Myotis volans, Myotis ciliolabrum*
PIHE= *Pipestrelus hesperus*
LABL=*Lasiurus blossevillii*
LACI=*Lasiurus cinereus*
TABR=*Tadarida brasiliensis*

General Conclusions and Recommendations

The Paraiso Springs Resort property has healthy intact oak woodland habitat that offers natural roosting and foraging habitats surrounding the proposed development zones. The proposed development and removal of existing structures poses minimal impact to the local bat fauna. The proximity of plenty of natural habitat features that offer suitable roosting habitat (rock outcrops, old oak trees, etc) precludes the need to provide replacement habitat for bats that may use existing structures for day roosting. Efforts should be taken to prevent the accidental take of animals during structure or tree demolition, including scheduling demolition activities to not occur during the peak breeding season (May-August) and requiring a qualified bat biologist to perform pre-demolition surveys to remove animals that may be present immediately prior to demolition activities.

rana creek

Paraiso Hot Springs Resort
Landscape Tree Survey

The purpose of this document is to address the comments of the consulting biologist Bill Davilla, in the memo dated January 8, 2008, about the proposed removal of introduced landscape trees, native and non-native, and the significance of potential impacts to resident wildlife.

Tree surveys were conducted on March 12, 2008, by Matt Horowitz, Forest City Consulting and Kimberly Takacs, Rana Creek. Rana Creek using a Trimble ProXR collected locations of landscape trees. The data was postprocessed to sub-meter accuracy. The survey was used to document location and number of trees within the development area that are slated for impact (Figure 1, Table 1). Only those trees greater than 14" DBH were mapped, with the exception of Palm trees. In the case of palm trees and where there were stands of trees, an area was mapped to show location, and the number of trees and average DBH was documented. There is no indication of a Heritage Tree designation for non-native species in Monterey County.

Table 1. Results of tree survey conducted March 12, 2008 of impacted landscape trees.

SPIECIES **Common Name**	***Scientific Name***	**COUNT**	**NUMBER REMOVED**
Buckeye	*Aesculus californica*	5	4
Cypress	*Cupressus sp.*	2	1
Blue Gum Eucalyptus	*Eucalyptus globulus*	45	45
Juniper	*Juniperus sp.*	1	1
Mexican Fan Palm	*Washingtonia robusta*	353	353
Pine	*Pinus sp.*	26	26
California sycamore	*Platanus racemosa*	6	6

Josh Koepke, Wildlife Biologist with Rana Creek, conducted an observational survey on March 13, 2008 focused mostly on avian uses of the landscape trees. At the time of the field visit, white washing, owl pellets, and small rodent carcasses were observed at the base of a few palm and eucalyptus trees. The owl pellets could be evidence of roosting behavior or nesting activity. A large nest was located in the eucalyptus grove on the south side of the development area (Figure 2). Judging from the size of the nest (about three feet wide) and the location (about 70-80 feet high), the nest is likely from a Red-tailed hawk (*Buteo jamaicencis*). The nest appeared to be in good condition and could be in the process of nest construction. Red Tailed Hawks are common permanent breeding and winter residents as well as migratory visitors throughout California. Although additional surveys and observations in May and July indicate no current use of this nest, it is our recommendation that all tree removal necessary for the redevelopment of the resort should occur between August and February, when nests would not be active.

There are additional riparian areas on the property with established willow and Sycamore trees that can provide nesting habitat for passerine songbirds, but these areas are not within the impacted areas and were not included in the impacted tree survey.

Conclusions:

It is our understanding that all of the landscape trees have the potential to be removed with the exception of a single buckeye and cypress, which due to their size and splendor, the client wishes to keep. A review of the development plan shows the projects willingness to enhance and create new habitat throughout the development. The subject property contains over 8500 native trees and more than enough suitable habitat to offset the removal of any of the exotic landscape trees in the course of redevelopment. It is our conclusion that the removal of the exotic trees will not have a significant impact to the native wildlife habitat provided by the Paraiso Hot Springs resort property.

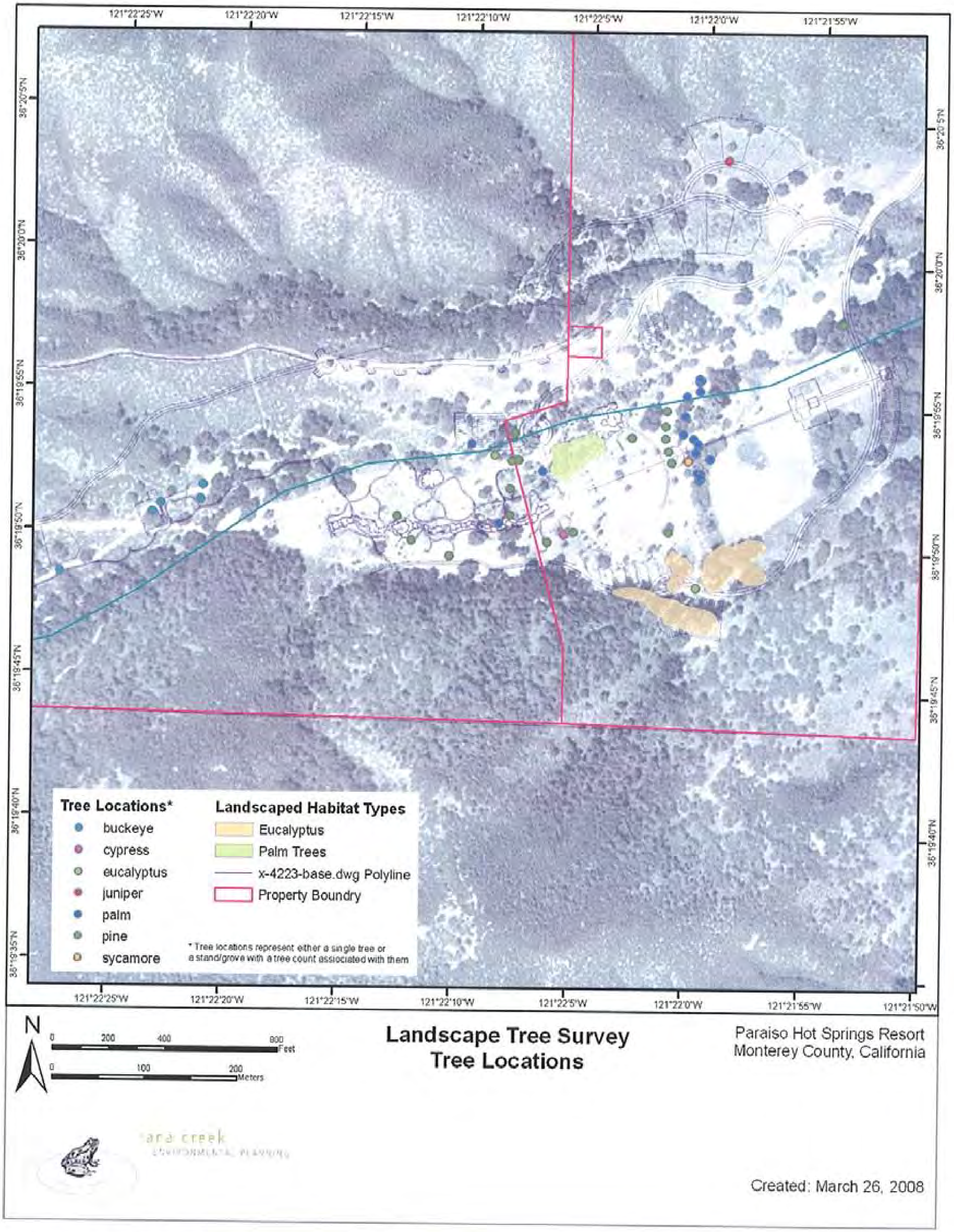

Figure 1. Tree Location Map.

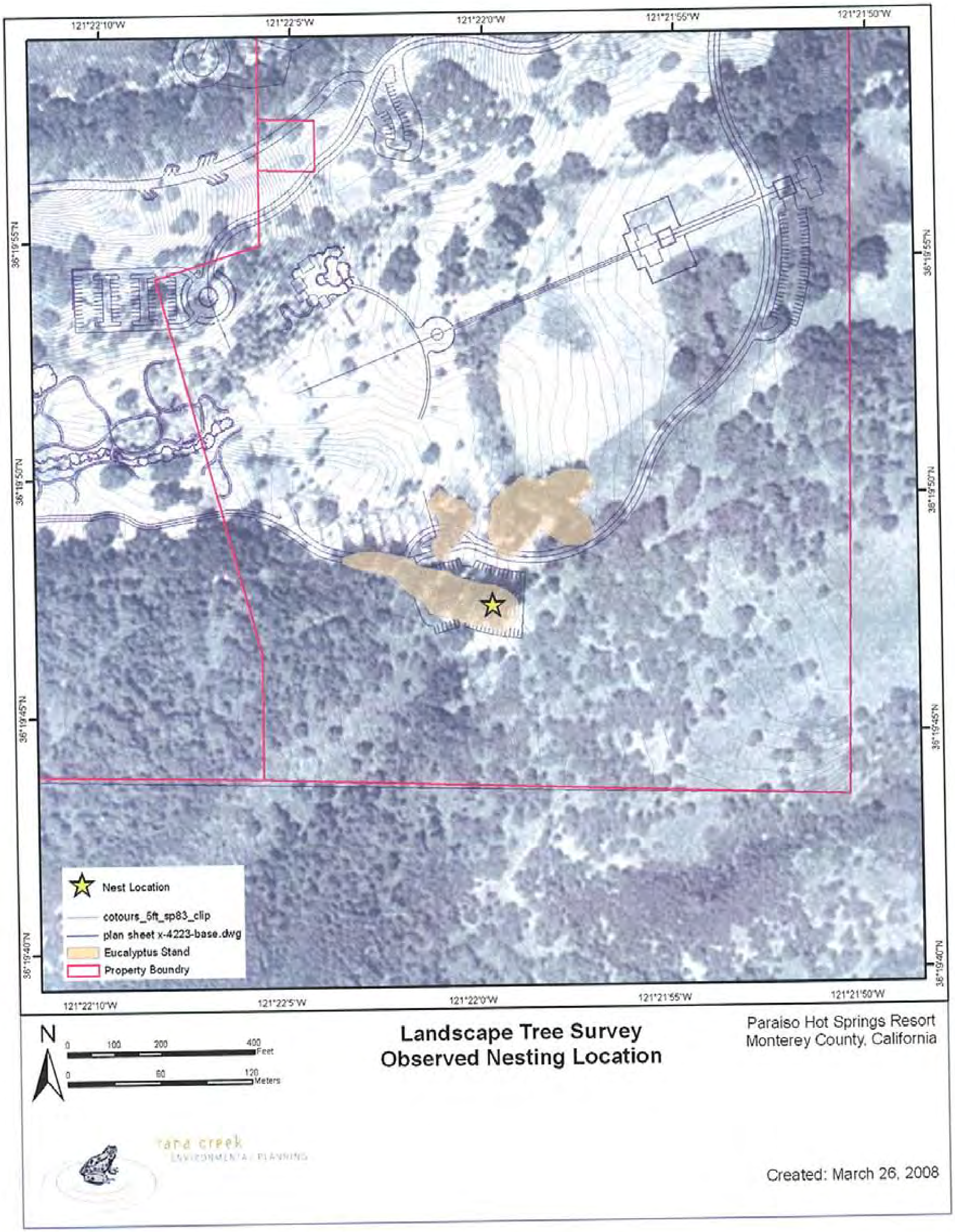

Figure 2. Observed nesting location map.

Planning File No. PLN040183
Library No. LIB080630
Planner: J. Onciano

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Report for the Bat Assessment Survey for Paraiso Springs Resort
March 25th, and July 23rd, 2008

Introduction

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Roosts
Bats use structures, such as bridges and buildings, for roosting habitats, including day roosts, night roosts, and maternity roosts. Day roosts are areas where bats are able to spend the non-active period of the day resting or in torpor, depending on the weather conditions. Day roosts provide shelter from the elements and safety from predators. Night roosts are used by bats to rest between foraging bouts, to allow for digestion of prey, to escape from predators, as shelter from weather, and possibly for social purposes. Night roosts are typically sites that retain heat from the day to aid the bats in maintaining the higher metabolism necessary for digestion. Maternity roosts are sites that provide protection from the elements and predators and provide the correct thermal environment for reproduction. Maternity roost sites tend to be warmer in temperature because breeding females need to maintain a high metabolism to aid in lactation and juvenile bats need to keep warm to maintain a metabolic rate that allows for rapid growth. Winter roosts are usually areas that have a stable low temperature suitable for hibernating or prolonged periods of torpor.

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Table 2. Species known to use structure roosts

Species	Structure Roost Type
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M.evotis	DR,NR
M. thysanodes	DR, NR
M. volans	DR, NR
M. californicus	DR, NR
E. fuscus	DR, NR
C. townsendii	DR, NR
A. pallidus	DR, NR
L. noctivagans	NR
T. brasiliensis	DR, NR
Species not associated with structures	
L. cinereus	Trees
L. blossevilli	Trees

NR = night roost; DR = day roost;

Pierson, E.D., W.E. Rainey, and C.J. Corben. 2001. Seasonal patterns of bat distribution along an altitudinal gradient in the Sierra Nevada. Technical report for California Department of Transportation, California State University at Sacramento Foundation, The Yosemite Association, and The Yosemite Fund.

Table 3. Anabat Acoustic Analysis Capabilities

Species	Probability of detection	Probability of Identification	Phonic Group
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Phonic group refers to the grouping of species that have calls that are indistinguishable.

Table 4. Bat Species Detected in the Project Area

Family VESPERTILIONIDAE (Plain-nosed or mouse-eared bats)

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Myotis californicus	California myotis	DR, AC (50Khz)
Myotis volans	Long-legged myotis	DR, AC (40Khz)
Eptesicus fuscus	Big brown bat	DR
Lasiurus blossevillii	Western red bat	AC
Lasiurus cinereus	Hoary bat	AC
Antrozous pallidus	Pallid bat	DR, NR, MR

Family MOLOSSIDAE (Free-tailed bats)

Tadarida brasiliensis	Mexican free-tailed bat	DR, AC

AC = Detected acoustically
AC (XXKhz) = Possibly detected in a phonic group
DR = Observed Day Roosting, NR = Observed Night Roosting, MR=Maternity Roost observed

Results

Building Surveys

All buildings or structures in the project area were surveyed on March 13th and 14th 2008.

STRUCTURE	BATS or SIGN OF BAT USE	RECOMEMDATIONS
Lower Trailer Restrooms	Day roosting Mysp and Tabr	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition
House Trailers	No sign	No mitigation measures necessary
Pool Bathrooms	Sign of historic use. Guano flecking on walls. Sheet Rock has been removed limiting day roosting potential. High night roost potential	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended
Rec. Room	Potential Night Roost and Maternity Roost	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended
Boiler Room	Potential Coto Guano and Night roost. Night roost sign on exterior	No mitigation measures necessary
Fire Equipment Room	No sign	No mitigation measures necessary
Main Pump House	Minimal Night roost activity	No mitigation measures necessary
Workshop	Major Day and Maternity roosts in West and East ends. Multiple species. ANPA confirmed.	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended
Main Lodge	Light Day roosting sign in attic. 1 Myotis volans day roosting in attic.	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended
Hill Side Cabins	All Hill Side Cabins and restrooms provide roosting habitat in the form of exterior crevices. Anpa, Tabr, Epfu, Myvo, and Mysp were observed during visual surveys March 14th	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition June re-check recommended

Re-Survey of Structures Identified During the Preliminary Survey

All other structures and trees identified as probable bat roost habitat were re-surveyed on July 23, 2008 to determine the level of use and type of use by bats during the reproductive season. The pool bathrooms had two day roosting pallid bats behind the chimney and night roosting was not observed. There were three *myotis californicus* day roosting in the gap provided by the gutter in the front of the main lodge. There was no sign of active day roosts on or in the rec. room and night roosting by *Myotis* species seemed minimal. The Hillside Cabins did not have the level of day roosting observed in the preliminary surveys March 13th and 14th 2008. Only *Myotis volans* and *myotis californicus* were observed.

STRUCTURE	BATS or SIGN OF BAT USE	RECOMMENDATIONS
Pool Bathrooms	Pallid bats day roosting behind chimney no night roosting observed	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition
Rec. Room	Sign of MYSP night roosting	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition
Workshop	major maternity for pallid bats and day roost for tadarida brasiliensis	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition
Main Lodge	Three california myotis day roosting in gap in gutter in front of lodge	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition
Hill Side Cabins	Myotis volans and myotis californicus. No pallid bats found day roosting	Pre-demo Survey and or removal of suitable habitat immediately prior to demolition

Tree Surveys

Oak trees

The majority of oak trees surveyed in development zones do not offer roost habitat (small dbh, absence of appropriate tree decay). A few large oak trees with suitable hollow limb features for roosting sites exist on the property and were identified as being potentially important bat habitat. We recommend keeping these trees when possible. One large, senescing oak tree (#145) is designated a hazard tree and proper mitigation would require pre-removal survey and qualified bat ecologist on hand during tree removal activities.

Palm trees

The palm trees on the Paraiso Springs Resort property offer minimal habitat potential for local bat species. Common bat species may use palm skirts for roosts and species that roost singly or in small groups could use this feature during summer for maternity roosts. Recommended mitigation is removal of palm trees during winter months (Nov-Mar) to avoid accidental take during tree removal. No replacement habitat is necessary.

Eucalyptus grove
Eucalyptus trees are not associated with critical bat roosting habitats in California. Acoustic monitoring in March indicated very low bat activity levels in the Eucalyptus grove. Bat activity could be higher during summer months and should be re-assessed during June. Recommended mitigation would include removal of trees in winter months, if possible, if June surveys indicate higher bat activity levels after June surveys. No replacement habitat is necessary.

No bat roosting use of project area trees was observed during the July surveys.

Acoustic Surveys

Acoustic monitoring was conducted four nights in March 2008. Only 102 Acoustic files were recorded and analyzed. Four species and two phonic groups were recorded during the four nights of surveys.

Site	Bat	MY50	MY40	PIHE	LABL	LACI	TABR
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LABL=*Lasiurus blossevillii*
LACI=*Lasiurus cinereus*
TABR=*Tadarida brasiliensis*

July Reproductive Season Surveys

On July 23, 2008 surveys were conducted to determine the level of use and type of use by bats of the workshop. Mist nets and video systems were set up at each end of the structure and a third mist net was set across the open door. Fifty two pallid bats and one Mexican free-tailed bat were captured. Nets were open from emergence (approximately) 8:10 pm to 10:30pm.

Reproductive condition, sex, and age of all bats captured at Paraiso Springs Workshop building on 23 July 2008

Lc = Lactating; Pl = Post lactating; Nl = Nulliparous; Par = Parous; Un = Unknown

			Adults						Juveniles			
Species	**Date**	**Locality**	**Males**	**Females**					**M**	**F**	**Un**	**Total**
				Lc	**Pl**	**Nl**	**Par**	**Un**				
Antrozous pallidus												
	23-Jul-08	Workshop	25	17	-	1	-	-	5	4	-	52
		Subtotal	**25**	**17**	**0**	**1**	**0**	**0**	**5**	**4**	**0**	**52**
Tadarida brasiliensis												
	23-Jul-08	Workshop	1	-		-	-	-	-	-	-	1
		Subtotal	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
		TOTALS	**26**	**17**		**1**	**0**	**0**	**5**	**4**		**53**

General Conclusions and Recommendations

The Paraiso Springs Resort property has healthy in-tact oak woodland habitat that offers natural roosting and foraging habitats surrounding the proposed development zones. The proposed development and removal of existing structures poses minimal impact to the local bat fauna. The proximity of plenty of natural habitat features that offer suitable roosting habitat (rock outcrops, old oak trees, etc) precludes the need to provide replacement habitat for bats that may use existing structures for day roosting with the exception of the workshop. Efforts should be taken to prevent the accidental take of animals during structure or tree demolition, including scheduling demolition activities to not occur during the peak breeding season (May-August) and requiring a qualified bat biologist to perform pre-demolition surveys to remove animals that may be present immediately prior to demolition activities.

Pallid bats are currently using the workshop as a maternity roost in substantial numbers (100+). Pallid bats are a California Species of Special Concern therefore it is recommended that suitable replacement habitat be provided for this colony of bats. A suitable replacement habitat would be the construction of a maternity roost structure such as the one in the diagram below which design is specifically for Pallid Bats. This structure would serve as mitigation for any impact to the Pallid Bats. This structure is to be raised eight to ten feet off the ground and follow the general size requirements indicated in the diagram.

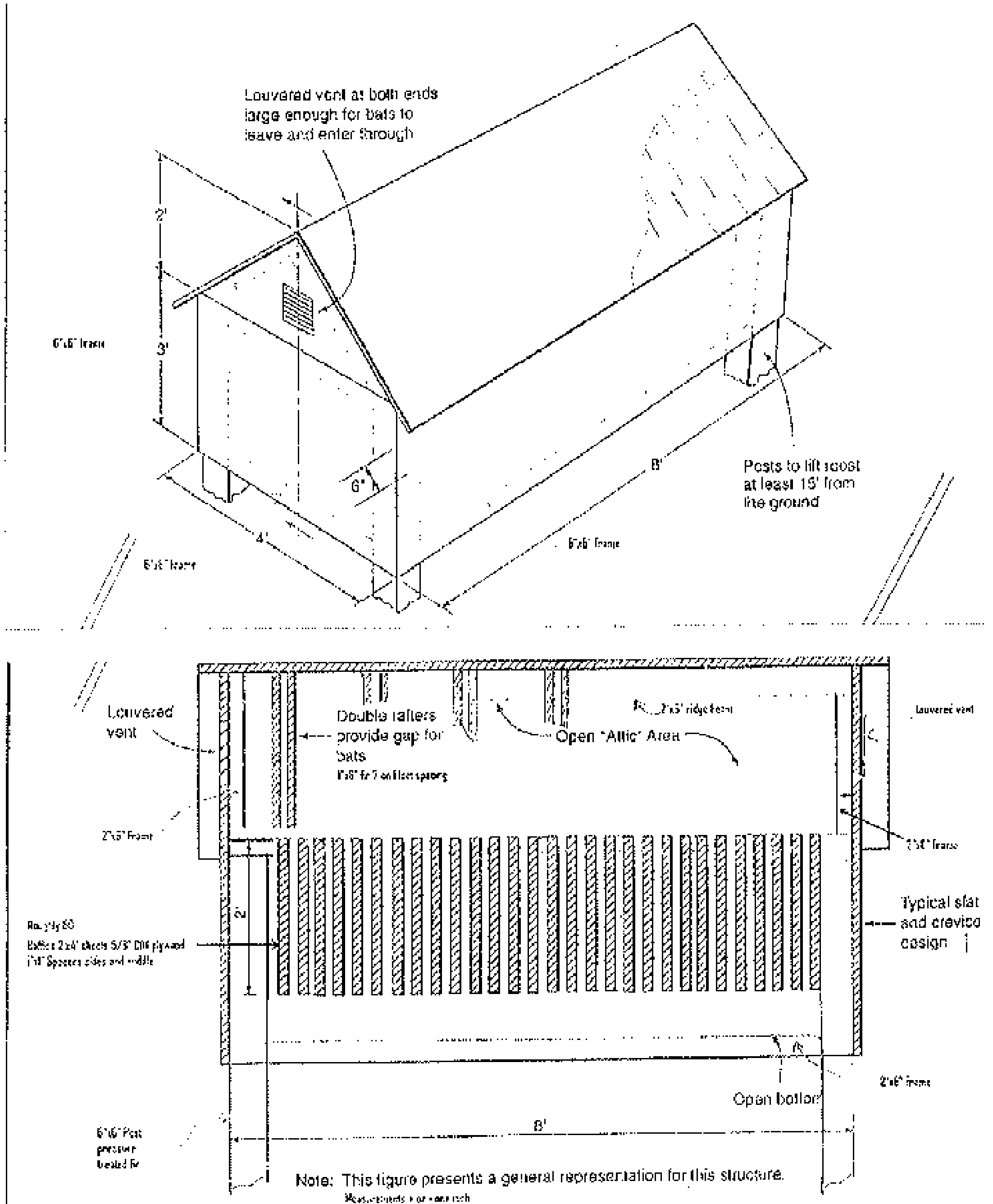

Figure A-8
Larger Maternity Roost Structure

Section 404 Wetland Delineation
Paraiso Springs Resort

MONTEREY COUNTY
CALIFORNIA

Prepared For:
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Date:
February 2009

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LIST OF ACRONYMS

CFR	Code of Federal Regulations
CWA	Clean Water Act
EPA	U.S. Environmental Protection Agency
FAC	Facultative plant
FACU	Facultative upland plant
FACW	Facultative wetland plant
GPS	Global Positioning System
NGVD	National Geodetic Vertical Datum
NL	Not Listed
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
OBL	Obligate wetland plant
OHWM	Ordinary High Water Mark
PI	Prevalence Index
PRW	Relatively Permanent Water
RGL	Regulatory Guidance Letter
RWQCB	Regional Water Quality Control Board
SCS	Soil Conservation Service
SWANCC	Solid Waste Agency of Northern Cook County
SWRCB	State Water Resources Control Board
TNW	Traditional Navigable Waters
UPL	Upland plant
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
WRA	WRA, Inc.

1.0 INTRODUCTION

The Paraiso Springs Resort (Study Area) is a hot spring resort located at 36.33° N and 121.37° W, approximately 30 miles south of Salinas, California and 5.5 miles west of Highway 101 (Figure 1). The Study Area is approximately 237 acres and is bounded by the Salinas Valley to the east and the Santa Lucia Mountains to the north, south and west. The owners propose to renovate the existing and antiquated resort in a modernization project. In January 2009, WRA, Inc. (WRA) wetland biologists conducted a routine level wetland delineation within the Paraiso Springs Resort Study Area. The purpose of the wetland delineation was to describe the location and extent of waters, including wetlands, which may be considered jurisdictional waters of the U.S. by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act. This report also describes the location of waters, including wetlands which may be considered jurisdictional waters of the State by the State Water Quality Resources Board (SWQRB) and Regional Water Quality Control Board (RWQCB) under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act.

1.1 Summary

This report presents the results of a wetland delineation conducted by WRA, Inc. at Paraiso Springs Resort in Monterey County, California. The purpose of the January 5-6, 2009 delineation was to assess the presence of potential wetlands and “other waters” subject to federal and/or state jurisdiction under Section 404 of the Clean Water Act, Section 401 of the Clean Water Act and the Porter Cologne Act.

A total of 0.82 acres of wetlands and 3,983 linear feet of “other waters” that may be considered jurisdictional under Section 404 of the Clean Water Act were delineated in the Study Area. These areas may also be considered state wetlands under Section 401 of the Clean Water Act and Porter Cologne Water Quality Act. The wetland areas were either riparian wetland, seasonal wetland, or freshwater marsh dominated by hydrophytic vegetation with FAC, FACW, and OBL classified plants. They also contained hydric soil indicators and wetland hydrology indicators. Additionally, some of the wetland areas are adjacent to tributaries of a navigable “Waters of the U.S.” and therefore meet the definition of jurisdictional wetlands and “other waters” under Section 404 of the Clean Water.

2.0 REGULATORY BACKGROUND

2.1 Federal Jurisdiction

Section 404 of the Clean Water Act gives the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) regulatory and permitting authority regarding discharge of dredged or fill material into "navigable waters of the United States". Section 502(7) of the Clean Water Act defines waters as "waters of the United States, including territorial seas." Section 328 of Chapter 33 in the Code of Federal Regulations defines the term "waters of the United States" as it applies to the jurisdictional limits of the authority of the Corps under the Clean Water Act. A summary of this definition of "waters of the U.S." in 33 CFG 328.3 includes (1) waters used for commerce; (2) interstate waters and wetlands; (3) "other waters" such as intrastate lakes, rivers, streams, and wetlands; (4) impoundments of waters; (5) tributaries to the above waters; (6) territorial seas; and (7) wetlands adjacent to waters.

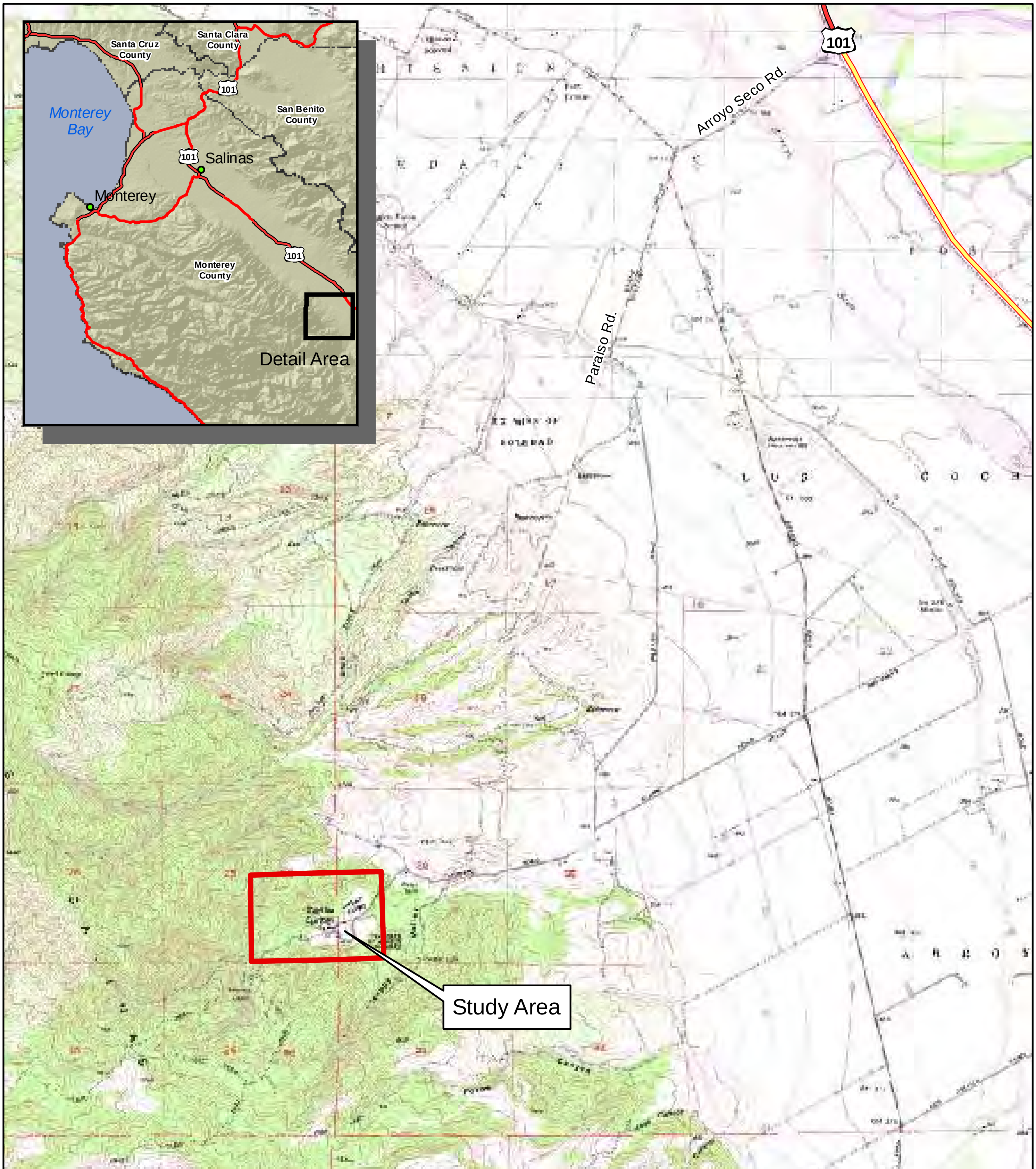

Figure 1. Study Area Location Map

Paraiso Springs Resort
Monterey County, California

N
W E
S

0 0.25 0.5 1
Miles

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Date: July 2008
Image Source: USGS Topo Quad
Map By: Derek Chan
Filepath: I:\ACAD2000\18107\GIS\ArcMap\Fig1_LocMap.mxd

In the Corps, Rivers and Harbors regulations (33 CFR Part 329.4), the term "navigable waters of the U.S." is defined to include all those waters that are subject to the ebb and flow of the tide, and/or presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

In 2006, the Supreme Court addressed the jurisdictional scope of Section 404 of the Clean Water Act in *Rapanos v. U.S.* and in *Carabell v. U.S*. The decision provides two analytical standards for determining whether water bodies that are not traditional navigable waters (TNWs), including wetlands adjacent to those non-TNWs, are subject to Clean Water Act jurisdiction: (1) if the water body is relatively permanent, or if the water body is a wetland that directly abuts (e.g., the wetland is not separated from the tributary by uplands, a berm, dike, or similar feature) a relatively permanent water (RPW), or (2) if a water body, in combination with all wetlands adjacent to that water body, has a significant nexus with TNWs.

When determining whether a water body qualifies as TNW, relevant considerations include:

- whether a Corps district has determined that the water body is a navigable waters of the U.S. pursuant to 33 CFR Section 329.14; or

- the water body qualifies as a navigable water of the U.S. under any of the tests set forth in 33 CFR Section 329; or

- a federal court has determined that the water body is navigable-in-fact under federal law for any purpose; or

- the water body is navigable-in-fact under the standards that have been used by the federal courts.

As a result, the EPA and Corps will assert jurisdiction over the following categories of water bodies:

- TNWs;

- all wetlands adjacent to TNWs;

- non-navigable tributaries of TNWs that are relatively permanent (i.e, tributaries that typically flow year-round or have continuous flow at least seasonally); and

- wetlands that directly abut such tributaries.

In addition, the EPA and Corps will assert jurisdiction over every water body that is not an RPW if that water body is determined (on the basis of a fact-specific analysis) to a have a significant nexus with a TNW. The classes of water body that are subject to EPA and Corps jurisdiction only if such a significant nexus is demonstrated are:

- non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally;
- wetlands adjacent to such tributaries; and
- wetlands adjacent to but that do not directly abut a relatively permanent, non-navigable tributary.

The limits of Corps jurisdiction under Section 404 as given in 33 CFR Section 328.4 are as follows: (a) Territorial seas: three nautical miles in a seaward direction from the baseline; (b) Tidal waters of the U.S.: high tide line or to the limit of adjacent non-tidal waters; (c) Non-tidal waters of the U.S.: ordinary high water mark or to the limit of adjacent wetlands; (d) Wetlands: to the limit of the wetland.

2.2 State Jurisdiction

The SWRCB and RWQCB regulate activities in waters of the State which includes waters of the U.S. In general, "waters of the State" means any surface water (including wetlands), groundwater, and saline waters within the boundaries of the State of California.

The SWRCB and RWQCB have not established a formal wetland definition nor have they developed a wetland delineation protocol; however, these agencies generally adhere to the same delineation protocol set forth by the Corps (Environmental Laboratory 1987). While the Corps administers permitting programs that authorize impacts to waters of the U.S., any Corps Permit authorized for a proposed project would be incomplete unless it has been certified by the SWRCB or the RWQCB has issued a project specific certification or waiver of water quality. Under Section 401 of the Clean Water Act, certification of certain Corps Nationwide Permits and all Individual Permits require a finding by the SWRCB that the activities permitted by the Corps will not violate water quality standards individually or cumulatively over the term of the issued permit (the term is typically five years). Water quality certification must be consistent with the requirements of the Federal Clean Water Act, the California Environmental Quality Act, the California Endangered Species Act, and the SWRCB's mandate to protect beneficial uses of waters of the State known as the California Porter-Cologne Water Quality Control Act. Any Nationwide Permits that currently do not have water quality certification, and all Individual Corps permits, would require a project specific RWQCB certification or waiver of water quality.

The SWRCB and the RWQCB regulate discharges of harmful substances to surface waters including wetlands under the Federal Clean Water Act and California Porter-Cologne Water Quality Control Act. Discharges to dry land are also regulated under Porter-Cologne. For discharges to most wetlands, the RWQCB has the lead permitting role and decides which regulatory instrument to use.

2.3 County Jurisdiction

The Monterey County Code, section 21, Zoning, defines areas such as wetland and riparian areas and sensitive habitats. These areas, defined in section 3.5, were surveyed for in the Study Area.

3.0 METHODS

The methods used in this study to delineate wetlands and other waters are based on the U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Corps 2008). The routine method for wetland delineation described in the Corps Manual (1987) was used to identify areas potentially subject to Corps Section 404 jurisdiction within the Paraiso Springs Resort.

Prior to conducting field studies, available reference materials were reviewed, including the Soil Survey of Monterey County, California (USDA 1978), the Paraiso Springs and Sycamore Flat USGS 7.5' quadrangles, and available aerial photographs of the site. A focused evaluation of indicators of wetlands and other waters was performed in the Paraiso Springs Resort during a routine level wetland delineation performed during the site visits in January 2009. A general description of the Paraiso Springs Resort, including plant communities present, topology and land use was also generated during the delineation visits. The methods for evaluating the presence of wetlands and other waters employed during each site visit are described in detail below.

3.1 Potential Areas Meeting Wetlands Criteria

The Corps has defined 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 three parameters listed in the Corps Manual that are used to determine the presence of wetlands are: (1) hydrophytic vegetation, (2) wetland hydrology, and (3) hydric soils. According to the Corps Manual:

> *"....[E]vidence 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."*

Data on vegetation, hydrology, and soils collected at sample points during the delineation site visit are reported on Arid West Region Corps data forms included in Appendix A. Once an area was determined to be a potential jurisdictional wetland, its boundaries were delineated using sub-meter accuracy GPS equipment and mapped on a topographic map. The areas of potential jurisdictional wetlands were measured digitally using ArcGIS software. Indicators described in the Corps Manual that were used to make wetland determinations at each sample point in the Paraiso Springs Resort are summarized below.

Vegetation

Plant species identified at sample points within the Paraiso Springs Resort were assigned a wetland status according to the U.S. Fish and Wildlife Service list of plant species that occur in wetlands (Reed 1988). This wetland classification system is based on the expected frequency of occurrence in wetlands as follows:

OBL	Always found in wetlands	>99% frequency
FACW(±)	Usually found in wetlands	67-99%
FAC	Equal in wetland or non-wetlands	34-66%
FACU	Usually found in non-wetlands	1-33%
NL	Not listed (upland)	<1%

Plants with OBL, FACW, and FAC classifications are classified as hydrophytic vegetation in the *Corps Manual* (1987) methodology. When greater than 50 percent of the dominant plant species have an indicator status of OBL, FACW, and/or FAC, the hydrophytic vegetation criterion is met. Dominant herbaceous plant species are those having more than 20 percent relative areal cover.

Soils

The National Resource Conservation Service (NRCS) manual *Field Indicators of Hydric Soils in the United States* (USDA 2006) was used as a guide for determining hydric soils in the Paraiso Springs Resort. The NRCS defines a hydric soil as:

> *"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."*
>
> (Federal Register July 13, 1994, US Department of Agriculture, Natural Resource Conservation Service.)

Soils formed over long periods of time under wetland (anaerobic) conditions often possess characteristics that indicate they meet the definition of hydric soils. Hydric soils generally have a characteristic low chroma matrix color, designated 0, 1, or 2, used to identify them as hydric. Chroma designations are determined by comparing a soil sample with a standard Munsell soil color chart (GretagMacbeth 2000). Soils with a chroma of 0 or 1 are considered hydric; soils with a chroma of 2 must also have mottles to be considered hydric. Soil profiles at each sample point in the Paraiso Springs Resort were described to include horizon depths, color, redoximorphic features, and texture to determine if the soils satisfy the Corps criteria for hydric soils.

Hydrology

Wetland hydrology is a term which encompasses hydrologic characteristics of areas that are periodically inundated or saturated to the surface at some time during the growing season. Recorded data can be used when available to determine wetland hydrology. In areas of California with a 365 day growing season, recorded data which shows inundation or saturation to the surface for a minimum of 18 days is considered evidence of wetland hydrology.

When studies are conducted at a time of year when surface water, ground water, or saturated soils can not be observed, evidence of wetland hydrology is based on observation of the indirect hydrologic indicators described in the 1987 *Corps Manual* and *Arid West Regional Supplement*. Evidence of wetland hydrology can include direct evidence (primary indicators), such as visible inundation or saturation, surface sediment deposits, oxidized rhizospheres and drift lines, or indirect indicators (secondary indicators), such as a positive fac-neutral test. If indirect or secondary indicators are used, at least two secondary indicators must be present to conclude that an area has wetland hydrology. Depressions and topographic low areas were examined for these hydrological indicators.

3.2 Potential Areas Meeting Other Waters Criteria

The Paraiso Springs Resort was also evaluated for the presence of other waters of the U.S. Other waters subject to Corps jurisdiction include lakes, rivers, and streams. Corps jurisdiction of other waters in non-tidal areas extends to the ordinary high water mark (OHW), defined as:

> *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.

Identification of the ordinary high water mark followed the Corps Regulatory Guidance Letter No. 05-05, Ordinary High Water Mark Identification (Corps 2005).

Other waters are identified in the field by the presence of a defined river or stream bed, a bank, and evidence of the flow of water, or by the absence of emergent vegetation in ponds or lakes. Unvegetated other waters of the U.S. that were found within the Paraiso Springs Resort were identified by the presence of an Ordinary High Water Mark and mapped in the field and using GIS. These features are described in the Results Section 5.1.2 of this report.

3.3 Areas Excluded from Federal Jurisdiction

Some areas that meet the technical criteria for wetlands or waters may not be jurisdictional under the Clean Water Act. Included in this category are some man-induced wetlands, which are areas that have developed at least some characteristics of naturally occurring wetlands due to either intentional or incidental human activities. Examples of man-induced wetlands include, but are not limited to, irrigated wetlands, impoundments, or drainage ditches excavated in uplands, wetlands resulting from filling of formerly deep water habitats, dredged material disposal areas, and wetlands resulting from stream channel realignment.

Section 328.3 of the Federal Code of Regulations defines "waters of the United States" to exclude "[w]aste treatment systems, including treatment ponds or lagoons designed to meet the requirements of Clean Water Act." Section 402(p) of the Clean Water Act, as amended in 1987, stipulates that point source discharges of pollutants associated with industrial stormwater that may contact industrial materials and/or activities must be permitted, through National Pollution Discharge Elimination System (NPDES) permits, in order to meet the requirements of the Clean Water Act. Therefore, ditches, canals, or ponds that comprise a NPDES permitted industrial stormwater management system engineered to reduce the potential for discharges of pollutants to navigable waters are excluded from Corps jurisdiction.

In addition, some isolated wetlands and waters may also be considered outside of Corps jurisdiction as a result of the Supreme Court's decision in *Solid Waste Agency of Northern Cook County (SWANCC) v. United States Army Corps of Engineers* (531 U.S. 159 (2001)). Isolated wetlands and waters are those areas that do not have a surface or groundwater connection to, and are not adjacent to a waters of the U.S., and do not otherwise exhibit an interstate commerce connection.

3.4 State Jurisdiction

Unlike Federal regulations, dredging, filling, or excavation within "isolated" wetlands and other waters constitutes a discharge to waters of the State, and prospective dischargers are required to submit a report of waste discharge to the RWQCB to comply with the requirements of the California Porter-Cologne Water Quality Control Act (SWRCB 2004). The wetlands delineation method outlined by the Corps was utilized to map wetlands subject to State jurisdiction. Some areas that meet the technical criteria for wetlands may also be exempt from State jurisdiction due to the lack of normal circumstances (i.e., atypical situations). Included in this category are some man-induced wetlands created as a result of irrigation activities.

3.5 County Jurisdiction

The Monterey County Code defines various habitats in the Zoning section (Chapter 21) as follows:

21.06.440 Environmentally sensitive habitat. “Environmentally sensitive habitat” means an area known or believed, based on substantial evidence, to contain rare or endangered species.

21.06.970 Riparian habitat. “Riparian habitat” means a natural plant community dependent upon a water body or water course.

21.06.980 Riparian woodland. “Riparian woodland” means a plant community with lush growths of trees and shrubs, supported by wet conditions along seasonally and permanently flowing fresh water streams and rivers.

21.06.1350 Wetlands. “Wetlands” means the area and the plant communities that include fresh and salt water marshes, generally found in areas of shallow, standing or sluggishly moving water.

4.0 PARAISO SPRINGS RESORT DESCRIPTION AND BACKGROUND DATA

The Paraiso Springs Resort is approximately 237 acres and is surrounded by undeveloped land. The Paraiso Springs Resort is located in a valley bordered by steep slopes to the north, west and south.

4.1 Vegetation

The Paraiso Springs Resort is comprised primarily of nine plant communities: (1) annual grassland, (2) sage scrub, (3) landscaped/developed (4) coyote brush scrub, (5) oak woodland, (6) riparian woodland, (7) willow stand, (8) bay forest and (9) wetland. Plant communities were classified based on existing descriptions developed by The Manual of California Vegetation (Sawyer and Keeler-Wolf 1995) and/or Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986). In some cases it was necessary to identify communities that did not match the existing community descriptions. All of the plant communities identified within the Paraiso Springs Resort are discussed below:

<u>Annual Grassland</u>
The annual grassland community is located in open areas on the valley floor of the Paraiso Springs Resort. It is dominated by non-native grasses such as ripgut brome (*Bromus diandrus* (NL)), Italian rye grass (*Lolium multiflorum* (FAC)), and barley (*Hordeum murinum* (NI)). This series is described by Sawyer and Keeler Wolf (1995) as the California annual grassland series.

<u>Coyote Brush Scrub</u>
The dominant plant in this shrubby community is coyote brush (*Baccharis pilularis*, (NL)) and the understory is dominated by non-native grasses and forbs. This community is described by Sawyer and Keeler-Wolf (1995) as the coyote brush series. This community is present in the far west and southeast portions of Paraiso Springs Resort.

<u>Oak Woodland</u>
The oak woodland community is present within the Paraiso Springs Resort. Three species of oak are found within the oak woodland community: blue oak (*Quercus douglasii* (NL)), California scrub oak (*Quercus berberidifolia* (NL)), and coast live oak (*Quercus agrifolia* (NL)). In many of the oak woodland areas, coast live oaks are dominant, which corresponds to the coast live oak series described by Sawyer and Keeler-Wolf (1995). In some of the more south facing and steeper oak woodlands blue oaks are dominant, this is described as the blue oak series.

<u>Sage Scrub</u>
The western and northern portion of the Study Area is dominated by sage scrub habitat. This community is dominated by California sage, black sage, and sticky monkeyflower. Associated understory plants include poison oak (*Toxicodendron diversilobum* (NL)), toyon (*Heteromeles arbutifolia* (NL)) and chamise (*Adenostoma fasciculatum* (NL)). Such a plant community is described by Sawyer and Keeler-Wolf (1995) as the California sagebrush-black sage series.

<u>Willow Stands</u>
Non-wetland and non-riparian isolated willow patches are found in the eastern portion of the Study Area. The woodland contains smaller patches of riparian vegetation dominated by arroyo willow (*Salix lasiolepis*), California blackberry (*Rubus ursinus*) and poison oak. Sawyer and Keeler-Wolf (1995) describe this community as the mixed willow series.

Wetlands

The wetland plant communities observed within the Paraiso Springs Resort were divided into three subcategories: riparian wetland, seasonal wetland, and freshwater marsh.

Riparian Wetland

The riparian wetland within the Paraiso Springs Resort is located along a topographically defined linear depression. Dominant plant species observed in this perennial wetland plant community include arroyo willow (*Salix lasiolepis*, FACW), California blackberry (*Rubus ursinus*, FACW), California wild rose (*Rosa californica*, FAC), and Mexican fan palm (*Washingtonia robusta*, NL). The lower fringe of the wetland was dominated by herbaceous species including Bermuda grass (*Cynodon dactylon, FAC)* and spreading rush (*Juncus patens*, FAC). The boundary of this wetland community was determined by the extent of areas meeting the hydrology criteria of the Corps wetland definition.

Seasonal Wetland

The seasonal wetlands in the Study Area are concentrated in the central eastern portion of the Resort and seem to be correlated with a higher water table than in surrounding areas. They may be considered of low quality as they are dominated by the invasive Bermuda grass (FAC) and occur on the Resort's lawns which are regularly mowed.

Freshwater Marsh

The coastal and valley freshwater marshes within the Study Area are associated with perennial ponds or seeps scattered throughout the eastern portion of the Paraiso Springs Resort. These communities contain standing water or high water tables sufficient to support obligate wetland plants such as broad-leaved cattail (*Typha latifolia*, OBL) and California tule (*Scirpus californicus*, OBL). Other species observed included common rush (*Juncus effuses*, OBL) and mule fat (*Baccharis salicifolia*, FACW).

A complete list of plant species observed in and within the vicinity of the onsite wetlands is included as Appendix B.

4.2 Soils

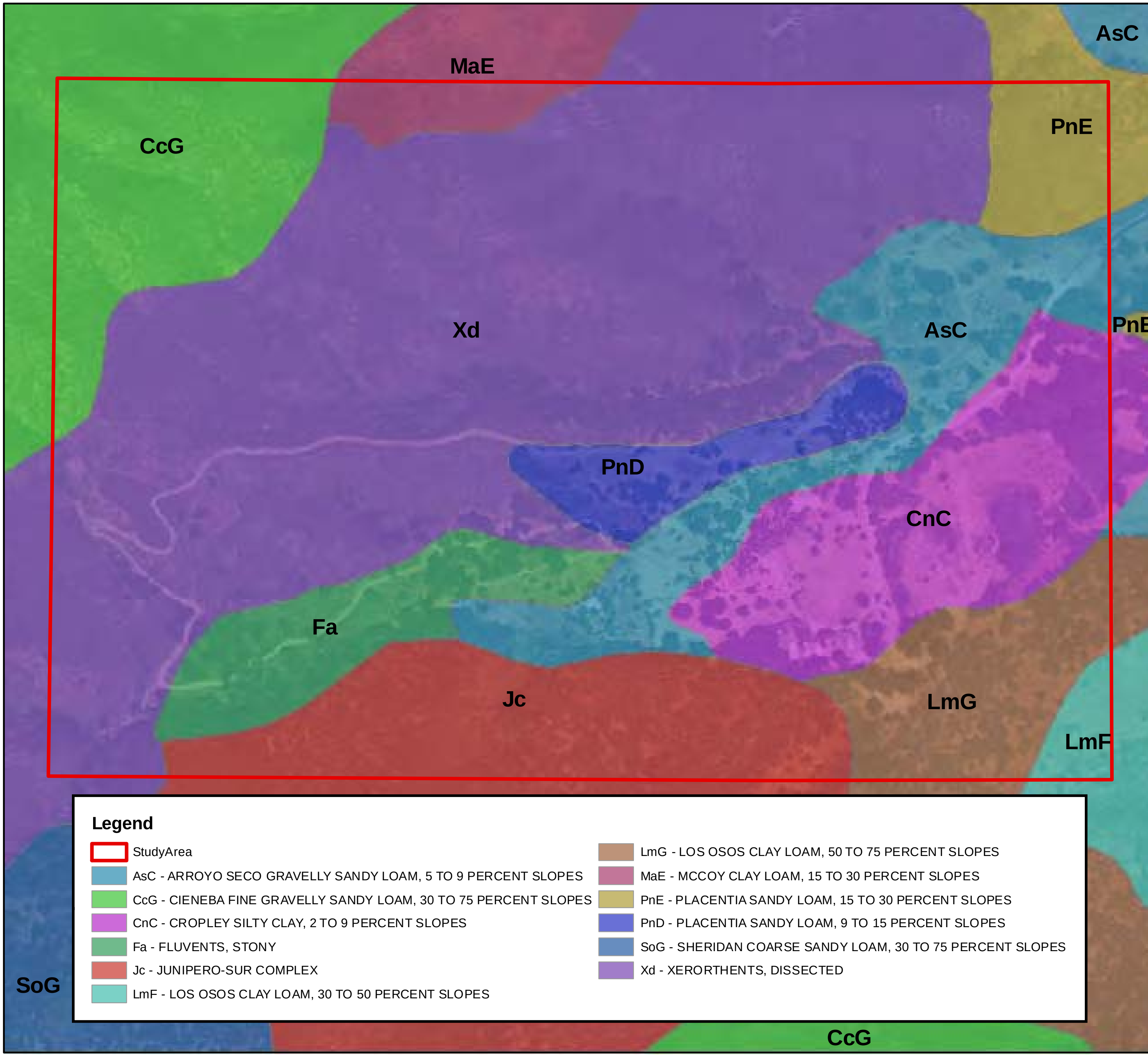
The Soil Survey of Monterey County, California (USDA 1978) indicates that the Study Area has 11 native soil types (Figure 2). The hydric soil types within the Study Area include: Arroyo Seco gravelly sandy loam, 5-9 percent slopes; and Fluvents, stony. These soil types are further discussed below.

Arroyo Seco gravelly sandy loam, 5 to 9 percent slopes

The Arroyo Seco gravelly sandy loam series consists of deep well-drained alluvium derived from igneous rock. These soils lie on alluvial fans and have 5 to 9 percent slopes. Typical profile for this soil is grayish brown gravelly sandy loam from 0 to 29 inches, brown gravelly sandy loam from 29-42 inches, and yellowish brown very gravelly coarse sandy loam from 42-60 inches. This soil typically harbors annual grasses and forbes with scattered oaks when uncultivated but is used for growing vegetables, field and forage crops, deciduous orchards, vineyards and pasture.

Cieneba fine gravelly sandy loam, 30-75 percent slopes

The Cieneba fine gravely sandy loam series is a somewhat excessively drained sandy and gravelly residuum derived from igneous and metamorphic rock. A representative profile for this series consists of pale brown gravelly loam from 0 to 10 inches, and a reddish yellow and brown



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Paraiso Springs Resort

Monterey County, California

Figure 2

Study Area Soils Map

This map is representational only, and not meant for use in detailed design.

N
W E
S

0 250 500

Feet

Date: January 2009
Source: NAIP, 2005; SSURGO
Map By: Derek Chan
Filepath: L:\Acad 2000 Files\18000\18107\gis\ArcMap\Fig2_Soils_20090121.mxd

weathered granitic material from 10 to 30 inches. This soil is used for wildlife, recreation and incidental grazing.

Cropley silty clay, 2-9 percent slopes
Cropley silty clay is deep, well drained soil on alluvial fans and terraces formed in alluvium derived from sedimentary rock. A representative profile for the series consists of very dark grey and black clay from 0 to 36 inches, and dark grayish brown clay 36-60 inches. This soil is used for irrigated row crops, apricots, prunes, and dry pasture.

Fluvents, stony
Fluvents soil consists of deep somewhat excessively drained. These soils lie in floodplains and consist of stratified cobbly sand to sandy loam.

Junipero-Sur Complex
The Junipero-Sur Complex is a well drained coarse-loamy residuum derived from metamorphic and igneous rock. A representative soil profile for this soil consists of dark grayish brown sandy loam from 0 to 15 inches, a layer of brown gravelly sandy loam from 15 to 30 inches, and yellowish brown quartzmica schist from 30 to 40 inches. This soil is used for recreation and as wildlife habitat.

Los Osos clay loam, 30 to 50 percent slopes
Los Osos clay loam is a well drained fine-loamy residuum weathered from metamorphic and sedimentary rock. A typical profile for this series consists of brown loam from 0 to 14 inches, yellowish brown clay from 14 to 24 inches, light yellowish brown clay loam from 24 to 32 inches, pale yellow sandy loam from 32 to 39 inches and yellowish brown sandstone from 39 to 43 inches. This soil is used mostly for range.

Los Osos clay loam, 50 to 75 percent slopes
This soil series description and profile is the same as for Los Osos clay loam, 30 to 50 percent slopes described above but is found on steeper slopes.

McCoy clay loam, 15 to 30 percent slopes
McCoy clay loam is a well drained fine-loamy residuum weathered from metamorphic and igneous rock. The typical McCoy series profile consists of dark brown loam from 0 to 2 inches underlain by dark brown clay loam from 2 to 4 inches, a dark brown clay loam layer from 4 to 22 inches, dark yellowish brown clay loam from 22 to 27 inches and weathered granodiorite from 27 to 37 inches. This soil is used mostly for range.

Placentia sandy loam, 9-15 percent slopes
The Placentia sandy loam series are deep well drained soils on stream terraces formed in alluvium derived from igneous and metamorphic rock. A representative profile for the series consists of brown sandy loam from 0 to 13 inches, dark reddish brown clay from 13 to 29 inches, reddish brown heavy clay loam from 29 to 36 inches, a strong brown sandy clay loam from 36 to 58 inches and a strong brown gravelly sandy loam from 58 to 60 inches. This soil is used for citrus, truck crops, small grain, hay and forage.

Placentia sandy loam, 15-30 percent slopes
This series description and profile is the same as Placentia sandy loam, 9-15 percent slopes but is located on steeper slopes.

Xerorthents, dissected
The Xerorthents series are well drained mixed unconsolidated alluvium on alluvial fans and terraces. The soil is typically consistent clay loam throughout its profile.

4.3 Hydrology

The Paraiso Springs 1984 and Sycamore Flat 1995 USGS 7.5 minute quadrangles indicate that there is one watercourse located within the Paraiso Springs Resort. The watercourse flows from west to east in the center of the valley and bisects the Paraiso Springs Resort.

The drainage originates west of the Paraiso Springs Resort and drains the slopes and valleys located above the resort. This drainage flows east through the valley into an agricultural drainage channel and then into a roadside ditch along Arroyo Seco Road. This roadside ditch crosses through several culverts and agricultural drainage channels to its confluence with the Arroyo Seco River approximately 6 miles northeast of the resort.

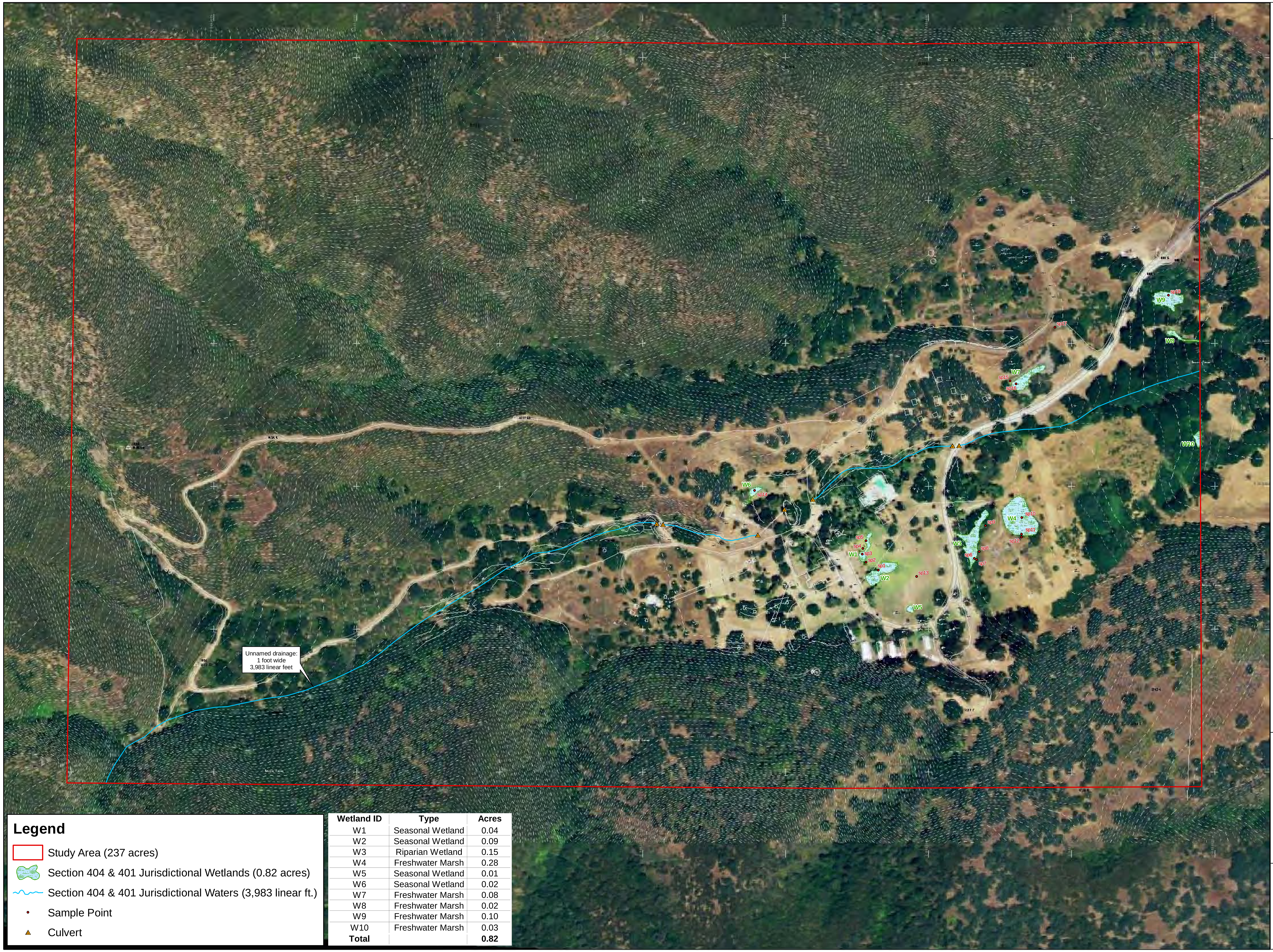
The Paraiso Springs Resort contains a wetland complex comprised of freshwater marshes, riparian wetlands, and seasonal wetlands. The majority of these features are isolated features associated with a high water table, while two indicate some connectivity with the through drainage. The freshwater marshes and riparian wetland appear to have perennial to semi-perennial hydrology due to a high water table.

5.0 RESULTS

Complete Arid West Region Corps data forms are provided in Appendix A. A composite list of plant species observed in the vicinity of the onsite wetlands is included as Appendix B and representative photographs of onsite aquatic habitat types are presented in Appendix C. The map depicting the potential jurisdictional wetlands and other waters within the Paraiso Springs Resort is depicted in Figure 3 and more precisely described in Table 1. Within the Paraiso Springs Resort there were 10 wetland areas delineated totaling 0.82 acres, as well as an additional 3,983 linear feet of jurisdictional drainage.

Table 1. Summary of Potential Wetlands and Waters Within the Study Area

Habitat Type	Size (Acres or Linear Feet)	"Potentially Isolated" Area (Acres)	Potential Jurisdictional Area
			Waters of the U.S. (Acres or Linear Feet))
Seasonal Wetlands	0.16	0.0	0.16
Riparian Wetlands	0.15	0.0	0.15
Freshwater Marsh	0.51	0.0	0.51
Other Waters	3,983 linear feet	0	3,983 linear feet
TOTAL	**0.82**	**0.0**	**0.82**



Legend

- Study Area (237 acres)
- Section 404 & 401 Jurisdictional Wetlands (0.82 acres)
- Section 404 & 401 Jurisdictional Waters (3,983 linear ft.)
- Sample Point
- Culvert

Wetland ID	Type	Acres
W1	Seasonal Wetland	0.04
W2	Seasonal Wetland	0.09
W3	Riparian Wetland	0.15
W4	Freshwater Marsh	0.28
W5	Seasonal Wetland	0.01
W6	Seasonal Wetland	0.02
W7	Freshwater Marsh	0.08
W8	Freshwater Marsh	0.02
W9	Freshwater Marsh	0.10
W10	Freshwater Marsh	0.03
Total		**0.82**

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Paraiso Springs Resort

Monterey County, California

Figure 3

Wetland Delineation Map

This map is representational only, and not meant for use in detailed design.

Original size: 24" x 36"

N
W E
S

0 150 300 600
Feet

SCALE: 1:1800

Date: January 2009
Image Source: NAIP, 2005
Map By: Derek Chan
Filepath: L:\Acad 2000 Files\18000\18107\gis\ArcMap\Fig3_Delin_20090130.mxd

5.1 Potential Wetlands and Waters

5.1.1 Wetlands

Most of the wetlands within the Paraiso Springs Resort are located on slight slopes where groundwater is seeping through to the surface. Other wetlands were located within ponds or depressions and vegetated by freshwater marsh species. The wetlands within the Paraiso Springs Resort were classified as seasonal wetlands, freshwater marshes, riparian wetlands and other waters. A routine level wetland delineation was conducted within the Paraiso Springs Resort on January 5-6, 2009. The results were recorded on Arid West data sheets which are presented in Appendix A. Potential wetland areas are described in the following sections and shown on Figure 3.

<u>Riparian Wetlands</u>
The wetland classified as riparian wetland was located in a linear depression and receives both groundwater inputs and surface water flows. This area contained primary hydrology indicators during the delineation site visit including saturated soils and surface inundation. Dominant plant species observed in the riparian wetland include arroyo willow (FACW), California blackberry (FACW), California wild rose (FAC), and Mexican fan palm (NL). The lower fringe of the wetland was dominated by herbaceous species including Bermuda grass (FAC) and spreading rush (FAC). The boundary of this wetland community was determined by the extent of wetland hydrology.

<u>Seasonal Wetlands</u>
Most of the seasonal wetlands in the Study Area were not saturated or ponded during the site visit but they were dominated by facultative wetland species such as Bermuda grass (FAC) with a lesser component of common spreading rush (FAC). Portions of wetland SW-6 in the northwest portion of the resort was inundated due to water flow from a spring box. Soils in areas determined to be seasonal wetlands were dark in color (10YR 3/2 or 2/1) with at least five percent mottles but sometimes ranging upwards of 20 percent. Oxidized rhizospheres were also present. The boundary of these features was based on the presence or absence of redoximorphic features in the soil.

<u>Freshwater Marsh Wetlands</u>
Freshwater marsh wetlands were identified as wetlands that have one or more dominant plant species that are emergent wetland species and exhibited primary hydrology indicators such as inundation/soil saturation in the upper 12 inches of the soil profile, or drainage patterns within the wetland. This indicates that these areas remain saturated for longer periods than the seasonal wetlands within the Study Area.

Representative dominant hydrophytic plant species (those with at least 20 percent cover) in the sampled freshwater marsh wetlands included wetland species such as common rush (*OBL*), bullrush (*OBL*), sedge *(FAC or greater*), and narrow leaved cattail *(OBL).*

Hydric soil indicators in the sampled wetland swales consisted of directly observed features. Soils in these areas were black and saturated or had redoximorphic features indicting their hydric nature.

5.1.2 Other Waters of the U.S.

The “blue line” drainage that flows through the Paraiso Springs Resort is characterized by a defined bed and bank with evidence of intermittent flows. The drainage is piped through culverts at several locations throughout its length. Other drainages in the Study Area lack defined bed and bank or an Ordinary High Water mark. There is 3,983 linear feet of day lighted drainage that may be considered “Waters of the U.S.” within the Paraiso Springs Resort.

5.2 Areas Meeting County Zoning Definitions

Multiple habitats in the Study Area met the zoning definitions in the Monterey County Code, Section 21, including wetlands, riparian habitat, and riparian woodland.

The freshwater marsh wetlands described above met the definition of “wetlands” in the Monterey County Code. These include features W4, W7, W8, W9, and W10 in Figure 3, Wetland Delineation Map in this report.

Feature W3 meets the county’s definition of Riparian Habitat since it is a natural community dependent on the high water table in the vicinity.

The blue-line stream that flows through the Study Area supports lush growth of trees supported by wet conditions along the seasonal drainage in its lower half. Specifically this habitat was observed from where the drainage emerges from the large underground culvert (between features W1 and W6 on Figure 3) to the eastern edge of the property. Due to the steepness of the drainage, this habitat extends approximately 10 feet from either edge of the watercourse.

No features in the Study Area could be classified as Environmentally Sensitive Habitats as defined in Section 21.06.440 as no evidence of rare or endangered species was observed during the site visit.

5.3 Significant Nexus Evaluation

Based on Corps regulatory guidance issued following the *Rapanos* decision, there are no drainages within the Study Area that meet the definition of a perennial Relatively Permanent Water (RPW). The blue line drainage that flows through the Study Area is tributary to the Arroyo Seco River, an RPW. The drainage flows through the Study Area into the Salinas Valley where it is conveyed via agricultural drainage ditches and several culverts to the Arroyo Seco River (Appendix D-1). The Arroyo Seco River is located 6.15 river miles downstream (4.25 air miles northeast) of the Study Area. After this confluence, the Arroyo Seco River flows into the Salinas River, a Traditional Navigable Water (TNW), 8.82 river miles (5.74 air miles) from the Study Area. No significant barriers to flow are visible on aerial photographs along the Arroyo Seco to its confluence with the Salinas River. Wetlands in the Study Area have either direct surface connections with the drainage or are connected to the drainage through overland or groundwater flows as they are situated within 150-250 feet of the drainage.

As part of a significant nexus determination, the Corps is required to provide technical information regarding the connectivity of on-site wetlands and waters to traditional navigable waters. To assist in this process, Table 2 below provides a summary of technical information to support a significant nexus determination for the Study Area.

The blue line drainage supports riparian vegetation within the lower half of, and downstream of the Study Area. The bottom substrates of this drainage are sand, cobble and bedrock. The drainage is not known to support federal listed plants, fish, or wildlife species, however it may be important for transferring nutrients and sediments to downstream receiving waters.

Table 2. Significant Nexus Evaluation

	Study Area to Arroyo Seco River (RPW)	Arroyo Seco River to Salinas River (TNW)	Study Area to Salinas River (TNW)
Distance in River Miles	6.15 miles	2.67 miles	8.8 miles
Distance in Aerial Miles	4.25 miles	2.5 miles	5.74 miles

Watershed Areas	Acreage
Study Area Watershed	1,151
Tributary Watershed	10,645
Salinas River Drainage Area	2,257,246

5.4 Impacts Analysis

The proposed project involves renovating the resort and improving onsite facilities. These improvements include re-routing the entrance road, replacing the dilapidated lodging structures with modern accommodations, and constructing improved hot spring facilities (note that the hot spring water is pumped from underground). While the project was designed to avoid impacting the majority of wetland features, minor impacts are proposed under the current design. These impacts total approximately 0.16 acres (Figure 4) and are confined to low-quality seasonal wetlands that are dominated by non-native invasive Bermuda grass. These wetlands occur in landscaped lawn areas of the current resort and are regularly maintained via mowing. The remaining 0.66 acres of wetland onsite are avoided by the proposed project. The preserved wetlands include the higher quality riparian and freshwater marsh wetlands which have diverse assemblages of native herbs, shrubs and trees which provide habitat for a variety of wildlife species.

5.5 Mitigation

The project proponents propose to mitigate for impacts to jurisdictional features through onsite compensatory mitigation. Given the high water table in the Study Area, wetland creation should be very feasible. A properly implemented mitigation strategy should provide improved habitat and values with appropriate native wetland species. Project proponents will work with the regulatory agencies to determine an appropriate mitigation ratio for impacts to the low-quality seasonal wetlands.

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Paraiso Springs Resort

Monterey County, California

Figure 4

Proposed Wetland Impacts

Wetland ID	Type	Acres	
		Impacted	*Non-impacted*
W1	Seasonal Wetland	0.04	
W2	Seasonal Wetland	0.09	
W3	Riparian Wetland		0.15
W4	Freshwater Marsh		0.28
W5	Seasonal Wetland	0.01	
W6	Seasonal Wetland	0.02	
W7	Freshwater Marsh		0.08
W8	Freshwater Marsh		0.02
W9	Freshwater Marsh		0.10
W10	Freshwater Marsh		0.03
Total		**0.16**	**0.66**

This map is representational only, and not meant for use in detailed design.

Date: January 2009
Image Source: NAIP, 2005
Map By: Derek Chan
Filepath: L:\Acad 2000 Files\18000\18107\gis\ArcMap\Fig4_Impacts_20090127.mxd

6.0 CONCLUSION

The Paraiso Springs Resort has ten wetland features totaling 0.82 acres and 3,983 linear feet of "other waters" that may be considered jurisdictional under Section 404 of the Clean Water Act. The wetland areas were seasonal wetland, riparian wetland, and freshwater marsh dominated by hydrophytic vegetation with FAC, FACW, or OBL classified plants. The wetland areas also contained hydric soil indicators and wetland hydrology indicators. These wetland areas are adjacent to a drainage that is tributary to a navigable "Waters of the U.S." (Appendix D) and, therefore, meet the definition of jurisdictional wetlands and "other waters" for Section 404 of the Clean Water Act. These wetlands and waters also may be considered waters of the state under Section 401 of the Clean Water Act.

7.0 REFERENCES

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U.S. Geological Survey (USGS). 1995. Sycamore Flat 7.5 minute topographic map.

Appendix A Arid West Wetland Data Sheets

Wetland Determination Data Form - Arid West Region

Project/Site Paraiso SpringsResort City Soledad County Monterey Sampling Date 1/6/2009

Applicant/Owner Thompson Holdings, LLC State CA Sampling Point SP-1

Investigator(s) WRA, Inc.: Geoff Smick and Nathan Bello Section,Township,Range Section 30, T18S, R6E

Landform (hillslope, terrace, etc.) hillslope Local Relief (concave, convex, none) convex Slope(%) 25

Subregion(LRR) LRR C (Medit. CA) Lat: 36 19' 49"N Long: 121 22" 02" W Datum: WGS 84

Soil Map Unit Name Cropley silty clay, 2-9 % slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? ☒ Yes ☐ No
Hydric Soil Present? ☒ Yes ☐ No
Wetland Hydrology Present? ☒ Yes ☐ No

Is the Sampled Area within a Wetland? ☒ **Yes** ☐ **No**

Remarks: This sample point is in a landscaped lawn area dominated primarily by Bermuda grass (FAC) that is regularly mowed. This sample point is located within a wetland.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:		**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:		**Plot Size:**	
Herb Stratum			
1. *Cynodon dactylon*	80	Y	FAC
2. *Juncus patens*	20	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	**100**	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum 0 % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 2 (A)

Total number of dominant species across all strata? 2 (B)

% of dominant species that are OBL, FACW, or FAC? 100 (A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species	x1	
FACW species	x2	
FAC species	x3	
FACU species	x4	
UPL species	x5	
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

☒ Dominance Test is >50%
☐ Prevalence Index is </= 3.0[1]
☐ Morphological adaptations (provide supporting data in remarks)
☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is dominated by hydrophytic vegetation.

SOIL

Sampling Point SP-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
0-5	10YR3/2							
5-9	10YR3/2	85	2.5YR4/8	15	C	RC	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ____________

Depth (inches): ____________

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: This data point contains hydric soil indicators based on distinct/prominent mottles with a dark matrix. These indicators begin 5" beneath the surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches):
Water table present?	☐ Yes	☒ No	Depth (inches):
Saturation Present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches):

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Oxidized rhizospheres were observed indicating the sample point is subject to wetland hydrology.

Wetland Determination Data Form - Arid West Region

Project/Site Paraiso SpringsResort | City Soledad | County Monterey | Sampling Date 1/6/2009

Applicant/Owner Thompson Holdings, LLC | State CA | Sampling Point SP-2

Investigator(s) WRA, Inc.: Geoff Smick and Nathan Bello | Section,Township,Range Section 30, T18S, R6E

Landform (hillslope, terrace, etc.) hillslope | Local Relief (concave, convex, none) convex | Slope(%) 25

Subregion(LRR) LRR C (Medit. CA) | Lat: 36 19' 49"N | Long: 121 22" 02" W | Datum: WGS 84

Soil Map Unit Name Cropley silty clay, 2-9 % slopes | NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? ☒ Yes ☐ No	**Is the Sampled Area within a Wetland?** ☐ **Yes** ☒ **No**
Hydric Soil Present? ☐ Yes ☒ No	
Wetland Hydrology Present? ☒ Yes ☐ No	

Remarks: This sample point is in a landscaped lawn area dominated primarily by Bermuda grass (FAC) that is regularly mowed and lacked hydric soil indicators. This area is considered upland.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:		**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:		**Plot Size:**	
Herb Stratum			
1. *Cynodon dactylon*	90	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	**90**	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	
% Bare ground in herb stratum 10		% cover of biotic crust	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	1	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: This sample point is dominated by hydrophytic vegetation.

SOIL

Sampling Point SP-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[1]	Texture	Remarks
0-6	10YR3/2							
6-12	10YR3/2	99	2.5YR4/8	1	C	RC	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present ? ☐ **Yes** ☒ **No**

Remarks: Slight mottling was observed in this sample point at concentrations of 1%. This sample point does not meet any of the hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches):

Water table present? ☐ Yes ☒ No Depth (inches):

Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches):

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: While oxidized rhizospheres are present, no other signs of hydrology were observed in this area.

Wetland Determination Data Form - Arid West Region

Project/Site: Paraiso SpringsResort | City: Soledad | County: Monterey | Sampling Date: 1/6/2009

Applicant/Owner: Thompson Holdings, LLC | State: CA | Sampling Point: SP-3

Investigator(s): WRA, Inc.: Geoff Smick and Nathan Bello | Section,Township,Range: Section 30, T18S, R6E

Landform (hillslope, terrace, etc.): hillslope | Local Relief (concave, convex, none): convex | Slope(%): 25

Subregion(LRR): LRR C (Medit. CA) | Lat: 36 19' 49"N | Long: 121 22" 02" W | Datum: WGS 84

Soil Map Unit Name: Cropley silty clay, 2-9 % slopes | NWI classification: none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes	☐ No
Hydric Soil Present?	☒ Yes	☐ No
Wetland Hydrology Present?	☒ Yes	☐ No

Is the Sampled Area within a Wetland? ☒ **Yes** ☐ **No**

Remarks: This sample point is in a landscaped lawn area dominated primarily by Bermuda grass (FAC) that is regularly mowed. Wetland edges were defined in this area based on higher cover of spreading rush and increased mottling in soils.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:		**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:		**Plot Size:**	
Herb Stratum			
1. *Cynodon dactylon*	70	Y	FAC
2. *Juncus patens*	25	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	95	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum: 5 | % cover of biotic crust:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	2	(A)
Total number of dominant species across all strata?	2	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species		x1
FACW species		x2
FAC species		x3
FACU species		x4
UPL species		x5
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

☒ Dominance Test is >50%

☐ Prevalence Index is </= 3.0[1]

☐ Morphological adaptations (provide supporting data in remarks)

☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is dominated by hydrophytic vegetation.

SOIL

Sampling Point SP-3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
0-6	10YR3/2						Sandy Clay	5% of soil consists of small rocks
6-12	10YR3/2	80	2.5YR4/8	20	C	RC	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ____________

Depth (inches): ____________

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: This data point contains hydric soil indicators based on distinct/prominent mottles with a dark matrix. This area has a substantially higher concentration of mottles than surrounding areas.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches):
Water table present?	☐ Yes	☒ No	Depth (inches):
Saturation Present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches):

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: The increased oxidized rhizospheres in this area indicate these soils are more exposed to alternating wet/dry wetland hydrologic regimes than surrounding areas.

Wetland Determination Data Form - Arid West Region

Project/Site: Paraiso SpringsResort | City: Soledad | County: Monterey | Sampling Date: 1/6/2009

Applicant/Owner: Thompson Holdings, LLC | State: CA | Sampling Point: SP-4

Investigator(s): WRA, Inc.: Geoff Smick and Nathan Bello | Section,Township,Range: Section 30, T18S, R6E

Landform (hillslope, terrace, etc.): hillslope | Local Relief (concave, convex, none): convex | Slope(%): 25

Subregion(LRR): LRR C (Medit. CA) | Lat: 36 19' 49"N | Long: 121 22" 02" W | Datum: WGS 84

Soil Map Unit Name: Cropley silty clay, 2-9 % slopes | NWI classification: none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes	☐ No
Hydric Soil Present?	☐ Yes	☒ No
Wetland Hydrology Present?	☐ Yes	☒ No

Is the Sampled Area within a Wetland? ☐ **Yes** ☒ **No**

Remarks: This sample point is in a landscaped lawn area dominated primarily by Bermuda grass (FAC) that is regularly mowed. This area is considered upland.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:		**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:		**Plot Size:**	
Herb Stratum			
1. *Cynodon dactylon*	90	Y	FAC
2. *Juncus patens*	1	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	91	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum: 9 | % cover of biotic crust:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	1	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: This sample point is dominated by hydrophytic vegetation.

SOIL

Sampling Point SP-4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[1]	Texture	Remarks
0-12	10YR3/2	100					Sandy Clay	5% of soil consists of small rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ____________________

Depth (inches): ____________________

Hydric Soil Present ? ☐ **Yes** ☒ **No**

Remarks: The soil in this area was uniform in color and texture and did not contain any hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): ________

Water table present? ☐ Yes ☒ No Depth (inches): ________

Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches): ________

Wetland Hydrology Present ? ☐ **Yes** ☒ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: No wetland hydrology indicators were present in this area.

Wetland Determination Data Form - Arid West Region

Project/Site Paraiso SpringsResort City Soledad County Monterey Sampling Date 1/6/2009

Applicant/Owner Thompson Holdings, LLC State CA Sampling Point SP-5

Investigator(s) WRA, Inc.: Geoff Smick and Nathan Bello Section,Township,Range Section 30, T18S, R6E

Landform (hillslope, terrace, etc.) hillslope Local Relief (concave, convex, none) convex Slope(%) 25

Subregion(LRR) LRR C (Medit. CA) Lat: 36 19' 49"N Long: 121 22" 02" W Datum: WGS 84

Soil Map Unit Name Cropley silty clay, 2-9 % slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes ☐ No	**Is the Sampled Area within a Wetland?** ☒ **Yes** ☐ **No**
Hydric Soil Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: This sample point is in a landscaped lawn area dominated primarily by Bermuda grass (FAC) that is regularly mowed. Wetland edges were defined in this area based on higher cover of spreading rush and increased mottling in soils.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:		**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:		**Plot Size:**	
Herb Stratum			
1. *Cynodon dactylon*	60	Y	FAC
2. *Juncus patens*	40	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	**100**	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	
% Bare ground in herb stratum 0		% cover of biotic crust	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	2	(A)
Total number of dominant species across all strata?	2	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is dominated by hydrophytic vegetation.

SOIL

Sampling Point SP-5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[1]	Texture	Remarks
0-3	10YR3/1	98	2.5YR4/8	2			Sandy Clay	
3-6	10YR3/2	85	2.5YR4/8	15			Sandy Clay	
6-9	10YR3/2	60	2.5YR4/8	20			Sandy Clay	
	Gley1 5/10Y	20	2.5YR4/8	20			Sandy	
9-12	Gley1 5-10Y	95	2.5YR4/8	5			Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☒ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: This data point contains hydric soil indicators based on distinct/prominent mottles with a dark matrix and a sandy gleyed matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☒ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches):

Water table present? ☐ Yes ☒ No Depth (inches):

Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches):

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: The increased mottling and sulfuric odor in this area indicated these soils are more exposed to alternating wet/dry wetland hydrologic regimes than surrounding areas.

Wetland Determination Data Form - Arid West Region

Project/Site: Paraiso SpringsResort City: Soledad County: Monterey Sampling Date: 1/6/2009

Applicant/Owner: Thompson Holdings, LLC State: CA Sampling Point: SP-6

Investigator(s): WRA, Inc.: Geoff Smick and Nathan Bello Section,Township,Range: Section 30, T18S, R6E

Landform (hillslope, terrace, etc.): depression Local Relief (concave, convex, none): concave Slope(%): 0

Subregion(LRR): LRR C (Medit. CA) Lat: 36 19' 49"N Long: 121 22" 02" W Datum: WGS 84

Soil Map Unit Name: Cropley silty clay, 2-9 % slopes NWI classification: Freshwater Forested/Shrub

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? ☒ Yes ☐ No Hydric Soil Present? ☒ Yes ☐ No Wetland Hydrology Present? ☒ Yes ☐ No	**Is the Sampled Area within a Wetland?** ☒ **Yes** ☐ **No**

Remarks: This sample point is located within a linear depression with surface saturation and dominated by riparian vegetation.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	30	Y	FACW
2.			
3.			
4.			
Tree Stratum Total Cover:	**30**	**Plot Size:**	
Sapling/Shrub Stratum			
1. *Baccharis pilularis*	5	N	NL
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	**5**	**Plot Size:**	
Herb Stratum			
1. *Juncus effusus*	60	Y	OBL
2. *Baccharis salicifolia*	20	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	**80**	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum: 20 % cover of biotic crust:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	3	(A)
Total number of dominant species across all strata?	4	(B)
% of dominant species that are OBL, FACW, or FAC?	75	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species	x1	
FACW species	x2	
FAC species	x3	
FACU species	x4	
UPL species	x5	
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is dominated by hydrophytic vegetation.

SOIL

Sampling Point SP-6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[1]	Texture	Remarks
0-3	10YR3/1	100					Loam	saturated
3-12	10YR3/2	100					Loam	saturated

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: The soil in this area was saturated throughout and standing water was observed nearby. Hydric soils assumed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☐ No	Depth (inches):
Water table present?	☒ Yes	☐ No	Depth (inches): 3
Saturation Present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 0

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: This area was saturated to the surface and had free water in pit at 3 inches. Standing water was present at surface near sample pit. Wetland hydrology is present.

Wetland Determination Data Form - Arid West Region

Project/Site: Paraiso SpringsResort | City: Soledad | County: Monterey | Sampling Date: 1/6/2009

Applicant/Owner: Thompson Holdings, LLC | State: CA | Sampling Point: SP-7

Investigator(s): WRA, Inc.: Geoff Smick and Nathan Bello | Section,Township,Range: Section 30, T18S, R6E

Landform (hillslope, terrace, etc.): edge of depression | Local Relief (concave, convex, none): flat | Slope(%): 0

Subregion(LRR): LRR C (Medit. CA) | Lat: 36 19' 49"N | Long: 121 22" 02" W | Datum: WGS 84

Soil Map Unit Name: Cropley silty clay, 2-9 % slopes | NWI classification: Freshwater Forested/Shrub

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes	☐ No
Hydric Soil Present?	☐ Yes	☒ No
Wetland Hydrology Present?	☐ Yes	☒ No

Is the Sampled Area within a Wetland? ☐ **Yes** ☒ **No**

Remarks: This sample point is located on a flat area adjacent to a riparian wetland and is dominated by wetland vegetation, but lacks wetland soils and hydrology.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0	**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0	**Plot Size:**	
Herb Stratum			
1. *Cynodon dactylon*	70	Y	FAC
2. *Juncus effusus*	20	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	90	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum: 10 | % cover of biotic crust:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?: 2 (A)

Total number of dominant species across all strata?: 2 (B)

% of dominant species that are OBL, FACW, or FAC?: 100 (A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species	x1	
FACW species	x2	
FAC species	x3	
FACU species	x4	
UPL species	x5	
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

☒ Dominance Test is >50%

☐ Prevalence Index is </= 3.0[1]

☐ Morphological adaptations (provide supporting data in remarks)

☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is located in an area with wetland vegetation on the edge of a riparian wetland.

SOIL

Sampling Point SP-7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR3/1	100						
3-12	10YR3/2	99	2.5YR4/8	1	C	M	Clay Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present ? ☐ **Yes** ☒ **No**

Remarks: This data point contains mottles at less than 2% and therefore does not meet the Redox Dark Surface or any other hydric soil indicator.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): ______

Water table present? ☐ Yes ☒ No Depth (inches): ______

Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches): ______

Wetland Hydrology Present ? ☐ **Yes** ☒ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: No wetland hydrology indicators were present in this area.

Wetland Determination Data Form - Arid West Region

Project/Site: Paraiso SpringsResort | City: Soledad | County: Monterey | Sampling Date: 1/6/2009

Applicant/Owner: Thompson Holdings, LLC | State: CA | Sampling Point: SP-8

Investigator(s): WRA, Inc.: Geoff Smick and Nathan Bello | Section,Township,Range: Section 30, T18S, R6E

Landform (hillslope, terrace, etc.): edge of riparian wetland | Local Relief (concave, convex, none): flat | Slope(%): 0

Subregion(LRR): LRR C (Medit. CA) | Lat: 36 19' 49"N | Long: 121 22" 02" W | Datum: WGS 84

Soil Map Unit Name: Cropley silty clay, 2-9 % slopes | NWI classification: Freshwater Forested/Shrub

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes	☐ No
Hydric Soil Present?	☐ Yes	☒ No
Wetland Hydrology Present?	☐ Yes	☒ No

Is the Sampled Area within a Wetland? ☐ **Yes** ☒ **No**

Remarks: This sample point is located on a flat area adjacent to a riparian wetland and is dominated by wetland vegetation, but lacks wetland soils and hydrology.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0	**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0	**Plot Size:**	
Herb Stratum			
1. *Cynodon dactylon*	50	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	50	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum: 50 | % cover of biotic crust:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	1	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species	x1	
FACW species	x2	
FAC species	x3	
FACU species	x4	
UPL species	x5	
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is located in an area with hydrophytic vegetation on the edge of a riparian wetland.

SOIL

Sampling Point SP-8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[1]	Texture	Remarks
0-12	10YR3/2	100	2.5YR4/8	1	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present ? ☐ **Yes** ☒ **No**

Remarks: This data point contains mottles at less than 2% and therefore does not meet the Redox Dark Surface or any other hydric soil indicator.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches):

Water table present? ☐ Yes ☒ No Depth (inches):

Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches):

Wetland Hydrology Present ? ☐ **Yes** ☒ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: No wetland hydrology indicators were present in this area.

Wetland Determination Data Form - Arid West Region

Project/Site: Paraiso SpringsResort | City: Soledad | County: Monterey | Sampling Date: 1/6/2009

Applicant/Owner: Thompson Holdings, LLC | State: CA | Sampling Point: SP-9

Investigator(s): WRA, Inc.: Geoff Smick and Nathan Bello | Section,Township,Range: Section 30, T18S, R6E

Landform (hillslope, terrace, etc.): edge of riparian wetland | Local Relief (concave, convex, none): flat | Slope(%): 0

Subregion(LRR): LRR C (Medit. CA) | Lat: 36 19' 49"N | Long: 121 22" 02" W | Datum: WGS 84

Soil Map Unit Name: Cropley silty clay, 2-9 % slopes | NWI classification: Freshwater Emergent Wetland

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes ☐ No
Hydric Soil Present?	☐ Yes ☒ No
Wetland Hydrology Present?	☐ Yes ☒ No

Is the Sampled Area within a Wetland? ☐ **Yes** ☒ **No**

Remarks: This sample point is located on a flat area adjacent to a riparian wetland and is dominated by wetland vegetation.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0	**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0	**Plot Size:**	
Herb Stratum			
1. *Juncus effusus*	60	Y	OBL
2. *Baccharis salicifolia*	20	Y	FACW
3. *Rubus ursinus*	5	N	NL
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	85	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum: 15 | % cover of biotic crust:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	2	(A)
Total number of dominant species across all strata?	2	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species	x1	
FACW species	x2	
FAC species	x3	
FACU species	x4	
UPL species	x5	
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is located in an area with hydrophytic vegetation on the edge of a riparian wetland.

SOIL

Sampling Point SP-9

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[1]	Texture	Remarks
0-12	10YR3/2	100	2.5YR4/8	1	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ______________

Depth (inches): ______________

Hydric Soil Present ? ☐ **Yes** ☒ **No**

Remarks: This data point contains mottles at less than 2% and therefore does not meet the Redox Dark Surface or any other hydric soil indicator.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches):
Water table present?	☐ Yes	☒ No	Depth (inches):
Saturation Present? (includes capillary fringe)	☐ Yes	☒ No	Depth (inches):

Wetland Hydrology Present ? ☐ **Yes** ☒ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: No wetland hydrology indicators were present in this area.

Wetland Determination Data Form - Arid West Region

Project/Site Paraiso SpringsResort | City Soledad | County Monterey | Sampling Date 1/6/2009

Applicant/Owner Thompson Holdings, LLC | State CA | Sampling Point SP-10

Investigator(s) WRA, Inc.: Geoff Smick and Nathan Bello | Section,Township,Range Section 30, T18S, R6E

Landform (hillslope, terrace, etc.) flat area | Local Relief (concave, convex, none) flat | Slope(%) 0

Subregion(LRR) LRR C (Medit. CA) | Lat: 36 19' 49"N | Long: 121 22" 02" W | Datum: WGS 84

Soil Map Unit Name Cropley silty clay, 2-9 % slopes | NWI classification Freshwater Emergent Wetland

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes	☐ No
Hydric Soil Present?	☒ Yes	☐ No
Wetland Hydrology Present?	☒ Yes	☐ No

Is the Sampled Area within a Wetland? ☒ **Yes** ☐ **No**

Remarks: This sample point is located on a flat area with surface saturation and emergent obligate plant species. This point is located within a wetland.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0	**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0	**Plot Size:**	
Herb Stratum			
1. *Typha angustifolia*	50	Y	OBL
2. *Baccharis salicifolia*	25	Y	FACW
3. *Scirpus californicus*	5	N	OBL
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	80	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum 20 | % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 2 (A)

Total number of dominant species across all strata? 2 (B)

% of dominant species that are OBL, FACW, or FAC? 100 (A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species	x1	
FACW species	x2	
FAC species	x3	
FACU species	x4	
UPL species	x5	
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is dominated by hydrophytic vegetation.

SOIL

Sampling Point SP-10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[1]	Texture	Remarks
								surface ponding

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ________

Depth (inches): ________

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: Soils in this area are assumed hydric due to surface inundation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☒ Yes	☐ No	Depth (inches): 0
Water table present?	☒ Yes	☐ No	Depth (inches): 0
Saturation Present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 0

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: This area was inundated at the surface. Wetland hydrology is present.

Wetland Determination Data Form - Arid West Region

Project/Site: Paraiso SpringsResort | City: Soledad | County: Monterey | Sampling Date: 1/6/2009

Applicant/Owner: Thompson Holdings, LLC | State: CA | Sampling Point: SP-11

Investigator(s): WRA, Inc.: Geoff Smick and Nathan Bello | Section,Township,Range: Section 30, T18S, R6E

Landform (hillslope, terrace, etc.): flat area | Local Relief (concave, convex, none): flat | Slope(%): 0

Subregion(LRR): LRR C (Medit. CA) | Lat: 36 19' 49"N | Long: 121 22" 02" W | Datum: WGS 84

Soil Map Unit Name: Cropley silty clay, 2-9 % slopes | NWI classification: Freshwater Emergent Wetland

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes	☐ No
Hydric Soil Present?	☒ Yes	☐ No
Wetland Hydrology Present?	☒ Yes	☐ No

Is the Sampled Area within a Wetland? ☒ **Yes** ☐ **No**

Remarks: This sample point is located on a flat area with surface saturation and emergent obligate plant species. This point is located within a wetland.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0	**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0	**Plot Size:**	
Herb Stratum			
1. *Juncus effusus*	75	Y	OBL
2. *Cynodon dactylon*	20	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	95	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum: 5 | % cover of biotic crust:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	2	(A)
Total number of dominant species across all strata?	2	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species		x1
FACW species		x2
FAC species		x3
FACU species		x4
UPL species		x5
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is dominated by hydrophytic vegetation.

SOIL

Sampling Point SP-11

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
0-12	10YR3/1	100						surface saturation

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: Soils in this area are assumed hydric due to surface saturation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	☐ Yes	☒ No	Depth (inches):
Water table present?	☒ Yes	☐ No	Depth (inches): 6
Saturation Present? (includes capillary fringe)	☒ Yes	☐ No	Depth (inches): 0

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: This area was saturated at the surface and had free water in pit at 6 inches. Wetland hydrology is present.

Wetland Determination Data Form - Arid West Region

Project/Site Paraiso SpringsResort City Soledad County Monterey Sampling Date 1/6/2009

Applicant/Owner Thompson Holdings, LLC State CA Sampling Point SP-12

Investigator(s) WRA, Inc.: Geoff Smick and Nathan Bello Section,Township,Range Section 30, T18S, R6E

Landform (hillslope, terrace, etc.) flat area Local Relief (concave, convex, none) flat Slope(%) 0

Subregion(LRR) LRR C (Medit. CA) Lat: 36 19' 49"N Long: 121 22" 02" W Datum: WGS 84

Soil Map Unit Name Cropley silty clay, 2-9 % slopes NWI classification Freshwater Emergent Wetland

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes ☐ No	**Is the Sampled Area within a Wetland?** ☐ **Yes** ☒ **No**
Hydric Soil Present?	☐ Yes ☒ No	
Wetland Hydrology Present?	☐ Yes ☒ No	

Remarks: This point is located in uplands.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	**0**	**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	**0**	**Plot Size:**	
Herb Stratum			
1. *Juncus effusus*	45	Y	OBL
2. *Cynodon dactylon*	50	Y	FAC
3. *Avena sp.*	1	N	NL
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	**96**	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum 4 % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	2	(A)
Total number of dominant species across all strata?	2	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species	x1	
FACW species	x2	
FAC species	x3	
FACU species	x4	
UPL species	x5	
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is dominated by hydrophytic vegetation.

SOIL

Sampling Point SP-12

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
0-12	10YR3/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ____________

Depth (inches): ____________

Hydric Soil Present ? ☐ **Yes** ☒ **No**

Remarks: Soils in this area area did not exhibit any hydric indicators nor saturation to 12 inches and therefore are not hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): ____________

Water table present? ☐ Yes ☒ No Depth (inches): ____________

Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches): ____________

Wetland Hydrology Present ? ☐ **Yes** ☒ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: This area showed no signs of wetland hydrology.

Wetland Determination Data Form - Arid West Region

Project/Site Paraiso SpringsResort City Soledad County Monterey Sampling Date 1/6/2009

Applicant/Owner Thompson Holdings, LLC State CA Sampling Point SP-13

Investigator(s) WRA, Inc.: Geoff Smick and Nathan Bello Section,Township,Range Section 30, T18S, R6E

Landform (hillslope, terrace, etc.) hillslope Local Relief (concave, convex, none) convex Slope(%) 25

Subregion(LRR) LRR C (Medit. CA) Lat: 36 19' 49"N Long: 121 22" 02" W Datum: WGS 84

Soil Map Unit Name Cropley silty clay, 2-9 % slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☐ Yes	☒ No
Hydric Soil Present?	☐ Yes	☒ No
Wetland Hydrology Present?	☐ Yes	☒ No

Is the Sampled Area within a Wetland? ☐ **Yes** ☒ **No**

Remarks: This point is located in uplands.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:		**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:		**Plot Size:**	
Herb Stratum			
1. *Erodium botrys*	70	Y	NL
2. *Cynodon dactylon*	10	N	FAC
3. *unknown grass*	10	N	
4. *Stellaria media*	10	N	NL
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	**100**	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum 0 % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	0	(A)
Total number of dominant species across all strata?	0	(B)
% of dominant species that are OBL, FACW, or FAC?	0	(A/B)

Prevalence Index Worksheet

Total % cover of:			Multiply by:	
OBL species		x1		
FACW species		x2		
FAC species	10	x3	30	
FACU species		x4		
UPL species	90	x5	450	
Column Totals	100	(A)	480	(B)

Prevalence Index = B/A = 4.8

Hydrophytic Vegetation Indicators

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: This area is not dominated by hydrophytic vegetation.

SOIL

Sampling Point SP-13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
0-12	10YR4/3	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ____________________

Depth (inches): ____________________

Hydric Soil Present ? ☐ **Yes** ☒ **No**

Remarks: The soil in this area was uniform in color and texture and did not contain any hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): ________

Water table present? ☐ Yes ☒ No Depth (inches): ________

Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches): ________

Wetland Hydrology Present ? ☐ **Yes** ☒ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: No wetland hydrology indicators were present in this area.

Wetland Determination Data Form - Arid West Region

Project/Site Paraiso SpringsResort   City Soledad   County Monterey   Sampling Date 1/6/2009

Applicant/Owner Thompson Holdings, LLC   State CA   Sampling Point SP-14

Investigator(s) WRA, Inc.: Geoff Smick and Nathan Bello   Section,Township,Range Section 30, T18S, R6E

Landform (hillslope, terrace, etc.) spring and slight slope   Local Relief (concave, convex, none) flat   Slope(%) 5

Subregion(LRR) LRR C (Medit. CA)   Lat: 36 19' 49"N   Long: 121 22" 02" W   Datum: WGS 84

Soil Map Unit Name Cropley silty clay, 2-9 % slopes   NWI classification None

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology   Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology   (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes ☐ No	**Is the Sampled Area within a Wetland?** ☒ **Yes** ☐ **No**
Hydric Soil Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	

Remarks: This sample point is located on a flat area where a spring box is overflowing and feeding this small isolated wetland.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0	**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0	**Plot Size:**	
Herb Stratum			
1. *Cynodon dactylon*	100	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	100	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum 0   % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	1	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species	x1	
FACW species	x2	
FAC species	x3	
FACU species	x4	
UPL species	x5	
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is located in an area with Facultative vegetation below an overflowing springbox.

SOIL

Sampling Point SP-14

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[1]	Texture	Remarks
0-12	10YR3/1	40						
	10YR3/2	60	2.5YR 4/8	20	C	RC/M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: This data point contains hydric soil indicators based on distinct/prominent mottles with a dark matrix and surface inundation.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☒ Yes ☐ No Depth (inches): +1-3

Water table present? ☒ Yes ☐ No Depth (inches): 0

Saturation Present? (includes capillary fringe) ☒ Yes ☐ No Depth (inches): 0

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: This area was inundated at the surface. Wetland hydrology is present.

Wetland Determination Data Form - Arid West Region

Project/Site Paraiso SpringsResort | City Soledad | County Monterey | Sampling Date 1/6/2009

Applicant/Owner Thompson Holdings, LLC | State CA | Sampling Point SP-15

Investigator(s) WRA, Inc.: Geoff Smick and Nathan Bello | Section,Township,Range Section 30, T18S, R6E

Landform (hillslope, terrace, etc.) depression | Local Relief (concave, convex, none) concave | Slope(%) 0

Subregion(LRR) LRR C (Medit. CA) | Lat: 36 19' 49"N | Long: 121 22" 02" W | Datum: WGS 84

Soil Map Unit Name Cropley silty clay, 2-9 % slopes | NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology | Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☐ Yes ☒ No	**Is the Sampled Area within a Wetland?** ☐ **Yes** ☒ **No**
Hydric Soil Present?	☐ Yes ☒ No	
Wetland Hydrology Present?	☐ Yes ☒ No	

Remarks: This sample point is located near the edge of a man made emergent wetland that is seasonally ponded. It was historically used to catch overflow from pools which is now diverted creek. This sample point is in an upland area with dead vegetation and no signs of current hydrology (salt crust or sediment deposits).

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0	**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0	**Plot Size:**	
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:		**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum 100 | % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 0 (A)

Total number of dominant species across all strata? 0 (B)

% of dominant species that are OBL, FACW, or FAC? 0 (A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals		(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☐ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☐ Yes ☒ No

Remarks: This sample point is covered in dead typha and organic matter.

SOIL

Sampling Point SP-15

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
+12-0	OM							
0-12	10YR3/1	95	5YR4/8	5	C	RC	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: Soils in this area appear to exhibit relict hydric indicators as no current signs of hydrology or wetland vegetation are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches):

Water table present? ☐ Yes ☒ No Depth (inches):

Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches):

Wetland Hydrology Present ? ☐ **Yes** ☒ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: The oxidized rhizosheres in this sample point were along dead roots. There were no living roots in the substrate. This appears to be evident of relict hydrology.

Wetland Determination Data Form - Arid West Region

Project/Site: Paraiso SpringsResort | City: Soledad | County: Monterey | Sampling Date: 1/6/2009

Applicant/Owner: Thompson Holdings, LLC | State: CA | Sampling Point: SP-16

Investigator(s): WRA, Inc.: Geoff Smick and Nathan Bello | Section,Township,Range: Section 30, T18S, R6E

Landform (hillslope, terrace, etc.): depression | Local Relief (concave, convex, none): concave | Slope(%): 0

Subregion(LRR): LRR C (Medit. CA) | Lat: 36 19' 49"N | Long: 121 22" 02" W | Datum: WGS 84

Soil Map Unit Name: Cropley silty clay, 2-9 % slopes | NWI classification: none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes ☐ No
Hydric Soil Present?	☒ Yes ☐ No
Wetland Hydrology Present?	☒ Yes ☐ No

Is the Sampled Area within a Wetland? ☒ **Yes** ☐ **No**

Remarks: This sample point is located in a man made emergent wetland that is seasonally ponded. It was historically used to catch overflow from pools which is now diverted creek. This boundaries of this feature were defined by the presence of last seasons vegetation and salt crust deposits.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0	**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0	**Plot Size:**	
Herb Stratum			
1. *Typha angustifolia*	100	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	100	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum ______ % cover of biotic crust ______

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	1	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals		(A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is dominated by hydrophytic vegetation.

SOIL

Sampling Point SP-16

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[1]	Texture	Remarks
+12-0	OM							
0-12	10YR3/1	95	5YR4/8	5	C	RC	Sandy Clay	relict

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: ____________

Depth (inches): ____________

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: Soils in this area appear to be exhibit hydric indicators consisting of redox and low chroma matrices

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☒ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches): ____________

Water table present? ☐ Yes ☒ No Depth (inches): ____________

Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches): ____________

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Clear signs of hydrology including sediment deposits, oxidized rhizospheres and salt crusts were present at this sample point.

Wetland Determination Data Form - Arid West Region

Project/Site: Paraiso SpringsResort City: Soledad County: Monterey Sampling Date: 1/6/2009

Applicant/Owner: Thompson Holdings, LLC State: CA Sampling Point: SP-17

Investigator(s): WRA, Inc.: Geoff Smick and Nathan Bello Section,Township,Range: Section 30, T18S, R6E

Landform (hillslope, terrace, etc.): swale Local Relief (concave, convex, none): concave Slope(%): flat

Subregion(LRR): LRR C (Medit. CA) Lat: 36 19' 49"N Long: 121 22" 02" W Datum: WGS 84

Soil Map Unit Name: Cropley silty clay, 2-9 % slopes NWI classification: None

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☒ Yes ☐ No	**Is the Sampled Area within a Wetland?** ☐ **Yes** ☒ **No**
Hydric Soil Present?	☐ Yes ☒ No	
Wetland Hydrology Present?	☐ Yes ☒ No	

Remarks: This sample is located in a historic swale that was used to drain the nearby pond. Hydrophytic plant species became established in this area presumably when the swale was still being utilized. No signs of hydric soils or wetland hydrology are present. This point is in an upland.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0	**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0	**Plot Size:**	
Herb Stratum			
1. *Cyperus sp.*	60	Y	FAC or >
2. *Brassica sp.*	5	N	?
3. *Aster sp.*	5	N	?
4.			
5.			
6.			
7.			
8.			
Herb Stratum Total Cover:	70	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum: 30 % cover of biotic crust:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC?	1	(A)
Total number of dominant species across all strata?	1	(B)
% of dominant species that are OBL, FACW, or FAC?	100	(A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species	x1	
FACW species	x2	
FAC species	x3	
FACU species	x4	
UPL species	x5	
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

- ☒ Dominance Test is >50%
- ☐ Prevalence Index is </= 3.0[1]
- ☐ Morphological adaptations (provide supporting data in remarks)
- ☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: The Cyperus sp. was not positively identified it assumed to be hydrophytic. Thirty percent of the Cyperus was dead. This point appears to harbor relict wetland vegetation.

SOIL

Sampling Point SP-17

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[1]	Texture	Remarks
0-12	10YR3/2	60					Sandy Loam	
	7.5YR5/8	40					Sandy Loam	Reddish color not in concentrations.
								due to parent material

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☒ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present ? ☐ **Yes** ☒ **No**

Remarks: Soils in this area area did not exhibit any hydric indicators nor saturation to 12 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches):

Water table present? ☐ Yes ☒ No Depth (inches):

Saturation Present? (includes capillary fringe) ☐ Yes ☒ No Depth (inches):

Wetland Hydrology Present ? ☐ **Yes** ☒ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: No wetland hydrology indicators were present in this area.

Wetland Determination Data Form - Arid West Region

Project/Site Paraiso SpringsResort City Soledad County Monterey Sampling Date 1/6/2009

Applicant/Owner Thompson Holdings, LLC State CA Sampling Point SP-18

Investigator(s) WRA, Inc.: Geoff Smick and Nathan Bello Section,Township,Range Section 30, T18S, R6E

Landform (hillslope, terrace, etc.) hill slope Local Relief (concave, convex, none) flat Slope(%) 15

Subregion(LRR) LRR C (Medit. CA) Lat: 36 19' 49"N Long: 121 22" 02" W Datum: WGS 84

Soil Map Unit Name Cropley silty clay, 2-9 % slopes NWI classification none

Are climatic/hydrologic conditions on-site typical for this time of year? ☒ Yes ☐ No (If no, explain in remarks)

Are any of the following significantly disturbed? ☐ Vegetation ☐ Soil ☐ Hydrology Are "Normal Circumstances" present? ☒ Yes ☐ No

Are any of the following naturally problematic? ☐ Vegetation ☐ Soil ☐ Hydrology (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present? ☒ Yes ☐ No
Hydric Soil Present? ☒ Yes ☐ No
Wetland Hydrology Present? ☒ Yes ☐ No

Is the Sampled Area within a Wetland? ☒ **Yes** ☐ **No**

Remarks: This sample point is located in an isolated wetland seep with emergent wetland vegetation and clear signs of hydrology.

VEGETATION

Tree stratum (use scientific names)	Absolute % cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Tree Stratum Total Cover:	0	**Plot Size:**	
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
Sapling/Shrub Stratum Total Cover:	0	**Plot Size:**	
Herb Stratum			
1. *Carex sp.*	40	Y	OBL
2. *Scirpus californicus*	20	Y	OBL
3. *Rosa californica*	20	Y	FAC+
4. *Juncus effusus*	10	N	OBL
5. *Typha angustifolia*	5	N	FACW
6. *Toxicodendron diversilobum*	5	N	NL
7.			
8.			
Herb Stratum Total Cover:	100	**Plot Size:**	
Woody Vine Stratum			
1.			
2.			
Woody Vine Stratum Total Cover:		**Plot Size:**	

% Bare ground in herb stratum 0 % cover of biotic crust

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC? 3 (A)

Total number of dominant species across all strata? 3 (B)

% of dominant species that are OBL, FACW, or FAC? 100 (A/B)

Prevalence Index Worksheet

Total % cover of:		Multiply by:
OBL species	x1	
FACW species	x2	
FAC species	x3	
FACU species	x4	
UPL species	x5	
Column Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators

☒ Dominance Test is >50%
☐ Prevalence Index is </= 3.0[1]
☐ Morphological adaptations (provide supporting data in remarks)
☐ Problematic hydrophytic vegetation[1] (explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present ? ☒ Yes ☐ No

Remarks: This sample point is dominated by hydrophytic vegetation.

SOIL

Sampling Point SP-18

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[1]	Texture	Remarks
0-12	10YR3/2	60	5YR4/8	5	C	PL		
	10YR2/1	35	5YR4/8	5	C	PL	Sandy Clay	
	Gley	5						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☒ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)(LRR C)
- ☐ 1cm Muck (A9)(LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1cm Muck (A9) (LRR C)
- ☐ 2cm Muck (A10)(LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (explain in remarks)

[3]Indicators of hydric vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present ? ☒ **Yes** ☐ **No**

Remarks: Soils in this area exhibited a sulfidic odor and were saturated.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ 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)
- ☒ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in PLowed Soils (C6)
- ☒ Other (Explain in Remarks)

Secondary 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)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? ☐ Yes ☒ No Depth (inches):

Water table present? ☐ Yes ☒ No Depth (inches):

Saturation Present? (includes capillary fringe) ☒ Yes ☐ No Depth (inches): 0

Wetland Hydrology Present ? ☒ **Yes** ☐ **No**

Describe recorded data (stream guage, monitoring well, aerial photos, etc.) if available.

Remarks: Clear signs of hydrology including oxidized rhizospheres and salt crusts were present at this sample point. The feature also exhibited scattered saturation and moss growth.

Appendix B Plant Species Observed in the Study Area

Appendix B. List of plant species observed within and in vicinity of wetland habitats within Paraiso Springs Resort

Scientific Name	**Common Name**	**Indicator Status**
Achillea millefolium	yarrow	FACU
Adenostoma fasciculatum	chamise	NL
Aesculus californica	California Buckeye	NL
Agave americana var. marginata	variegated giant agave	NL
Agave americana	giant agave	NL
Anagallis arvensis	scarlet pimpernel	FAC
Anaphalis margaritacea	pearly everlasting	NL
Artemisia douglasiana	mugwort	FACW
Arundo donax	giant reed	FACW
Baccharis pilularis	coyote brush	NL
Baccharis salicifolia	mule fat	FACW
Brassica rapa	field mustard	NL
Bromus diandrus	ripgut brome	NL
Bromus hordeaceus	soft chess	FACU-
Bromus madritensis ssp. *rubens*	brome	NI
Carex sp.	Sedge	
Centaurea solstitialis	yellow star thistle	NL
Claytonia perfoliata	miner's lettuce	FAC
Cortaderia jubata	Jubata grass	NL
Cupressus macrocarpa	Monterey cypress	NL
Cynodon dactylon	bermuda grass	FAC
Cynosurus echinatus	dog-tail grass	NL
Cyperus sp.	flatsedge	
Dimorphotheca aurantiaca	African daisy	NL
Elymus glaucus	blue wildrye	FACU

Scientific Name	Common Name	Indicator Status
Epilobium ciliatum ssp. Watsonii	willow-herb	FACW
Eremocarpus setigerus	turkey mullein	NL
Erodium botrys	long-beaked filaree	NL
Eschscholzia californica	California poppy	NL
Eucalyptus camalsulensis	red gum	NL
Eucalyptus globulus	blue gum	NL
Galium aparine	common bedstraw	FACU
Geranium molle	dove's-foot geranium	NL
Hedera helix	English ivy	NL
Heteromeles arbutifolia	toyon	NL
Hordeum murinum ssp. *leporinum*	foxtail barley	NL
Hypochaeris radicata	rough cat's ear	NL
Juncus effusus	soft rush	OBL
Juncus patens	spreading rush	FAC
Juniperus sp.	Juniper	
Lactuca serriola	prickly lettuce	FAC
Lemna sp.	duckweed	OBL
Leymus triticoides	creeping wild-rye	FAC+
Lolium multiflorum	Italian ryegrass	FAC
Lonicera interupta	pink honeysuckle	NL
Lotus scoparius	deerweed	NL
Marah fabaceus	wild-cucumber	NL
Marrubium vulgare	horehound	FAC
Medicago polymorpha	bur clover	NL
Melica imperfecta	coast-range melica	NL
Mimulus aurantiacus	sticky monkeyflower	NL
Nassella pulchra	purple needlegrass	NL

Scientific Name	Common Name	Indicator Status
Nerium oleander	oleander	NL
Nicotoma glauca	tree tobacco	NL
Olea europaea	European olive	NL
Opuntia ficus-indica	mission cactus	NL
Osteospermum fruiticosum	African daisy	NL
Oxalis pes-carpe	Bermuda buttercup	NL
Pelargonium domesticum	regal geranium	NL
Pellaea andromedifolia	coffee fern	NL
Pentagramma triangularis	goldback fern	NL
Pinus radiata	Monterey pine	NL
Plantago coronopus	buckhorn plantain	FAC
Plantago lanceolata	English plantain	FAC-
Polygonum arenastrum	common knotweed	FAC
Prunus cerasifera	purple cherry plum	NL
Prunus ilicifolia	holly-leaved cherry	NL
Pteridium aquilinum	bracken fern	FACU
Quercus agrifolia	coast live oak	NL
Quewrcus berberidifolia	California scrub oak	NL
Quercus douglasii	blue oak	NL
Quercus kelloggii	black oak	NL
Quercus lobata	valley oak	FAC*
Ranunculus aquatilus	whitewater crowfoot	OBL
Raphanus sativus	wild radish	NL
Ribes californicum	hillside gooseberry	NL
Ricinus communis	castor bean	FACU
Robina pseudoacaci	black locust tree	NL
Rosa californica	California wild rose	FAC+

Scientific Name	Common Name	Indicator Status
Rubus ursinus	California blackberry	NL
Rumex crispus	curly dock	FACW-
Salix lasiolepis	arroyo willow	FACW
Salvia mellifera	black sage	NL
Salvia spathacea	hummingbird sage	NL
Schinus molle	pepper tree	NL
Scirpus californicus	California bulrush	OBL
Sequoia sempervirens	coast redwood	NL
Sonchus asper	prickly sow thistle	FAC
Sonchus oleraceus	common sow thistle	NI*
Spartium junceum	Spanish broom	NL
Stellaria media	common chickweed	NL
Stachys bullata	wood mint	NL
Symphoricarpus mollis	creeping snowberry	NL
Toxicodendron diversilobum	poison oak	NL
Typha latifolia	broadleaf cattail	OBL
Typha angustifolia	cattail	OBL
Umbellularia californica	California bay	FAC
Urtica dioica ssp. *holosericea*	stinging nettle	FACW
Vulpia bromoides	brome fescue	FACW
Vulpia myuros	foxtail fescue	FACU*
Washingtonia robusta	Mexican fan palm	NL
Zantedeschia aethiopica	calla lily	OBL

Appendix C Representative Photographs of the Study Area

Above: Photograph of seasonal wetland (W-2) in landscaped lawn area.

Below: Photograph of seasonal wetland (W-1) with sample pits.

Photographs taken January 6, 2009.

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Photographs of the blue line drainage that flows through the Paraiso Springs Resort.

Photographs taken January 6, 2009.

Above: Photograph of riparian vegetation at W-3.

Below: Photograph of emergent marsh W-4.

Photographs taken January 6, 2009.

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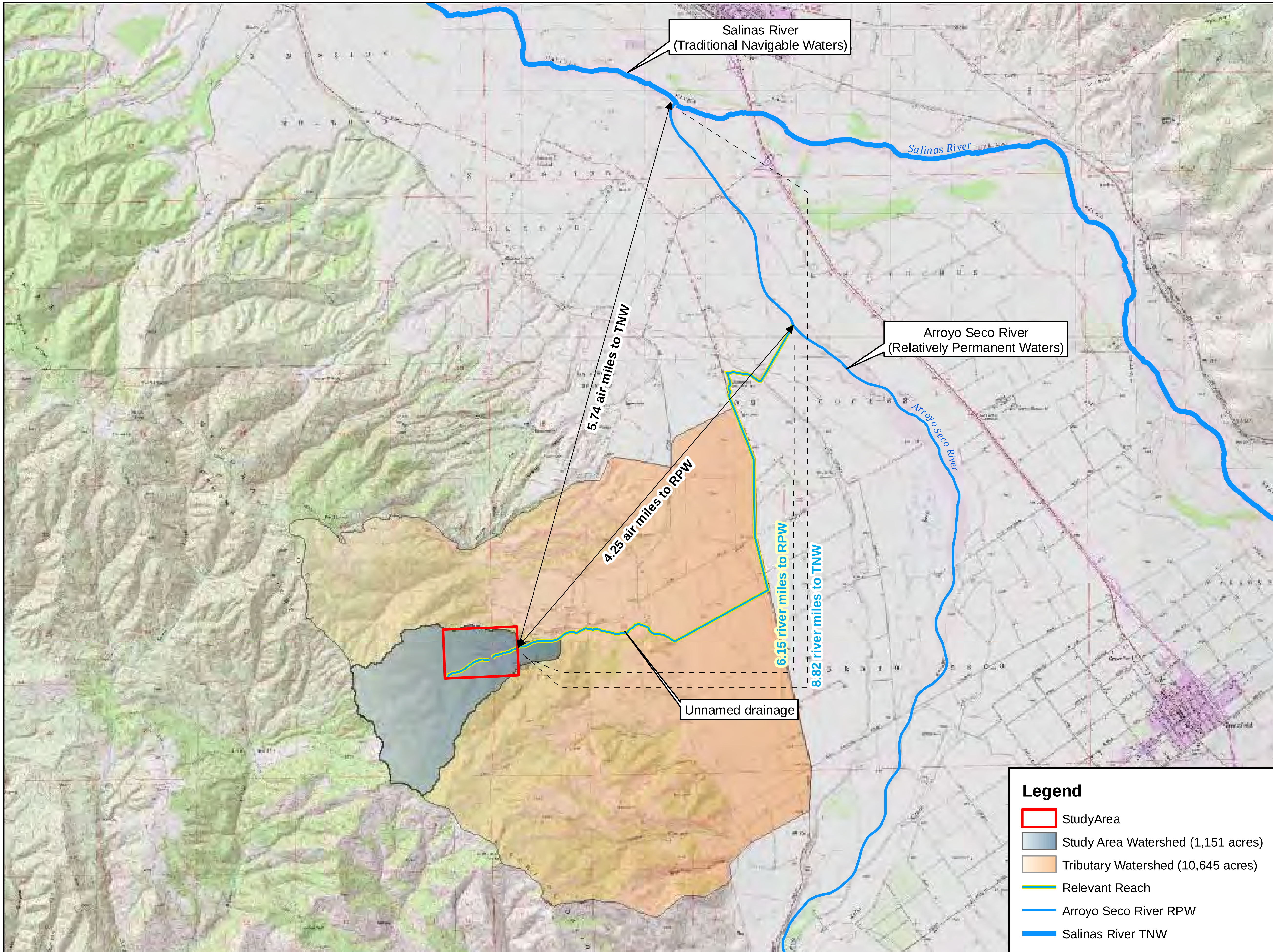
Appendix D Significant Nexus Evaluation



wra
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Paraiso Springs Resort

Monterey County, California

Appendix D-1

Detail of Relevant Reach

This map is representational only, and not meant for use in detailed design.

N W E S

0 5,000 10,000
Feet

Date: January 2009
Image Source: USGS Topo Quad
Map By: Derek Chan
Filepath: L:\Acad 2000 Files\18000\18107\gis\ArcMap\RelevantReach_Watershed_20090120.mxd

Appendix D-2. Salinas River (TNW) Watershed

N
W E
S

Paraiso Springs Resort
Monterey County, California

0 5 10 20
Miles

wra
ENVIRONMENTAL CONSULTANTS

Date: January 2009
Image Source: ESRI
Map By: Derek Chan
Filepath: L:\Acad 2000 Files\18000\18107\gis\ArcMap\
SalinasRiver_Watershed_20090120.mxd

BRYAN M. MORI
BIOLOGICAL CONSULTING SERVICES
1016 Brewington Avenue, Watsonville, CA 95076. Tel: 831-728-1043

September 3, 2010

John Thompson
C/o Paraiso Resort LLC
PO Box 1925
Horsham, PA 19044.

RE: PARAISO SPRINGS CALIFORNIA TIGER SALAMANDER 2010 SPRING SURVEY RESULTS

Dear John:

This letter-report presents the results of the 2010 spring larval surveys for California tiger salamander (CTS) (*Ambystoma californiense*) conducted at Paraiso Springs, Monterey County (Figure 1).

Summary

The second of two protocol-level larval surveys was completed in spring 2010. No CTS larvae were captured during the aquatic surveys performed from April through May. In contrast to 2009, when only two Pacific chorus frog (*Pseudacris regilla*) adults were observed at the pond during the surveys, chorus frog adults and larvae were abundant in 2010. Additionally, western toad (*Bufo boreas*) adults and larvae were observed at the site, a species also absent in 2009. These changes in amphibian occurrence are considered noteworthy and likely resulted from the combination of two factors – substantial surface water due to above-normal rainfall in 2009-10 and the temporary halting of pool cleaning activities.

Methods

The spring larval survey was performed, following the US Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) protocol - Interim Guidance on Site Assessment for Determining the Presence or a Negative Finding of the California Tiger Salamander, October 2003. One minor modification to the protocol was implemented for the 2010 study - a delayed start date. The modification on sampling timing was employed to take advantage of the abundance of surface water observed at the site during California red-legged frog (*Rana draytoni*) visual surveys performed at the site, as part of another separate study, and knowledge of the natural history of CTS larval development. Suitable aquatic conditions and the potential presence of CTS larvae were expected well into summer.

The pond was surveyed by one biologist, using a standard dipnet with c" mesh.

Sampling was performed on 7 and 28 April and 18 May, with each sampling performed for a minimum of one hour. Amphibians and aquatic invertebrates captured were identified and recorded in a field notebook. Disinfection of sampling equipment and waders was performed following the surveys per established guidelines. The survey was performed under Federal Recovery Permit TE778668-7 and CDFG Scientific Collection Permit 001912.

Study Site

The aquatic habitat at the pond was deeper and broader in 2010 than in 2009 (Bryan Mori Biological Consulting Services 2009). During this study, water at the west end of the pond was estimated to be 3 feet deep and consistently about 1.5 feet along the shoreline. Water levels were relatively unchanged between the first two surveys on 7 and 28 April, but noticeably shallower on 18 May. The water was tea-colored with water temperatures ranging from 58° - 62°F during the surveys. As in past years, much of the pond was dominated by a dense patch of dead cattails. However, unlike previous years, notable new emergent vegetation was observed. Photos of the pond are presented in Attachment A.

During the 2010 sampling period, chemical cleaning of the resort's pools was temporarily halted voluntarily. This action prevented pool cleaning discharge from entering the settling pond. Presumably, the acidic conditions harmful to amphibians documented at the pond in 2008 (Rana Creek Environmental Planning 2008) were moderated by this action together with the amount of water in the pond following above-normal rainfall during the 2009-10 winter period.

Results

Pacific chorus frogs were heard chorusing prior to the start of sampling on 7 April, when chorus frog larvae were present but uncommon (Attachment A: Photo 3). On 28 April, the numbers of chorus frog larvae increased, with some larvae possessing small hind limbs. Also on 28 April, western toad larvae were observed for the first time in the past three years; western toad larvae were found mostly along the southern edge of the pond (Attachment A: Photo 4). By 18 May, recently metamorphosed chorus frogs were observed along with numerous larvae with front and hind limbs; western toad larvae were still present and possessed hind limbs. No egg masses, adults or larvae of other amphibian species were observed during the surveys.

Like previous years, aquatic invertebrates were lacking, except for mosquito larvae (Culicidae), which were abundant during the early surveys, but absent by the last survey. Water beetles (Dytiscidae) were uncommon but observed each sampling day.

Discussion

The status of CTS at the study site remains inconclusive, despite the absence of observations, as only two of three phases of the protocol were completed; a winter drift fence survey is needed to complete the protocol.

Regardless, the negative aquatic survey results over the past two springs support the case that the pond is unlikely to be a viable breeding site for CTS due to lethal pH levels recorded at the pond combined with the low rainfall pattern in the general region (please refer to Bryan Mori Biological Consulting Services 2009 for a detailed discussion). An argument could be made that if a CTS breeding population were to be present at the pond, eggs or larvae would've been present during this study, especially when the region experienced optimal rainfall patterns during the CTS breeding season and a temporary halt of releasing pool cleaning discharge into the settling pond was in place.

The successful reproduction of chorus frogs in 2010 and the presence of western toad larvae with hind limbs was surprising, given the absence of larvae altogether in 2009, but supports the notion that the occurrence of suitable breeding conditions at the pond, at least for some amphibian species, is variable over time and dependent on the amount of rainfall and its moderating effect on the pH and the frequency of pool cleaning activities (Bryan Mori Biological Consulting Services 2009). The pH level was not measured, as part of this study. Yet, clearly, the lethal 3.4 pH units recorded in 2008 (Rana Creek Environmental Planning 2008) was diluted to some point tolerable for western toads and chorus frogs. Based on lethal and critical pH levels reported by Freda (1986), species from the Families Hylidae (chorus frogs) and Bufonidae (toads) have a higher tolerance for acidic conditions than Ambystomids (e.g., tiger salamanders and related species). Whether suitable pH levels for CTS were attained at the pond this year is unknown. But, despite this, under current and projected pool cleaning practices, the water quality at the pond is expected to further degrade over time, with suitable breeding conditions for CTS unlikely to occur.

Please call me if you have any comments or questions regarding this letter-report. This report should be forwarded to Chris Deihl, USFWS, Ventura Field Office, and Laura Peterson-Diaz, CDFG Wildlife Biologist, Central Region, as required under federal and state permits.

Sincerely,

Bryan Mori
Consulting Biologist

Attachment: Photos; Figure 1.

REFERENCES

Bryan Mori Biological Consulting Services. 2010. Paraiso Springs California Red-Legged Frog 2010 Visual Survey Results. Prepared for John Thompson, Paraiso Hot Springs Resort.

_____. 2009. Paraiso Springs California Tiger Salamander 2009 Spring Survey Results. Prepared for John Thompson, Paraiso Hot Springs Resort.

_____. 2008. Paraiso Springs California Tiger Salamander 2008 Spring Survey Results. Prepared for Patrick Regan, Rana Creek Environmental Planning.

CNDDB. 2010. California Natural Diversity Data Base Rarefind Paraiso Springs, Sycamore Flat, Palo Escrito Creek and Soledad Quadrangles. Records of sensitive species and plant communities of California.

Freda, Joseph. 1986. The influence of acidic pond water on amphibians: a review. Water, Air and Soil Pollution Vol. 30, pp 439 – 450.

Rana Creek Environmental Planning. 2008. Habitat assessment for California tiger salamander and California red-legged frog. Prepared for John Thompson, Paraiso Hot Springs Resort.

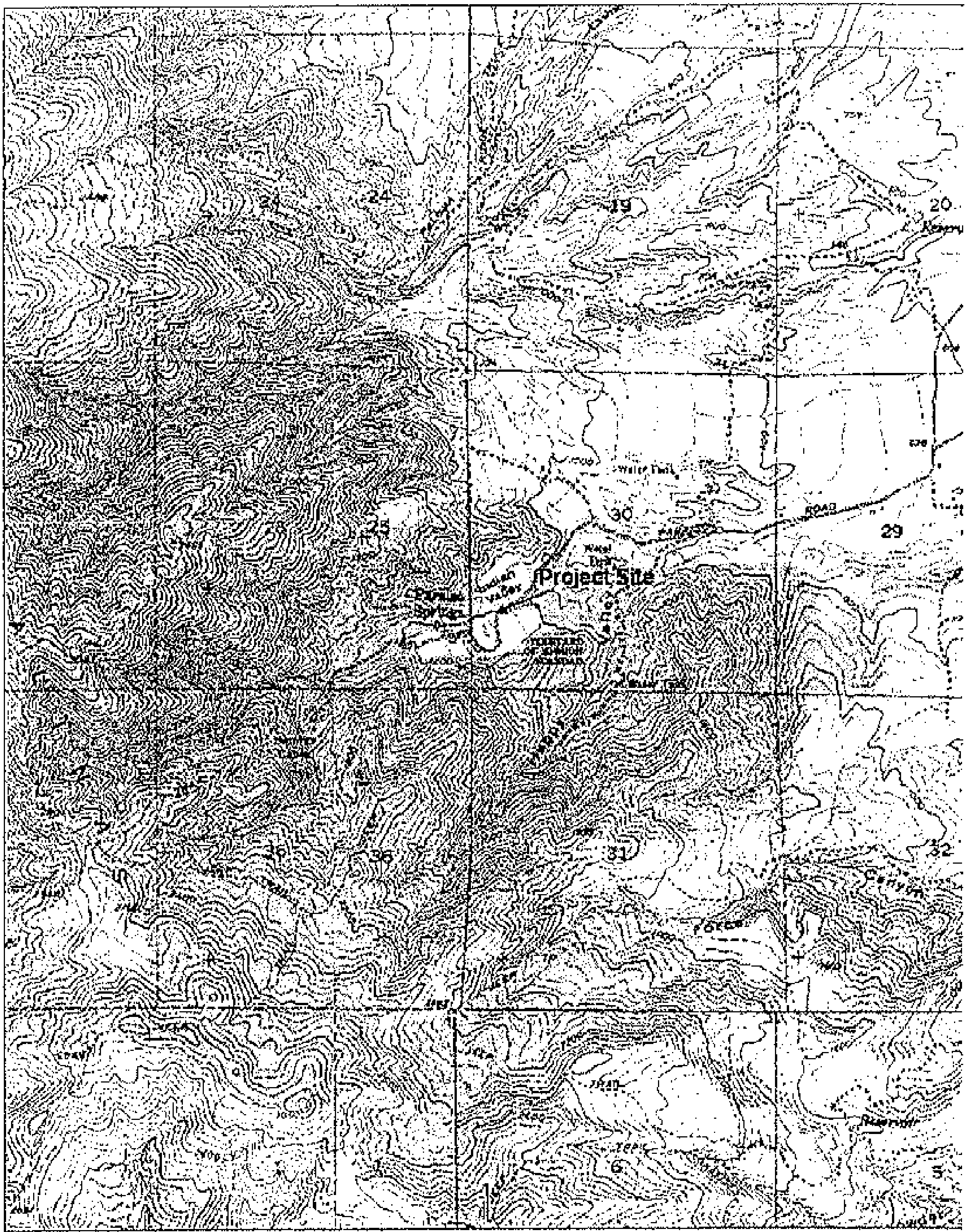

Figure 1. Paraiso Springs project site location.

ATTACHMENT A – PHOTOS

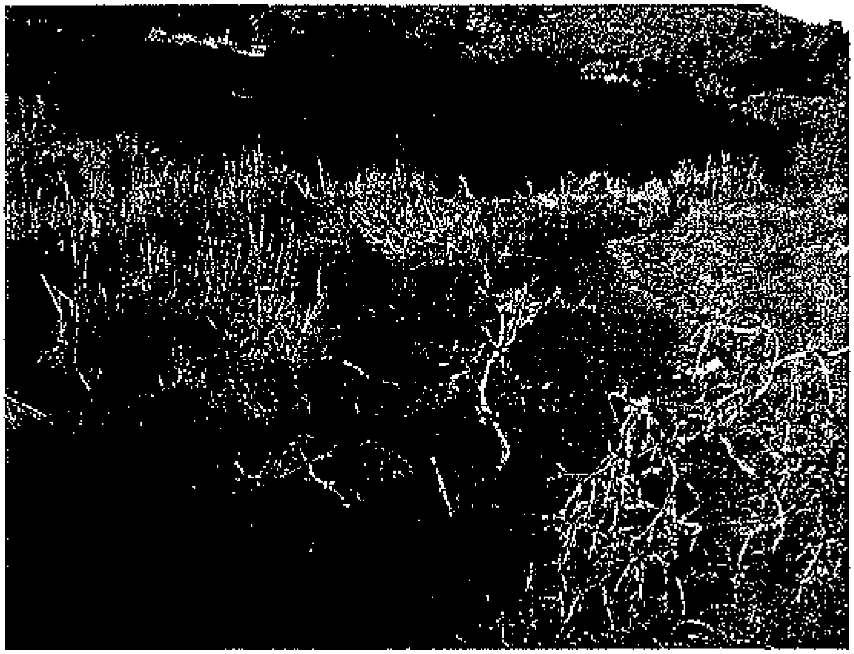

Photo 1. Southern margin of pond. Photo taken in April.

Photo 2. Deep end of pond. Photo taken in April.

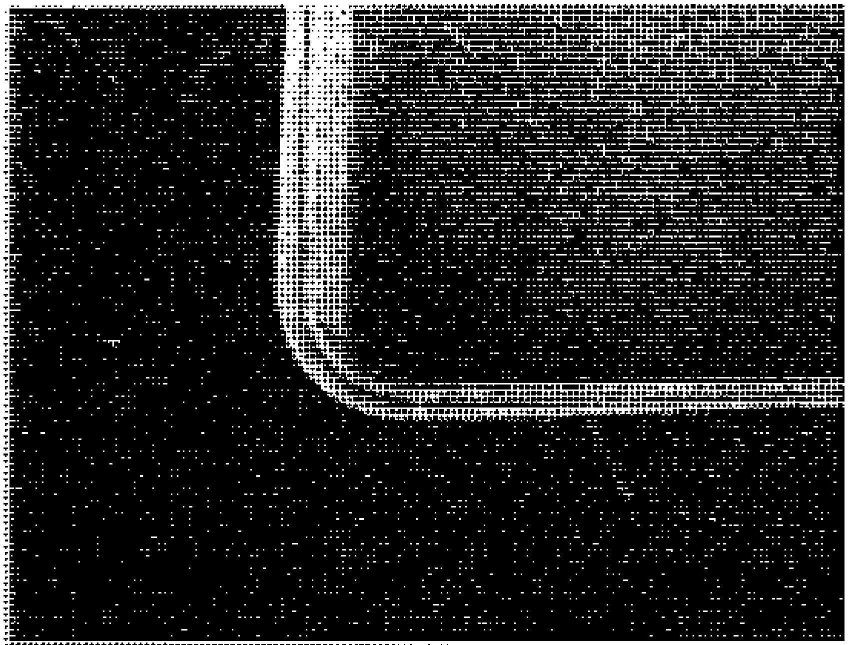

Photo 3. Pacific chorus frog larvae.

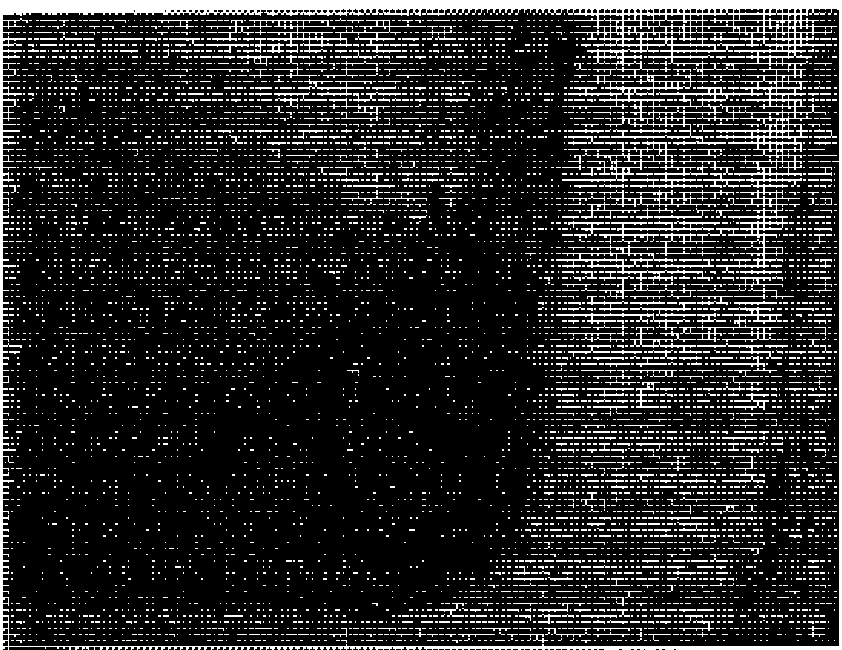

Photo 4. Western toad larva.

BRYAN M. MORI
BIOLOGICAL CONSULTING SERVICES
1016 Brewington Avenue, Watsonville, CA 95076. Tel: 831-728-1043

September 3, 2010

John Thompson
C/o Paraiso Resort LLC
PO Box 1925
Horsham, PA 19044.

RE: PARAISO SPRINGS 2010 CALIFORNIA RED-LEGGED FROG VISUAL SURVEY RESULTS

Dear John:

This letter-report presents the results of the 2010 visual surveys for California red-legged frog (CRF) (*Rana draytonii*) at the Paraiso Springs project site in Monterey County, CA (Figure 1).

Summary

A previous CRF habitat assessment in 2008 (Rana Creek Environmental Planning 2008) was considered incomplete, due to the insufficient number of visual surveys performed. The 2010 surveys together with the Rana Creek study complete the CRF assessment for the project site.

No CRF were observed during visual surveys from January through July. In addition, no CRF larvae were captured during concurrent CTS aquatic surveys performed on the site (Bryan Mori Biological Consulting services 2010). Pacific chorus frogs (*Pseudacris regilla*) were numerous and western toads (*Bufo boreas*) were fairly common. Although standing water was lacking during the final surveys in July, recently metamorphosed chorus frogs and western toads indicated the sufficient presence of surface water for successful reproduction for these species. Regardless of the negative results, the pond is likely not suitable as CRF breeding habitat due to its highly seasonal nature and low pH. No further CRF studies are recommended.

Methods

The visual surveys were performed following the U.S. Fish and Wildlife Service (USFWS) protocol - Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog August 2005.

Visual encounter surveys were performed using 10 x 40 power binoculars (Swarovski

SLC), with a hand held spotlight (Vulcan Streamlight) used for nocturnal surveys. The entire margin of pond was walked, occasionally stopping to scan ahead. All amphibians heard and seen were recorded in a field notebook. Habitat characteristics at the pond were recorded and photographed (Attachment A - Photos). Field data sheets are presented in Attachment B.

Although the protocol recommends up to eight visual surveys, nine total surveys were conducted at the pond - seven breeding season surveys and two non-breeding season surveys. The additional survey was performed as part of a separate but concurrent CTS study at the pond (Bryan Mori Biological Consulting Services 2010). The breeding season surveys consisted of four nocturnal surveys conducted on 27 January, 18 February, 7 April and 18 May, and three daytime surveys on 7 and 28 April and 18 May 2010. Non-breeding season surveys included daytime and nighttime surveys on 15 July. In addition to the visual surveys, the study was supplemented and strengthened with the CTS aquatic sampling.

Study Site

The aquatic habitat at the pond was deeper and broader in 2010 than in 2009 (Bryan Mori Biological Consulting services 2009). During this study, water at the west end of the pond was estimated to be 3 feet deep and consistently about 1.5 feet along the shoreline. The water level lowered gradually from January through April, but was noticeably shallower on 18 May. The water was tea-colored with water temperatures ranging from 58 ° - 62 ° F during the daytime surveys. As in past years, much of the pond was dominated by a dense patch of dead cattails. However, unlike previous years, notable new emergent vegetation was observed.

During the 2010 CRF surveys, chemical cleaning of the resort's pools was temporarily halted, preventing pool cleaning discharge from entering the settling pond. Presumably, the acidic conditions harmful to amphibians documented at the pond in 2008 (Rana Creek Environmental Planning 2008) are the result of pool cleaning chemicals. The halting of pool cleaning activities, together with the increase in surface water in the pond from above-normal rainfall in the 2009-10 winter period, likely moderated the pH level at the pond during this study.

Results

The pond contained suitable water levels throughout the breeding season survey period (January-May), but was limited to scattered, shallow puddles by the non-breeding season surveys in July (Attachment A: Photos 1-3).

No CRF were observed at the pond during this study; only Pacific chorus frogs and western toads were present at the pond. From January through May, numerous Pacific chorus frogs were heard during the nocturnal surveys, with a high of 27 adults observed on 18 February. By 18 May, recently metamorphosed chorus frogs were seen at the pond

(Attachment A: Photo 4). Western toads were first observed on 18 February, with up to 9 recorded on 7 April. Metamorph toads were not observed until the final survey on 15 July (Attachment A: Photo 5).

California Natural Diversity Data Base

No CRF records were identified during the review of the California Natural Diversity Data Base (CNDDB) Paraiso Springs, Sycamore Flat, Palo Escrito Peak and Soledad quadrangles, which surround the project site.

Discussion

The negative results of the 2010 CRF visual surveys, together with the results of the Rana Creek 2008 study, strongly suggest that this species does not occur on the site. In addition, the absence of CRF larvae at the pond during the 2009 and 2010 CTS aquatic surveys reinforces this conclusion.

Regardless, of the negative results, the pond is unlikely to be a viable breeding site for CRF due to extremely low pH levels determined to be lethal to many species of the Family Ranidae (to which CRF belongs) recorded at the pond in 2008 (Rana Creek Environmental Planning 2008). The low pH is presumed to be the result of pool cleaning chemicals discharged into the settling pond (Bryan Mori Biological Consulting Services 2009). But these acidic conditions vary, depending on the amount rainfall and point in the season, and conditions suitable for amphibian reproduction do occur on occasion. For example, in 2009 during a separate CTS study, no amphibian larvae were captured and of the few chorus frog egg masses observed, many contained dead embryos (Bryan Mori Biological Consulting Services 2009). In 2010, however, both Pacific chorus frogs and western toads successfully reproduced at the pond, presumably due to the diluting effects on pH from the amount of rainfall and, more importantly, the temporary halt of pool cleaning discharge into the settling pond during the study (Bryan Mori Biological Consulting Services 2010). If present at the site, CRF adults, eggs or larvae would've been expected this year, especially when suitable water quality, for at least some amphibians, was present. Despite this, under current and projected pool cleaning practices, the water quality at the pond is expected to further degrade over time, with suitable breeding conditions for CRF unlikely to occur.

Aside form the pH, the pond is highly seasonal and, combined with the low rainfall patterns in the region, does not appear to provide sufficient water depths, even in above-normal years, and dries by June (Bryan Mori Biological Consulting Services 2009; Bryan Mori Biological Consulting Services 2008). While chorus frogs and toads are capable of reproducing in highly seasonal habitats, CRF larvae require a minimum ~3.5 months to transform after hatching. Their need for an extended period of suitable aquatic conditions is not likely to be met at the project site in most years.

Therefore, based on the pH of the pond and its seasonal nature, CRF are not expected on the project site. No further CRF studies seem warranted.

Please call me if you have any comments or questions regarding this report.

Sincerely,

Bryan Mori
Consulting Wildlife Biologist

Attachments: Figure 1; Photos; data sheets.

REFERENCES

Bryan Mori Biological Consulting Services. 2010. Paraiso Springs California Tiger Salamander 2010 Spring Survey Results. Prepared for John Thompson, Paraiso Hot Springs Resort.

_____. 2009. Paraiso Springs California Tiger Salamander 2009 Spring Survey Results. Prepared for John Thompson, Paraiso Hot Springs Resort.

_____. 2008. Paraiso Springs California Tiger Salamander 2008 Spring Survey Results. Prepared for Patrick Regan, Rana Creek Environmental Planning.

CNDDB. 2010. California Natural Diversity Data Base Rarefind Paraiso Springs, Sycamore Flat, Palo Escrito Creek and Soledad Quadrangles. Records of sensitive species and plant communities of California.

Freda, Joseph. 1986. The influence of acidic pond water on amphibians: a review. Water, Air and Soil Pollution Vol. 30, pp 439 – 450.

Rana Creek Environmental Planning. 2008. Habitat assessment for California tiger salamander and California red-legged frog. Prepared for John Thompson, Paraiso Hot Springs Resort.

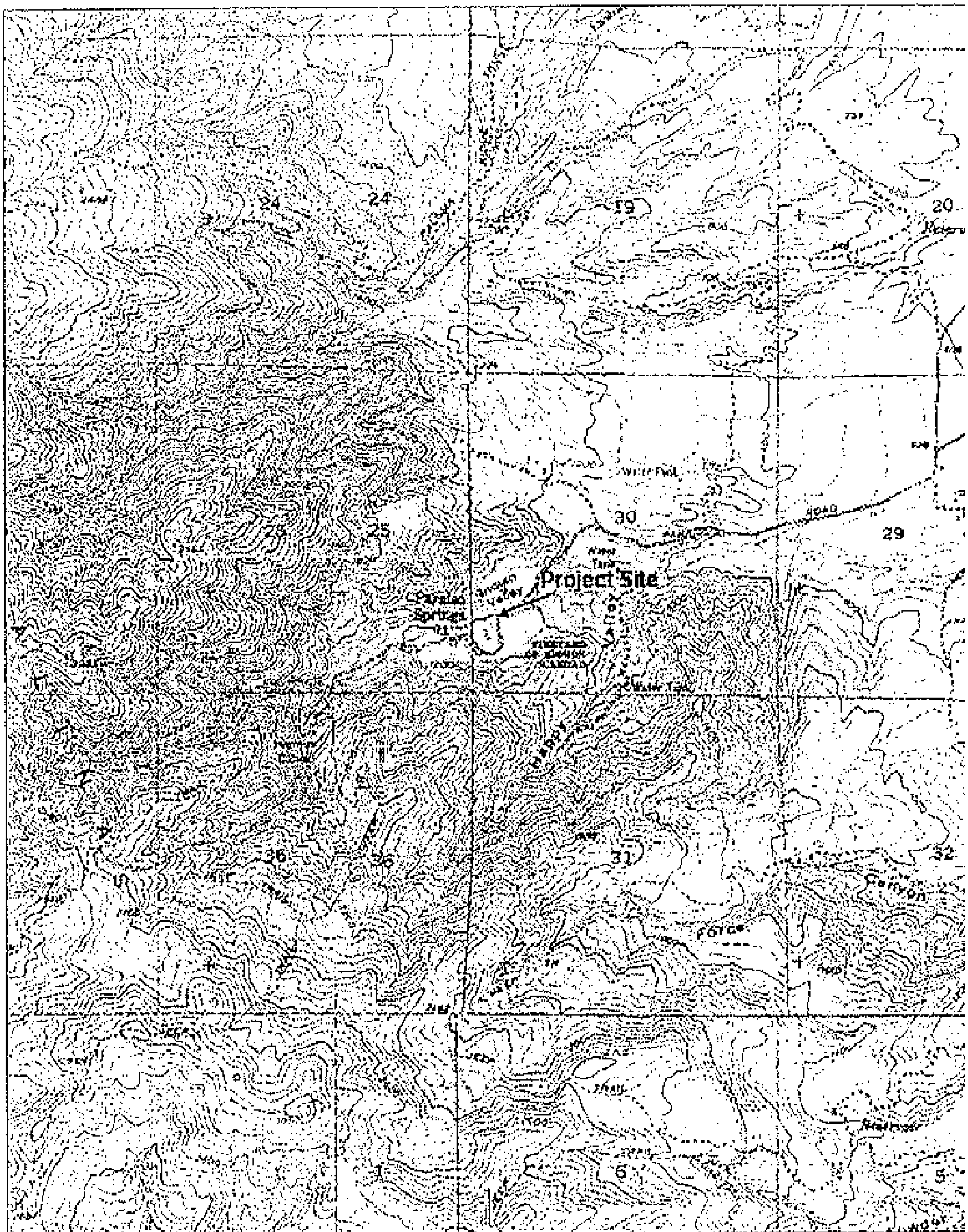

Figure 1. Paraiso Springs project site location.

ATTACHMENT A – PHOTOS

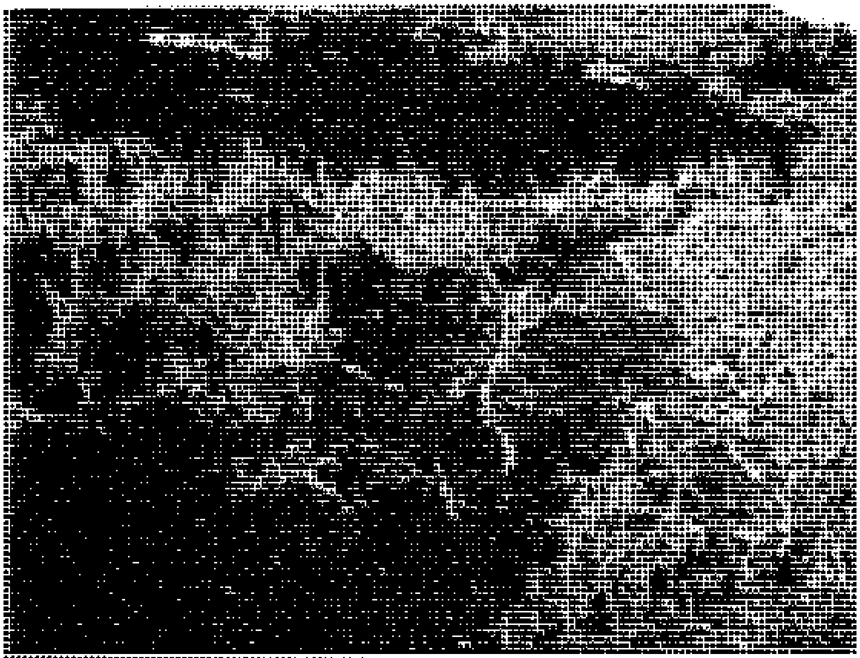

Photo 1. Southern margin of pond. Photo taken in April.

Photo 2. Deep end of pond. Photo taken in April.

Photo 3. Pond in July. Note new growth of cattails.

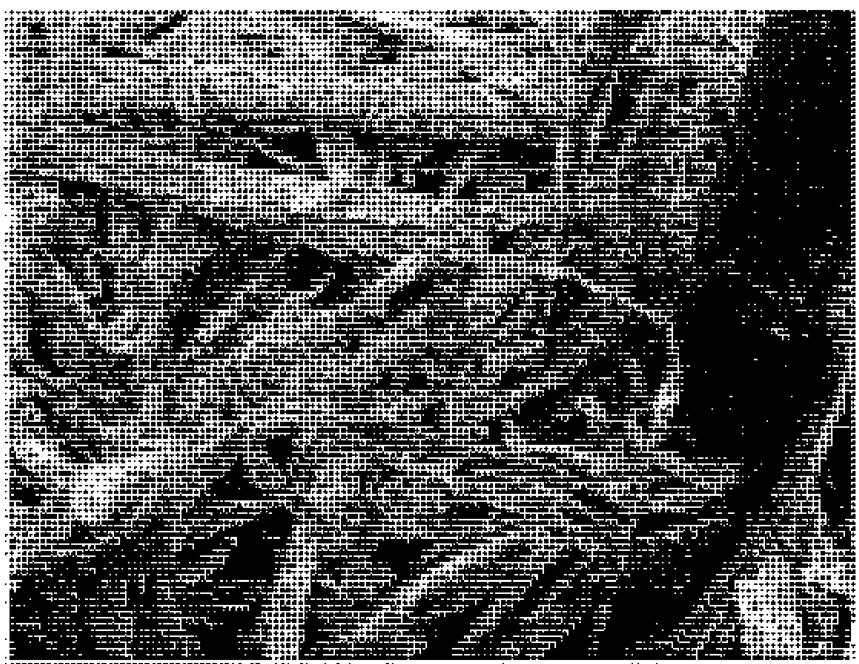

Photo 4. Metamorph chorus frog on 15 July.

Photo 5. Metamorph western toad on 15 July.

ATTACHMENT B – DATA SHEETS

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by ___ (FWS Field Office) ___ (date) ___ (biologist)

Date of Survey: 01/27/2010 (mm/dd/yyyy) Survey Biologist: Mori (Last name) Bryan (first name)
Survey Biologist: ___ (Last name) ___ (first name)

Site Location: Paraiso Springs, Monterey Co. (County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: ___
Brief description of proposed action: Proposed renovation of hot springs resort.

Type of Survey (circle one): DAY NIGHT BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 650 PM End Time: 815 PM

Cloud cover: 50% Precipitation: none

Air Temperature: 52°F Water Temperature: —

Wind Speed: 0 Visibility Conditions: ∞

Moon phase: waxing Humidity: —

Description of weather conditions: cool, calm, night with 3/4 moon visible.

Brand name and model of light used to conduct surveys: VUcan Streamlight

Were binoculars used for the surveys (circle one)? YES NO
Brand, model, and power of binoculars: 10x40 Swarovski

25

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Hyla	13	O	adult		100

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: none obs.

Other notes, observations, comments, *etc.*
Hyla chorusing loudly upon arrival. Only one pair obs in amplexus. Most frogs heard but not seen. Also looked at swale leading into pond, but no surface water obs.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by ______ (FWS Field Office) ______ (date) ______ (biologist)

Date of Survey: 02/18/2010 (mm/dd/yyyy) Survey Biologist: Mori (Last name) Bryan (first name)

Survey Biologist: ______ (Last name) ______ (first name)

Site Location: Paraiso Springs, Monterey County.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: ______
Brief description of proposed action: Proposed development of Hot Springs resort.

Type of Survey (circle one): DAY NIGHT BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 700 PM End Time: 800 PM

Cloud cover: 100% Precipitation: None

Air Temperature: 55°+ °F Water Temperature: —

Wind Speed: 0 Visibility Conditions: ∞

Moon phase: waxing Humidity: ______

Description of weather conditions: calm, cool (mild), complete cloud cover.

Brand name and model of light used to conduct surveys: Streamlight

Were binoculars used for the surveys (circle one)? YES NO
Brand, model, and power of binoculars: Swarovski 10 x 40

25

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of Indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Hyla	27	O	adult		100
WETO	2	O	adult		100

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: None obs.

Other notes, observations, comments, *etc.*

Hyla chorusing loudly upon arrival. 4 pairs in copulation obs. No egg masses obs. no larvae obs. Mosquito larvae abundant.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by ______ (FWS Field Office) ______ (date) ______ (biologist)

Date of Survey: 04/07/2010 (mm/dd/yyyy) Survey Biologist: Mori (last name) Bryan (first name)

Survey Biologist: ______ (last name) ______ (first name)

Site Location: Paraiso Springs, Monterey County (County, General location name, UTM Coordinates or Lat/Long, or T-R-S)

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: ______

Brief description of proposed action:

Develop hot springs into resort.

Type of Survey (circle one): DAY NIGHT BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 545 PM End Time: 645 PM

Cloud cover: Ø Precipitation: Ø

Air Temperature: 68°F Water Temperature: 60°F

Wind Speed: Ø Visibility Conditions: ∞

Moon phase: NA Humidity: ______

Description of weather conditions: Clear, calm, mild.

Brand name and model of light used to conduct surveys: N/A

Were binoculars used for the surveys (circle one)? YES NO

Brand, model, and power of binoculars: Swarovski 10 × 40

23

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Hyla	?	H	adult/larvae		100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: None obs.

Other notes, observations, comments, etc

surveyed around pond margin prior to aquatic sampling for CTS larvae. No frogs observed, but Hyla heard calling on occassion.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

26

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by ______ (FWS Field Office) ______ (date) ______ (biologist)

Date of Survey: 04/07/2010 (mm/dd/yyyy) Survey Biologist: MORI (Last name) BRYAN (first name)

Survey Biologist: ______ (Last name) ______ (first name)

Site Location: Paraiso Springs, Monterey Co. (County, General location name, UTM Coordinates or Lat/Long, or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: ______
Brief description of proposed action: Develop hot springs into resort.

Type of Survey (circle one): DAY NIGHT   BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 2015   End Time: 2050

Cloud cover: Ø   Precipitation: Ø

Air Temperature: 55°F   Water Temperature: 60°F

Wind Speed: 0-5 mi   Visibility Conditions: ∞

Moon phase: Waning   Humidity: ______

Description of weather conditions: clear, calm, cool.

Brand name and model of light used to conduct surveys: Streamlight

Were binoculars used for the surveys (circle one)? YES NO
Brand, model, and power of binoculars: SWAROVSKI 10x40

25

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Hyla	9+	O/H	Adults		100%
WETO	9	O	Adults		100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: None obs.

Other notes, observations, comments, etc.
Hyla tadpoles obs earlier in day during aquatic sampling.
Hyla & WETO pairs in copulation; no WETO obs during daytime survey. Many Hyla heard chorusing, but not seen.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

26

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by: ______ (FWS Field Office) ______ (date) ______ (biologist)

Date of Survey: 5/18/10 (mm/dd/yyyy)   Survey Biologist: Mori (Last name) Bryan (first name)
Survey Biologist: ______ (Last name) ______ (first name)

Site Location: Paraiso Springs, Monterey Co.
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: ______
Brief description of proposed action: Development of hot springs resort

Type of Survey (circle one): DAY NIGHT   BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 705 pm   End Time: 805 pm

Cloud cover: Ø   Precipitation: none

Air Temperature: 62° F   Water Temperature: 58 °F

Wind Speed: calm   Visibility Conditions: clear

Moon phase: NA   Humidity: NA

Description of weather conditions: cool, calm, clear

Brand name and model of light used to conduct surveys: ______

Were binoculars used for the surveys (circle one)? YES NO
Brand, model, and power of binoculars: 10x40 Swarovski SLC

25

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Hyla	1	O/H	adults & morphs	---	100%
Bufo (weto)	1	H	adult	---	100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: No predators obs

Other notes, observations, comments, etc.
Several adult Hyla heard calling at start of survey; one Hyla adult obs and one Hyla morph obs. At the end of survey one weto (toad) adult heard peeping. CIS [illegible] survey [illegible]
No CRF obs.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

26

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by ________ (FWS Field Office) ________ (date) ________ (biologist)

Date of Survey: 5/18/10 (mm/dd/yyyy) Survey Biologist: Mori (Last name) Bryan (First name)
Survey Biologist: ________ (Last name) ________ (First name)

Site Location: ________
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: ________
Brief description of proposed action: Paraiso springs resort

Type of Survey (circle one): DAY NIGHT BREEDING NON-BREEDING
Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 845 End Time: 945

Cloud cover: Ø Precipitation: none

Air Temperature: 57°F Water Temperature: 58°F

Wind Speed: Ø Visibility Conditions: Clear

Moon phase: 1/4 waxing Humidity: —

Description of weather conditions: clear, cold, starry night with [illegible] to the east.

Brand name and model of light used to conduct surveys: Organic flashlight

Were binoculars used for the surveys (circle one)? YES NO
Brand, model, and power of binoculars: 10 x 42 Swarovski SLC

25

Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
WPto (50%)	4	O	adults		100%
Hyla	[illegible]	O/H	adults/morphs		100%

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: no predators obs.

Other notes, observations, comments, etc.

Hyla adults chorusing [illegible] prior to visual survey and during, thus most not seen. 2 morphs and 6 ad Hyla seen; 4 heard ad obs.
CTS aquatic sampling earlier in day;
No CRF.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

26

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by ______ (USFWS Office) ______ (Date) ______ (Biologist)

Date of Survey: 7/15/10 (mm/dd/yyyy) Survey Biologist: Mori (Last name) Bryan (First name)
Survey Biologist: ______ (Last name) ______ (First name)

Site Location: Paraiso Springs, Monterey County
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: ______
Brief description of proposed action:
Develop hot springs resort.

Type of Survey (circle one): DAY / NIGHT BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 923 am End Time: 820 pm

Cloud cover: clear Precipitation: none

Air Temperature: 78°F Water Temperature: no water present

Wind Speed: Ø Visibility Conditions: clear

Moon phase: — Humidity: —

Description of weather conditions: warm late afternoon low; calm.

Brand name and model of light used to conduct surveys: —

Were binoculars used for the surveys (circle one)? YES NO
Brand, model, and power of binoculars: 10x Swarovski SLC

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Appendix C.
<u>California Red-legged Frog Survey Data Sheet</u>

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification
Hyla	10	O	morphs		
Bufo	6	O	morphs		

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: no predators obs.

Other notes, observations, comments, etc.

Pond almost completely lacking water, except for a few scattered puddles and water logged cattail mats. No adult frogs or toads seen or heard. Morphs frogs & toads mostly under veg cover.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

Appendix E.
California Red-legged Frog Survey Data Sheet

Survey results reviewed by: ______ (FWS Field Office) ______ (date) ______ (biologist)

Date of Survey: 7/15/10 (mm/dd/yyyy)

Survey Biologist: Mori (Last name) Bryan (First name)

Survey Biologist: ______ (Last name) ______ (First name)

Site Location: Paraiso Springs, Monterey County
(County, General location name, UTM Coordinates or Lat/Long, or T-R-S)

ATTACH A MAP (include habitat types, important features, and species locations)

Proposed project name: ______

Brief description of proposed action:

Develop hot springs resort.

Type of Survey (circle one): DAY NIGHT BREEDING NON-BREEDING

Survey number (circle one): 1 2 3 4 5 6 7 8

Begin Time: 920 End Time: 1015

Cloud cover: Ø Precipitation: none

Air Temperature: 61°F Water Temperature: no water

Wind Speed: Ø Visibility Conditions: clear

Moon phase: crescent waxing Humidity: —

Description of weather conditions: pleasant night, calm, great conditions.

Brand name and model of light used to conduct surveys: Maglite flashlight

Were binoculars used for the surveys (circle one)? YES NO

Brand, model, and power of binoculars: 10x40 Swarovski SLC

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Appendix E.
California Red-legged Frog Survey Data Sheet

AMPHIBIAN OBSERVATIONS

Species	# of indiv.	Observed (O) Heard (H)	Life Stages	Size Class	Certainty of Identification

Describe potential threats to California red-legged frogs observed, including non-native and native predators such as fish, bullfrogs, and raccoons: none obs.

Other notes, observations, comments, etc.

No Hyla or Bufo adults or morphs observed. One meadow vole seen among cattails. Although morphed frogs and toads observed during daylight survey, morphs under cover at night. Final survey and no CRF obs.

Necessary Attachments:

4. All field notes and other supporting documents
5. Site photographs
6. Maps with important habitat features and species locations

26

February 6, 2012

John Thompson
Thompson Holdings, LLC
PO Box 1925
Horsham, PA 19044

Dear Mr. Thompson,

The purpose of this letter is to inform you of the results of the biological resources site visit for the Paraiso Springs Road widening project, located in the Town of Soledad, Monterey County, California (Figure 1). The area assessed is an approximately 1.2-mile stretch of Paraiso Springs Road ("Study Area") east of the Paraiso Springs Resort gate and west of Clark Road. The WRA site visit took place on January 24, 2012. The proposed project ("Project") entails widening of the existing road by approximately 1 - 2 feet on one or both sides, where feasible, in areas where the road is currently less than 18 feet wide.

Based on the site visit and review of background literature and databases, the Study Area is unlikely to support special status plant or wildlife species, and no potentially jurisdictional wetlands or waters were observed within or immediately adjacent to the Project footprint. Nesting birds may be impacted if vegetation removal or tree-trimming are incorporated into final Project plans. Most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act of 1918. Under this legislation, destroying active nests, eggs, and young is illegal.

Based on these findings, the following biological resources survey may be necessary for project approval:

- A qualified biologist should conduct breeding bird surveys (for vegetation removal activities to take place between February 1 and August 31) within 14 days of vegetation removal.

The following sections describe the methods and results of the site visit in more detail.

Methods

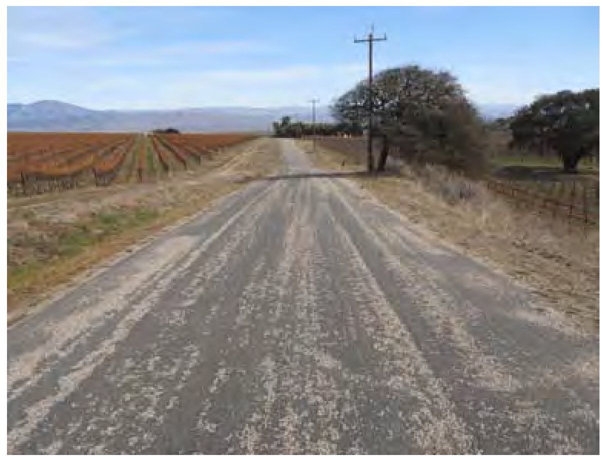
Prior to the site visit, background literature was reviewed to determine potential presence of sensitive vegetation types, aquatic communities, and special status plant and wildlife species. Resources reviewed include aerial photography, the California Department of Fish and Game's (CDFG) California Natural Diversity Database (CNDDB), the National Wetland Inventory (NWI; USFWS 2012), the California Native Plant Society (CNPS) Online Database (2012), USFWS species list for Monterey County, and species habitat requirements as noted in available literature.

On January 24, 2012, a WRA biologist traversed the Study Area on foot to evaluate the potential presence of sensitive vegetation communities and aquatic features, and evaluate on-site habitat to determine the potential for occurrence of special status plant and wildlife species. Observed plant communities, aquatic features and plant and wildlife species were noted. Site conditions were noted as they relate to habitat requirements of special status plant and wildlife species known to occur in the vicinity as determined by the background literature research.

Results

Vegetation and Aquatic Communities

The Study Area is a paved county road bordered by vineyards to the east and ruderal grassland, sage scrub and oak woodland communities to the west. Where road widening is proposed, existing unpaved road shoulders generally consist of disturbed soils which appear to have been graded to be level with the paved road. These areas of disturbed road shoulders were unvegetated or support ruderal grassland communities. No sensitive vegetation communities were observed within the Project footprint. Additionally, no aquatic communities were observed within or adjacent to the Project footprint. In the western portion of the road, roadside “gutters” appear to carry water from the upslope (north) road edge to culverts that carry water under the road to the downslope (south) side. These gutters do not display any established indicators of hydrology, nor do they flow to navigable waters, and they would therefore not be considered jurisdictional by the Army Corps of Engineers or the Regional Water Quality Control Board.

	
Photograph of road shoulders in the western Project Area. Road widening may extend 1 - 2 feet into road shoulders in certain areas.	Photograph of road shoulders in the eastern Project Area. Road shoulders throughout the project area are largely disturbed, support non-native plant communities, and contain many small mammal burrows.

Special Status Plant Species

Of the 21 special status plant species known to occur in the vicinity of the Study Area, none were determined to have the potential to occur in the Study Area. Most of the species found in the review of background literature occur in habitats not found in the Study Area. Habitat suitability for grassland-associated species in the Study Area is reduced due to regular disturbance of road shoulders from vehicle traffic and road maintenace. The Study Area is dominated by weedy species common to disturbed roadsides.

Special Status Wildlife Species

Of the 16 special status wildlife species known to occur in the vicinity of the Study Area, none were determined to have the potential to occur in the Study Area. Useful habitat for most wildlife species is not present within the Study Area and special status wildlife species are unlikely to occur there. The Project footprint consists of a paved road and existing, disturbed road shoulders with limited vegetative cover in some areas. No aquatic habitat suitable for special status fish, amphibian, or aquatic-associated reptile, avian or invertebrate species is present within or adjacent to the Study Area. Due to the disturbed nature of the road and road shoulders, no host plants for special status butterflies are anticipated to occur.

Small mammal burrows were frequently observed adjacent to the road shoulders in disturbed berms and hillside road cuts. Burrows were mainly observed outside the existing road shoulders (and thus Project footprint). These burrows were largely vole and mouse burrows, with some pocket gopher burrows and very few that had large enough openings to potentially be California ground squirrel burrows. None were large enough to be San Joaquin kit fox or American badger burrows. Although California tiger salamander (CTS; *Ambystoma californiense*) has been documented to occur within 8 miles of the Study Area (CDFG 2012) and is known to use burrows as estivation habitat during the non-breeding season, the vast majority of onsite burrows are not considered suitable for this species. Mouse and vole burrows do not generally extend deep into the ground where temperature and humidity are suitable for use as estivation habitat by CTS. Additionally, no suitable aquatic breeding habitat for CTS occurs within the typical dispersal distance (0.7 mile) between estivation and aquatic breeding habitat (USFWS 2005). The only potential aquatic breeding sites that appear on aerial photographs within 0.7 mile include an unvegetated, plastic-lined agricultural pond south of the Study Area and an artificial pond which collects pool-cleaning waste within the Paraiso Springs Resort property to the southwest of the Study Area. The agricultural pond is considered unsuitable as it lacks vegetation on which CTS can lay eggs, and the resort pond is considered unsuitable due to low pH levels. Furthermore, several protocol-level CTS surveys conducted in 2009 and 2010 produced negative results (Mori 2010). Therefore, it is unlikely that CTS occupy upland habitat in the Study Area.

Summary and Recommendations

Based on the results of the site visit, the Study Area does not support potential jurisdictional wetlands and is unlikely to support special status plant and wildlife species. If vegetation is removed during the avian breeding season (February 1 through August 31), it is recommended that a qualified biologist conduct nesting bird surveys within 14 days of vegetation removal to prevent impacts to breeding birds.

Please feel free to contact me with any questions or comments.

Sincerely,

Kate Allan
Wildlife Biologist
WRA, Inc.

References

California Department of Fish and Game. 2012. Natural Diversity Database, Wildlife and Habitat Data Analysis Branch. Sacramento.

California Native Plant Society. 2012. Electronic Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society, Sacramento, California.

Mori, BM. 2010. Paraiso Springs California Tiger Salamander 2010 Spring Survey Results. Prepared for John Thompson, Paraiso Resort LLC.

[USFWS] United States Fish and Wildlife Service. 2012. Quadrangle Species Lists, Sacramento Fish and Wildlife Service.

USFWS. 2005. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Tiger Salamander, Central Population; Final Rule. Federal Register Vol. 70, No. 162. 4938 -49458.

CH2M HILL Engineers, Inc.
1737 North First Street
Suite 300
San Jose, CA
95112-4524
Tel 408.436.4936
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February 14, 2013

434834

John Thompson
Thompson Holdings, LLC
P.O. Box 2015
Horsham, PA 19044

Subject: Paraiso Springs Resort – PLN040183
Stream Channel Modification
Response to Comments from Monterey County

Dear John:

We have reviewed the February 2, 2013 email from John Ford of the Monterey County Planning Department, regarding the subject Project and offer the following responses relative to information requested. The questions from the email have been included below in italics, for ease of reference. Our response immediately follows each question as listed below.

1. *Q. An engineered plan showing the existing contours along the stream channel, including the existing grades and the proposed changes to the channel including removal of the culvert, recontouring of the channel and improvements for the crossing locations*

   A. Existing elevation contours along the stream channel are shown on the Project Site Plan included on the Tentative Map, previously submitted to the County on 5/18/12. Proposed changes to the stream channel include the following:

- Removal of existing small diameter metal culverts at four locations (see attached Site Plan). As part of this work, the stream bed and banks would be reconstructed to match the existing channel section adjacent to these work areas and to a stable side slope per geotechnical recommendations. Disturbed channel areas would be revegetated with native grasses via hydroseeding.

- Portions of the Project will encroach into the 50-ft top of bank setback zone and rock slope protection will be installed in the channel to prevent erosion, per County Code 16.16.050K. The general location and installation details are included in the Stream Setback Plan Technical Memorandum, dated 4/20/12, previously submitted to the County.
- New stream channel crossings for new roadways are proposed at two locations. These locations and roadway widths are shown on the Tentative Map. The crossings are planned to be clear-span concrete slab bridges on pile foundations. The bridge spans would be approximately 50 ft long. Rock slope protection would be installed on the channel banks beneath and approximately 25 ft upstream and downstream of the bridge abutments for erosion and scour protection. Disturbed channel areas would be revegetated with native grasses via hydroseeding. Another similar type bridge will cross the proposed pond immediately north of the main Hotel building (see attached Site Plan).

2. *Q. The potential impacts to wetlands need to be identified. This would include impacts in the existing stream channel where modifications are proposed and areas of riparian vegetation along the eastern stretch of the channel, particularly where the stream crossing is shown. WRA did the wetland delineation, but did not evaluate the impacts associated with any activities around the stream. They indicate there will be no impacts to the stream channel. Right now there is no assessment of the potential impact on the channel for either minimal improvements (channelization and stream crossings) or for the re-circulating stream*.

   A. Wetland impacts will be addressed by others.

3. *Q. If the recirculating stream is to be analyzed, we need to know where the water will come from, the volume of water used, and the source of the water. Please define the extent of the recirculating stream, and what improvements are needed to the channel to accommodate the stream. How will the recirculating stream affect water supply? The biologist should assess what impact the recirculating stream will have on the vegetation along the stream channel there is a portion of the stream that goes through oak woodland.*

   A. A pond is proposed as a landscape feature located between the Hotel and Hotel parking lot, as shown on the Tentative Map. The pond would have a surface area of approximately 15,000 to 20,000 sf and a depth of 5-10 ft. It would be constructed in an area where the stream currently is contained in an existing culvert and would be connected to the existing stream channel at the westerly and easterly ends of the pond. The stream connections are anticipated to be graded transitions and armored with landscape-type amenities, such as boulders. The water source for the pond would be natural springs water piped from the spa overflow. As the springs flow constantly, the pond would fill and then spill excess water down the existing stream channel, as is the current condition. Because springs water would be used to fill the pond, no effect on the Project water supply is anticipated. A pond liner is anticipated to control seepage and retain water volume. The pond would likely include an aeration system to maintain water quality.

Thank you.

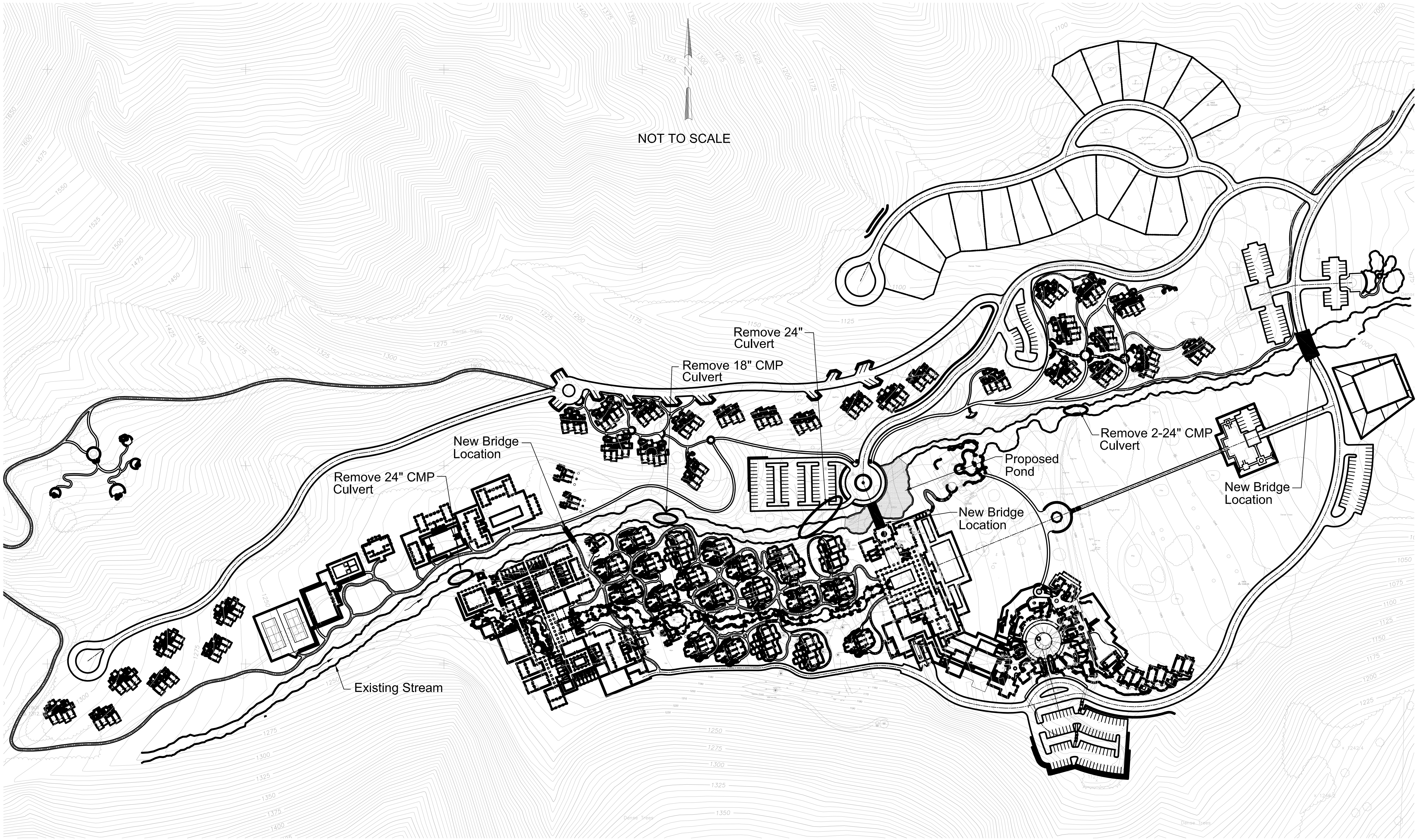
Sincerely,

CH2M HILL Engineers, Inc.

David Von Rueden
Sr. Project Manager

Attachments

c: file



Paraiso Springs Resort
Site Plan

SCALE: NOT TO SCALE DATE: 02/12/2013

John Thompson April 11, 2013
Thompson Holdings, LLC
P.O. Box 775
Springhouse, Pa. 19477

Subject: Paraiso Springs Resort –Monterey County PLN 040183

Dear John,

On Monday March 25, 2013, I conducted a supplementary biological survey of the Paraiso Springs Resort property to evaluate the potential for occurrence of the following 5 animal species and 5 plant species as well as to generally view the property for any other biological changes that may have occurred since my last survey

The animals include the Burrowing Owl, the California Condor, the Coast Horned Lizard, the Golden Eagle and the Silvery Legless Lizard. Plant species include Chaparral Ragwort, Hickman's Checker Bloom, San Francisco Collinsia, Santa Cruz Mountains Pussypaws and Santa Lucia Dwarf Rush.

1.0 INTRODUCTION:

It was determined through recent review by John Ford of the Monterey County Planning Department and their Environmental Impact Consultant EMC Planning that these 10 species were either not rated as sensitive species worthy of review under CEQA guidelines, or documented close enough to the project site at the time of the original 2005 Rana Creek Biological assessment and the 2008 Rana Creek Biological Addendum and now that they are, they need to be included in the overall evaluation of potential impacts from the Paraiso Resort project

2.0 BACKROUND RESEARCH:

Previous to visiting the project site I reviewed all 10 species occurrence records in Monterey and San Benito Counties and prepared a table outlining habitat needs and typical conditions that these species are likely to be found in. Based on habitat present and the early end to the rainy season and early bloom of most flowering plants it was an appropriate time to be able to accurately identify all of the plants on the list were they to actually exist on the property.

I conducted the survey on foot walking transect lines back and forth over 100% of the areas that will be impacted by the development and focusing on site conditions including aspect and slope and vegetative cover. Based on known habitat requirements for the 10 species on the supplementary list I spent most of the time in areas of the property where these species would most likely occur. This was most efficient for searching for both plant and animal species. Having surveyed the site extensively in the past and knowing where water features and topography changes were I feel confident that my surveys were well focused and thorough. The following is a brief discussion that firstly identifies habitat conditions that are suitable for these species, whether these conditions exist on the property and then a discussion of my survey results.

3.0 ANIMAL SPECIES SURVEYS:

3.1 Burrowing Owl (*Athene Cunicularia Hypugaea*)

California Species of Special Concern. Burrowing Owl habitat can be found in annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation (Zarn 1974). Suitable owl habitat may also include trees and shrubs if the canopy covers less than 30 percent of the ground surface. Burrows are the essential component of Burrowing Owl habitat: both natural and artificial burrows provide protection, shelter, and nests for Burrowing Owls (Henny and Blus 1981). Burrowing Owls typically use burrows made by fossorial mammals, such as ground squirrels or badgers, but also may use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement.

Paraiso Springs resort has a number of potential Burrowing Owl habitat areas where ground squirrel burrows are apparent on south facing slopes along main access paths and roads adjacent to the existing buildings. Burrows were observed at a distance and then up close to determine if any evidence of Burrowing Owl utilization was present (i.e., feathers, whitewash, pellets, insect remains, tracks) ; None was found and no Burrowing Owls were observed on the property.

3.2 California Condor (*Gymnogyps Californianus*)

State and Federal ESA Endangered. Usual habitat is mountainous country at low and moderate elevations, especially rocky and brushy areas with cliffs available for nest sites, with foraging habitat encompassing grasslands, oak savannas, mountain plateaus, ridges, and canyons (AOU 1983). Condors often roost in snags or tall open-branched trees near important foraging grounds (Matthews and Moseley 1990). California Condors are documented well to the east in the Pinnacles National Park region.
No documented sightings or nesting has been noted for the Paraiso Springs area. While suitable habitat is present for foraging , no California Condors were seen on the Paraiso Springs property on March 25, 2013 or any of the previous survey days in 2003, 2005 and 2008.

3.3 Coast Horned Lizard (*Phrynosoma Blainvillii*)

California Species of Special Concern. Inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains from sea level to 8,000 ft. (2,438 m) in elevation. It can be found in

grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. It is often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills.
Suitable habitat for Coast Horned Lizard exists along some trails and dirt roads on the property where ant hills and sparse vegetation occur together. The best potential habitat are in areas beyond the development zone in the Diablan sage scrub north of the main development. The Coast Horned Lizard is never abundant where found and due to its protective coloration and form is difficult to locate even in ideal habitat. The Coast Horned Lizards are difficult to detect except by serendipity and while they may be present on site it is a possibility that may not actually be determined even with the most careful of surveys. While the Coast Horned Lizard may freeze in place and blend into its surroundings or scurry away when frightened it is somewhat able to avoid human contact on its own and I am unaware of any standard protocol for detecting and translocating these lizards in this kind of circumstance. No Coast Horned Lizards were found on the property during the survey.

3.4 Golden Eagle (*Aquila Chrysaetos)*

Fully Protected Species in California. "....may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species". Golden Eagles inhabit a variety of habitats including forests, canyons, shrub lands, grasslands, and oak woodlands. Nests are constructed on platforms on steep cliffs or in large trees.
Paraiso Springs Resort does contain suitable habitat for foraging and nesting Golden Eagles. However no Golden Eagles have been noted on the property during previous surveys or by onsite staff. No Golden Eagles or Golden Eagle nests were seen during this recent survey, or at any time during 2003, 2005 or 2008 surveys.

3.5 Silvery Legless Lizard (*Anniella Pulchra Pulchra)*

California Species of Special Concern. It occurs in moist, warm, loose soil with plant cover. Moisture is essential. It occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas and dunes stabilized with bush lupine and mock heather often indicate suitable habitat. It often can be found under surface objects such as rocks, boards, driftwood, and logs. Essentially crepuscular animals, they are active only in early morning and late evening year round, coming up the to the ground surface for only a short time before returning underground during the day. While the Silvery Legless Lizard is very widespread, it is rarely abundant in inland areas and only occasionally located accidentally when digging in gardens or activities like fence construction.
Paraiso Springs Resort does have some very marginal habitat for Silvery Legless Lizards, primarily in areas outside of the development zone. Like the Coast Horned Lizard the Silvery Legless Lizards are difficult to detect except by serendipity and while they may be present on site it is a possibility that may not actually be determined even with the most careful of surveys.

Legless Lizards can be potentially detected by use of cover boards to "draw" them out of hiding and providing a temporary safe place to move to after early morning foraging. A cover board can be a large sheet of plywood that is laid flat on the ground in areas of moist sandy soil where Legless Lizards are known or confidently assumed to be present. After the lizards come to the surface to forage for insects under large shrubs or in the leaf litter of trees, they look for a cool shaded place to hide as the sun comes up and will frequently take the cover board as an easy option. The boards are placed in the afternoon and lifted for inspection the following morning.
This method is commonly used where Legless Lizards are known to be present or abundant like dune habitat along the coast. In a location such as Paraiso Springs, it would be difficult to say where the most likely location for placing these cover boards would be, much less whether any would be found . The only area that I could see the slightest chance of the Silvery Legless Lizard occurring on the Paraiso Springs property is in the sandy soil along the terrace of the drainage channel that is fed by the actual springs runoff which is outside of the development zone and were the lizards to occur here they would be very unlikely to venture out into more open dry conditions.
No Silvery Legless Lizards were seen during any surveys on the property .

4.0 PLANT SPECIES SURVEYS:

<u>4.1 Chaparral Ragwort (*Senecio Aphanactis)*</u>

California Rare Plant Rank 2.2 (formerly List 2): Plants rare, threatened, or endangered in California, but more common elsewhere.
Chaparral Ragwort is a small annual plant that occurs in drying alkaline flats in chaparral, cismontane woodland and coastal scrub primarily in Southern California. It blooms from January to April. Its closest documentation in Monterey County is in the Jamul quadrant in the most southern part of Monterey County.
No suitable habitat for Chaparral Ragwort was found on the property and no plants were seen.

<u>4.2 Hickman's Checkerbloom (*Sidalcea Hickmanii* ssp. *Hickmanii)*</u>

California Rare Plant rank 1B.3: Rare, threatened, or endangered in California and elsewhere. Not very endangered in California.
A perennial plant found in openings in Chaparral from 1100 to 3930 feet in the Santa Lucia Range of Monterey County. It blooms from May to July. A single specimen was documented in Pine Canyon in the Reliz Canyon quadrant south of Paraiso Springs in 1962. All other documented findings are at higher elevations than the Paraiso Springs Resort further West and South.
No suitable habitat for Hickman's Checkerbloom was found on the property. No plants of Hickman's Checkerbloom were found during any surveys.

4.3 San Francisco Collinsia (*Collinsia Multicolor)*

California Rare Plant Rank 1B.2: Rare, threatened, or endangered in California and elsewhere. Fairly endangered in California.

San Francisco Collinsia is an annual plant that occurs, as the name implies primarily in the San Francisco peninsula region but also in Santa Cruz and Monterey Counties. It blooms from March to May. It is found in moist, shady, north facing areas of closed-cone coniferous forest and coastal scrub. It is typically found in coastal conditions on the western slopes of the Santa Lucia and Santa Cruz mountain ranges. No suitable habitat exists on the Paraiso Springs property for Collinsia Multicolor and no plants were found during any surveys.

4.4 Santa Cruz Mountains Pussypaws (*Calyptridium Parryi var. hesseae)*

California Rare Plant rank 1B.1 Rare, threatened, or endangered in California and elsewhere 1: seriously endangered in California.

Santa Cruz Pussypaws is an annual plant that blooms from May to August. It is found in sandy soils in chaparral, oak woodland, coniferous forest from 1965 feet to3440 feet in southwestern San Francisco Bay Area, primarily in the Santa Cruz mountains. A single Monterey County population at 5050 foot elevation on Chews Ridge has been documented multiple times.

The entire development zone of the Paraiso Springs resort is well below the lowest known elevation of any documented occurrence of this plant. No Santa Cruz Pussypaws was found in any surveys of the property.

4.5 Santa Lucia Dwarf Rush (*Juncus Luciensis*)

California Rare Plant Rank 1B.2: Rare, threatened, or endangered in California and elsewhere. Fairly endangered in California.

Santa Lucia Dwarf Rush is found at mid to high elevations in the Cascade and Sierra ranges in Northern California and higher peaks and valleys of the Outer Coast Ranges in central California. Well documented populations exist in south Central Monterey County near the Indians Road and Memorial Park Campground and near Jolon. This rare annual blooms from April to July in wet soils of seeps, vernal pools , streamside's and meadows.

No suitable habitat was found on the Paraiso Springs property and no Santa Lucia Dwarf Rush was found during any surveys.

5.0 SURVEY CONCLUSIONS:

It is my opinion that Paraiso Springs Resort does not support any of the plant species on this revised list and that further surveys are not warranted at this time.

No evidence was found that the Burrowing Owl, the California Condor, or the Golden Eagle currently utilize the property for nesting or foraging or have done so in the recent past and no additional surveys for these species are warranted at this time.

No Coast Horned Lizard or Silvery Legless Lizard was found during this or any previous surveys. Based on my above assessments and discussion of these two species, it would seem unlikely that either of these two species would occur in the proposed development zones of the project site. But given the somewhat unpredictable, sporadic occurrence of these species throughout the region and much of Coastal, Central and Southern California, further surveys may be futile and no specific mitigation should be necessary other than to require that if individuals of either species are found during the first groundbreaking activities of grubbing, clearing and topsoil grading they should be relocated a safe distance away from the construction zone.. It is likely that even if both species occur on the property potential impacts from this project would be less than significant.
Additionally, during this most recent survey no new CEQA relevant animal or plant species were observed on the property that was not documented in the 2005 Rana Creek Initial Assessment and the 2008 Rana Creek Biological Addendum.

Pat Regan

Patrick J Regan

References

California Native Plant Society (CNPS). 2013. Inventory of Rare and Endangered Plants (online edition, v7-13mar). California Native Plant Society. Sacramento, CA. Accessed on Sat, Apr. 6, 2013 from http://www.cnps.org/inventory

Jepson Flora Project (eds.) [2013] *Jepson eFlora*, http://ucjeps.berkeley.edu/IJM.html [accessed on April 4, 2013]

Data provided by the participants of the Consortium of California Herbaria ucjeps.berkeley.edu/consortium/; Sat Apr 6 09:44:27 2013).

Paraiso Springs Resort Supplementary Biological Survey - Target Species

Common name ***Scientific name***	**Status**	**Habitat**	**Potential to occur on site**	**photo**	**Found on site?**
Burrowing owl *Athene cunicularia hypugaea*	California Species of special concern	Burrowing Owl nesting habitat consists of open areas with mammal burrows. They use a wide variety of arid and semi-arid environments, with well-drained, level to gently sloping areas characterized by sparse vegetation and bare ground.	good		no
California Condor *Gymnogyps californianus*	State and Federal ESA Endangered	Usual habitat is mountainous country at low and moderate elevations, especially rocky and brushy areas with cliffs available for nest sites, with foraging habitat encompassing grasslands, oak savannas, mountain plateaus, ridges, and canyons (AOU 1983). Condors often roost in snags or tall open-branched trees near important foraging grounds (Matthews and Moseley 1990).	low		no
Coast horned lizard *Phrynosoma blainvillii*	California Species of special concern	Inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains from sea level to 8,000 ft. (2,438 m) in elevation. Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs and along dirt roads, and frequently found near ant hills.	good		no

Golden Eagle *Aquila chrysaetos*	Fully protected species in California. "....may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected" species	Golden eagles inhabit a variety of habitats including forests, canyons, shrub lands, grasslands, and oak woodlands. Nests are constructed on platforms on steep cliffs or in large trees	fair		no
Silvery legless lizard *Anniella pulchra pulchra*	California Species of special concern	Occurs in moist warm loose soil with plant cover. Moisture is essential. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas and dunes stabilized with bush lupine and mock heather often indicate suitable habitat. Often can be found under surface objects such as rocks, boards, driftwood, and logs. Can also be found by gently raking leaf litter under bushes and trees. Sometimes found in suburban gardens in Southern California.	fair		no
Chaparral ragwort *Senecio aphanactis*	<u>CA Rare Plant Rank:</u> 2.02: Rare, threatened, or endangered in California, but more common elsewhere. Fairly endangered in California	Drying alkaline flats Chaparral •Cismontane woodland •Coastal scrub sometimes alkaline. Sea level to 1700 feet. Annual, blooms January to April	low		no

Hickman's checkerbloom *Sidalcea hickmanii* ssp. *hickmanii*	CA Rare Plant Rank: 1B.3 Rare, threatened, or endangered in CA and elsewhere	Openings in Chaparral;1100 to 3930 feet Outer South Coast Ranges (Santa Lucia Range, Monterey Co.). Perennial, Blooms May to July.	low		no
San Francisco collinsia *Collinsia multicolor*	CA Rare Plant Rank: 1B.2: Rare, threatened, or endangered in California and elsewhere. Fairly endangered in California	UNCOMMON. Coastal slopes Moist, ± shady scrub, forests Closed-cone coniferous forest (CCFrs) •Coastal scrub (CoScr)/sometimes serpentinite Sea level to 1000 feet Annual. Blooms March to May	low		no
Santa Cruz Mountains pussypaws *Calyptridium parryi var. hesseae*	CA Rare Plant Rank: 1B.1 Rare, threatened, or endangered in California and elsewhere 1: seriously endangered in California	UNCOMMON. Chaparral, oak woodland Sandy soils in chaparral, oak woodland, conifer forest; 1965 feet to 3440 feet, SW San Francisco Bay Area. Annual. Blooms May to August	low	No photo available	no

Juncus luciensis	CA Rare Plant Rank: 1B.2 Rare, threatened, or endangered in California and elsewhere .2: Fairly endangered in California	Uncommon. Wet, sandy soils of seeps, meadows, vernal pools, streams and roadsides from 980 - 6230 feet. Annual. Blooms April to July			

Paraiso Springs Resort Site is 1000-1400 foot elevation

ENVIRONMENTAL CONSULTANTS

March 14, 2013

John Thompson
Thompson Holdings, LLC
P.O. Box 2015
Horsham, Pennsylvania 19044

RE: Paraiso Springs Riparian Impacts

Mr. Thompson,

Per your request, WRA is providing an assessment of potential impacts to riparian vegetation associated with the construction of new bridges and potential erosion protection proposed as part of the reconstruction of the Paraiso Springs Resort in Soledad, California (Project Area). This assessment compliments the assessment of impacts provided by WRA in a letter dated February 14, 2013.

Based on our review of the project plans (Hill Glazier Architects 2008) and Stream Setback Plan (CH2MHill 2012), it appears that three bridges are proposed as part of the reconstruction in addition to three areas along the creek that may need erosion protection due to the proximity of buildings. One bridge occurs near the eastern end of the Project Area, one occurs near the middle of the Project Area, and one occurs near the western end of the Project Area. The middle bridge is proposed in a portion of the stream channel which is currently culverted and is proposed for restoration as part of the reconstruction. The existing vegetation in this area would not be considered riparian, and as such, would not be subject to jurisdiction by the California Department of Fish and Wildlife (CDFW). The three erosion protection areas are identified as sections A, B, and C in the CH2MHill report.

Based on the materials we were able to review (Rana Creek Habitat Restoration 2005; Hill Glazier Architects 2008; WRA 2009; CH2MHILL 2012), we estimate no more than 0.6 acre of impacts to riparian vegetation will resul from the construction of the two bridges and their associated approaches. No riparian trees appear to be needed to be removed for the three stream erosion protection areas. Based on the tree removal report, it appears that two entire trees will be removed related to the bridges, and presumably portions of adjacent tree canopies would require extensive pruning. Our assessment of impact acreage is based on the area of contiguous canopy in association with the stream channel as shown on aerial images overlaid with project plans. Our assessment of individual tree impacts is based on the tree removal report provided to us for this analysis (Rana Creek Habitat Restoration 2005). The assessment provided here is based on a review of publically available material (e.g., Google Earth aerial images) and project-specific material provided to us for use in this analysis.

Sincerely,

Geoff Smick

Geoff Smick, MA
Principal Ecologist

References:

CH2MHILL. 2012. Paraiso Springs Resort (PLN 040183) – Stream Setback Plan. Technical Memorandum. Prepared for Thompson Holdings, LLC. April 20.

Hill Grazier Architects. 2008. Vesting Tentative Map. Paraiso Springs Resort, Soledad, California.

Rana Creek Habitat Restoration. 2005. Tree Removal Plan, Sheets L4.1 to L4.6. Prepared for Thompson Holdings, LLC. July 15.

WRA, Inc. 2009. Section 404 Wetland Delineation, Paraiso Springs Resort, Monterey, California. Report prepared for Thompson Holdings, LLC. February.

END