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**Scotts Valley Hotel and Townhomes
Rare Plant Survey and Federally Endangered Insect Habitat
Assessment Report**

Project # 3679-01

Prepared for:

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Section 1. Introduction and Site Description

The Scotts Valley Hotel and Townhomes Project (Project) proposes development of a hotel and associated infrastructure, parking, and access on an approximately 6.8-acre site in Scotts Valley, Santa Cruz County, California. The proposed Project site is located on Santa's Village Road adjacent to Highway 17, specifically located southeast of Highway 17 and Santa's Village Road, west of Orchard Run and northeast of Granite Creek Road (Figure 1). The Project site is situated adjacent to Carbonera Creek, which flows just outside of the east and southeast boundaries of the site. A portion of the riparian forest on the northwest bank of the creek falls within the Project site. To inform impact assessment and permitting, protocol-level floristic surveys for special-status plant species (i.e., rare plants) were conducted by a qualified H. T. Harvey & Associates (HTH) plant ecologist at several dates from March – June 2015. .

The Project site occurs on the *Laurel* U.S. Geological Survey (USGS) 7.5-minute quadrangle (Figure 2). The topography on-site is gently sloped from northeast to southwest toward Carbonera Creek, with a steep berm along the northwest boundary. Previously the site had been graded into a half-bowl shape and the central portion levelled as a soccer field, and it appears that at some point during or following the process of retiring the soccer field, this central area was tilled. Elevations on site range from approximately 690 to 650 feet (ft) above mean sea level (msl). Three soil types underlie the study area, Soquel loam 0 to 2 percent slopes, Soquel loam 2 to 9 percent slopes, and Bonnydoon loam 5 to 30 percent slopes (Figure 3). The site has an estimated mean annual temperature of 70.6 max and 46.2 min degrees Fahrenheit, and an estimated mean annual precipitation of 40.8 inches (PRISM Climate Group 2015).

1.1 Description of Site Condition and Habitats

Review of historic aerial photographs revealed that virtually the entire Project site was significantly disturbed by earth moving activities prior to 1991 (Google Earth 2015). Additionally, sheep fescue (*Festuca ovina*) turf grass was installed throughout the majority of the site sometime between 1991 and 2003, so the site could be used as a soccer field. During the surveys, green plastic mesh netting material was encountered on the soil surface that included remnant patches of living turf grass. The turf grass historically received repeated flooding during the winter rainy seasons in the late 1990s. A 24-inch storm drain was observed on low ground in the southcentral section of the site that presumably functioned to drain surface water from the turf grass. The grass appears to have been abandoned during the late 2000s. An aerial photograph from 2009 shows clear evidence of disking and grading activity throughout most of the Project site in an attempt to remove the turf grass.

The majority of the area on site is dominated by disturbed, non-native annual grassland habitat (Figure 4). The existing patches of turf grass were mapped as a part of the non-native grassland. Riparian forest habitat associated with Carbonera Creek also occurs on site. Developed areas also occur on site including an unpaved access road, a paved walkway and associated ornamental/landscaped trees.

The non-native grassland habitat on the Project site contains both drier and more mesic areas. The habitat is dominated by disturbance-loving annual grasses and forbs including Mediterranean barley (*Hordeum marinum*), Italian ryegrass (*Festuca perennis*), softchess (*Bromus hordeaceus*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), common velvet grass (*Holcus lanatus*), Harding grass (*Phalaris aquatica*), wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), rose clover (*Trifolium hirtum*), redstem stork's bill (*Erodium cicutarium*), spring vetch (*Vicia sativa*), poison hemlock (*Conium maculatum*), prickly lettuce (*Lactuca serriola*), wild radish (*Raphanus sativus*), black mustard (*Brassica nigra*), bindweed (*Convolvulus arvensis*), cut-leaved plantain (*Plantago coronopus*), annual lupine (*Lupinus bicolor*), toad rush (*Juncus bufonius*) and hyssop loosestrife (*Lythrum hyssopifolia*).

Trees and shrubs within the Carbonera Creek riparian corridor included Fremont cottonwood (*Populus fremontii*), bigleaf maple (*Acer macrophyllum*), arroyo willow (*Salix lasiolepis*), California bay (*Umbellularia californica*), coast redwood (*Sequoia sempervirens*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), poison oak (*Toxicodendron diversilobum*), coyote bush (*Baccharis pilularis*), toyon (*Heteromeles arbutifolia*), Himalayan blackberry (*Rubus armeniacus*), and thimble berry (*Rubus parviflorus*). A number of ornamental/landscaped trees including blue gum eucalyptus (*Eucalyptus globulus*), coast live oak (*Quercus agrifolia*), coast redwood, and Monterey pine (*Pinus radiata*) have been planted within developed areas between the northwest boundary of the Project site adjacent to Highway 17 and along the west boundary adjacent to the existing business complex.

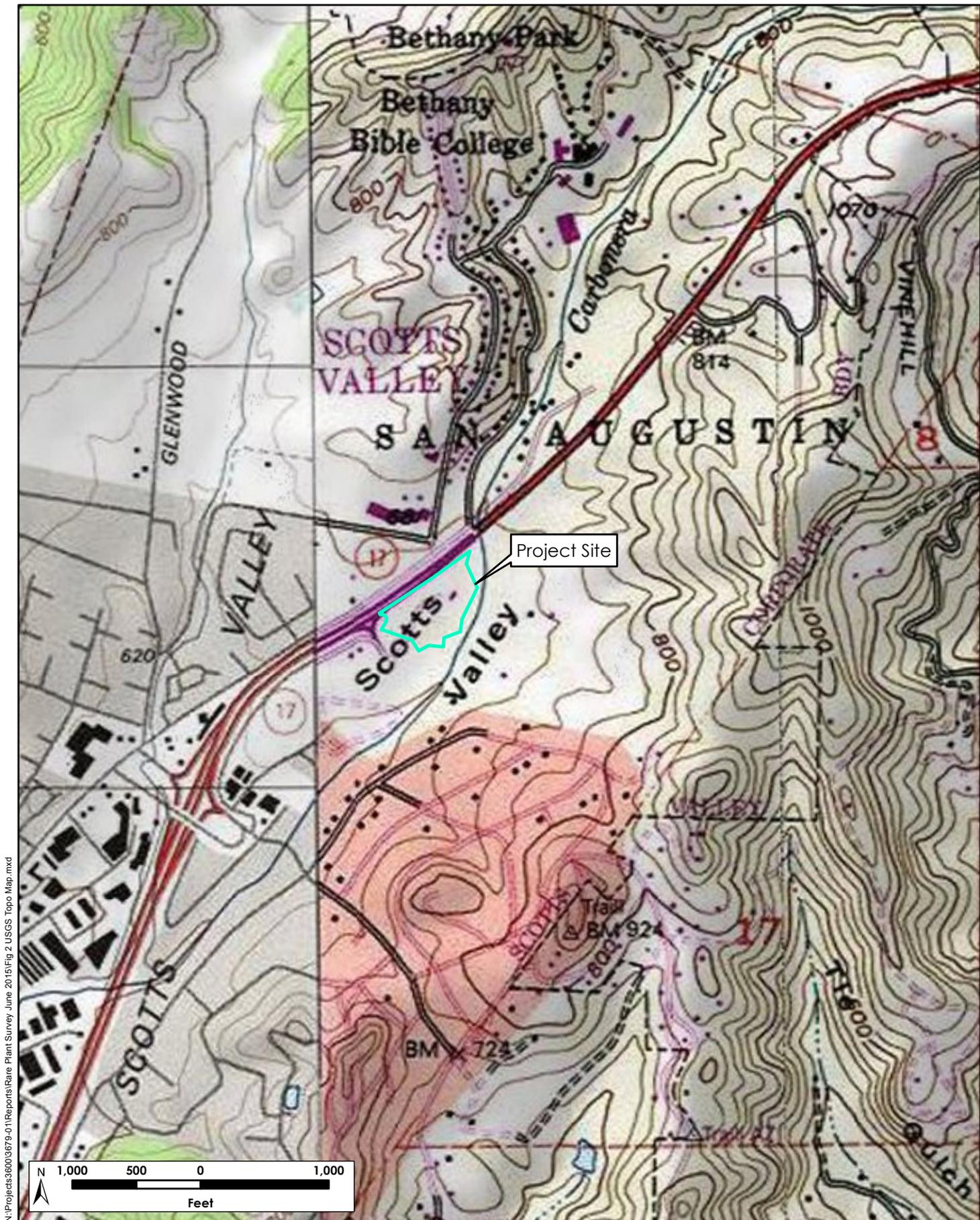


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Figure 1: Vicinity Map
Scotts Valley Hotel -
Rare Plant Survey Report (3679-01)
September 2015



N:\Projects\3600\3679-01\Reports\Rare Plant Survey June 2015\Fig 2 USGS Topo Map.mxd



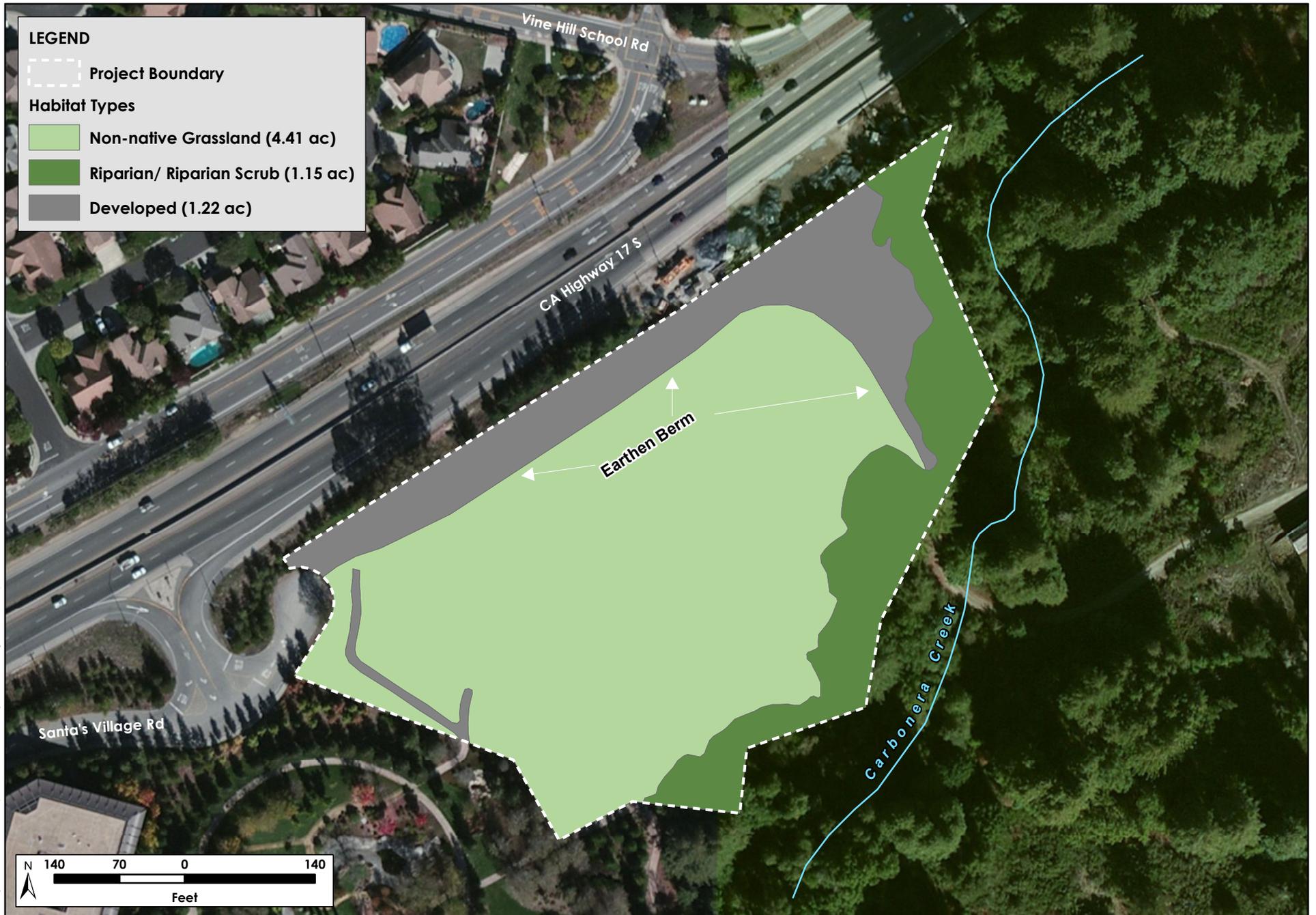
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Figure 2: USGS Topo Map

Scotts Valley Hotel -
Rare Plant Survey Report (3679-01)
September 2015

N:\Projects\3679-01\Reports\Rare Plant Survey June 2015\Fig 4 -Habitat Map.mxd



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Figure 4: Habitat Map
Scotts Valley Hotel -
Rare Plant Survey Report (3679-01)
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Section 2. Methods

Special-status plant surveys were conducted within the entirety of the Project study area in accordance with recommended protocols outlined by the California Department of Fish and Wildlife (CDFW) (CDFG 2009) as follows:

- Prior to conducting the initial survey, an extensive background review of relevant botanical information including the 2015 California Natural Diversity Database (CNDDDB) and the California Native Plant Society's Rare Plant Inventory tool (CNPS 2015) records was conducted.
- Additional information included review of the Johnson Marigot Consulting, LLC 2014 Scotts Valley Hotel Site Assessment Report and personal communications with local botanical expert Randal Morgan on 17 March, 2015.
- Surveys were floristic in nature (*i.e.*, every plant taxon detectable in the study area was identified to the level necessary to determine rarity and listing status).
- Comprehensive surveys were conducted over the entire site as identified in Figure 1.
- The site was visited multiple times as necessary to determine if any listed or rare plant species that could occupy habitats on the site were present during time periods when such species would be detectable (*i.e.*, during the bloom period for target species).

To comply with the CDFW protocol, two seasonal surveys (early-spring and mid-spring) were conducted on 18 March, 19 May, 27 May, 4 June, and 23 July 2015. The surveys were conducted by Brian Cleary, M.S., a plant ecologist familiar with the flora of the Santa Cruz Mountains, northern coastal areas and the San Francisco Bay area. Mr. Cleary traversed the complete survey area to cover the extent and habitat variation of the Project site. A total of approximately 29 man-hours were utilized to conduct the field surveys throughout the Project site (not counting travel).

2.1 Identification of Target Species

Based on CNDDDB (2015) records, the California Native Plant Society's Rare Plant Inventory tool (CNPS 2015), review of the Johnson Marigot Consulting, LLC 2014 Scotts Valley Hotel Site Assessment Report and personal communications with local botanical expert Randal Morgan on 17 March 2015, a total of 9 rare plant species were identified that are known to occur within the general vicinity of the Project area (defined for the purpose of this survey as occurring within a 5-mile radius of the Project site). These include the federally and state endangered white-rayed pentachaeta (*Pentachaeta bellidiflora*), Scotts Valley polygonum (*Polygonum bickmanii*), Santa Cruz wallflower (*Erysimum teretifolium*), marsh sandwort (*Arenaria paludicola*), Santa Cruz cypress (*Hesperocyparis abramsiana* var. *abramsiana*), the federally endangered Scotts Valley spineflower (*Chorizanthe robusta* var. *robusta*), Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*), the federally threatened and state

endangered Santa Cruz tarweed (*Holocarpha macradenia*) and the state endangered San Francisco popcorn flower (*Plagiobothrys diffusus*).

As above for the purpose of this survey, special-status plants were defined as state or federally rare, threatened, or endangered species. The list of 9 potentially occurring species was reduced to 4 plant species that are known to occur or may occur in the near vicinity of the boundaries of the Project site based upon the habitats and microhabitats, edaphic conditions present at the site, CNDDDB and CNPS records within the immediate vicinity of the site and personal communications with local botanical expert Randal Morgan (pers. com. Randal Morgan, March, 2015). These include Scotts Valley polygonum, Scotts Valley spineflower, San Francisco popcorn flower, and Santa Cruz wallflower. In addition to the focus on these special-status target species, a full floristic survey, wherein all encountered plants were identified to the level sufficient to determine whether they could be target species (typically to subspecies or species level, Appendix A), was conducted during the survey periods. Additional surveys for rare plants that bloom during the mid- and late-summer periods were not required as it was determined that there are no potential plant species within these blooming periods with the potential to occur on site. This report documents the summary of findings from the survey periods conducted from March to June 2015

2.2 Insect Habitat Assessment

The December 2014 Johnson Marigot Site Assessment Report also concluded that the Project should assess the site for host plants for the federally endangered Smith's blue butterfly (*Euphilotes enoptes smithi*), and characterize the site for its potential to provide suitable habitat for the federally endangered Ohlone tiger beetle (*Cicindela ohlone*). To comply with this recommendation, the qualified plant ecologist conducted surveys throughout the Project site for Smith's blue butterfly host plants. The Smith's blue butterfly requires one of two buckwheat species to act as host plant: coast buckwheat (*Eriogonum latifolium*) or seaside buckwheat (*Eriogonum parviflorum*). The Smith's blue butterfly can also use a third buckwheat, naked stem buckwheat (*Eriogonum nudum*), for nectaring, but has never been observed to be able to rear larvae on this species. Surveys focused on detecting and mapping populations of any of the three target *Eriogonum* species.

The HTH plant ecologist also conducted a survey of the proposed Project site, focusing on the disturbed graded area, for characteristics of suitable Ohlone tiger beetle habitat. Ohlone tiger beetles inhabit coastal prairies with sparse vegetation with substantial areas of bare ground, either distributed between clumps of native bunch grasses such as California oat grass (*Danthonia californica*), or within more disturbed areas such as cattle or bike trails. Soil texture is very important for this species, which prefers clays or sandy clays over mudstone bedrock, as occurs within the Bonnydoon soil series mapped on the western boundary of the Project site (Figure 3). The beetle requires soils that become hard packed in the spring, so HTH also surveyed for areas of hard packing soils with bare spaces, and surveyed for adult beetles during the March survey when they are annually active.

Section 3. Results

3.1 Rare Plant Survey Results

No Scotts Valley polygonum, Scotts Valley spineflower, San Francisco popcorn flower or Santa Cruz wallflower were detected on the Project site. Additionally, no white-rayed pentachaeta, marsh sandwort, Santa Cruz cypress, Ben Lomond spineflower, Santa Cruz tarweed, or any other other federally listed, state-listed, or CNPS-listed plant species were found to occur within the boundaries of the Project site. As described above the entire site has a long and varied history of soil disturbance to construct an access road, staging areas supporting disturbance-oriented vegetation and a flood control structure including installation of turf grass. A large earthen berm parallels the entire south and west sides of the existing access road, and may have originated as a result of grading activities on site prior to 1991 (Figure 4). The historic construction activities may have resulted in the complete removal of native topsoil within the current project area footprint, and thus may have permanently altered and degraded the previous native landscape. The majority of the site was also managed for vegetation by disking in between the 4 June and 23 July surveys.

Based on the degree of soil disturbance to the Project site and the negative results of the comprehensive special-status plant surveys in March - June 2015, there is no evidence of rare plant species on the Scotts Valley Project site, and that the site does not have the potential to support special-status plant species. Therefore, additional surveys for rare plants on the Project site are not warranted.

3.2 Federally Listed Insect Habitat Assessment Results

No species of *Eriogonum* that may be used by the Smith's blue butterfly were detected on the Project site. Therefore, habitat for this species is considered absent from the proposed Project site.

No suitable habitat was detected for the Ohlone tiger beetle. No areas of native bunchgrasses were observed on the site. All areas on the site underlain with Bonnydoon soil series are highly disturbed by prior grading, and was relatively thickly and evenly vegetated. The areas of bare ground across the site are also affected by the prior disking, which has fluffed the soils and created an uneven, lumpy surface not typical of the hard-packed sites used by the Ohlone tiger beetle. No adults were observed during the March surveys. At present, the site is not suitable for the beetle and it is considered absent from the proposed Project site.

Section 4. References

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- PRISM Climate Group. 2015. PRISM Products Matrix. [online]: <http://prism.oregonstate.edu>, also through [NRCS] Natural Resource Conservation Service at <http://www.wcc.nrcs.usda.gov/climate/prism.html>. Accessed March 2015.

Personal Communications

- Morgan, Randal. March 17, 2015—conversation with Brian Cleary of H. T. Harvey & Associates regarding special-status plant species with potentially occurring on the Scotts Valley Hotel Project site.

Appendix A. Plants Observed

Family	Scientific Name	Common Name
Adoxaceae	<i>Sambucus nigra</i> ssp. <i>caerulea</i>	blue elderberry
Anacardiaceae	<i>Toxicodendron diversilobum</i>	poison oak
Apiaceae	<i>Conium maculatum</i>	poison hemlock
	<i>Daucus pusillus</i>	rattlesnake weed
	<i>Foeniculum vulgare</i>	fennel
Apocynaceae	<i>Asclepias fascicularis</i>	narrow-leaved milkweed
	<i>Vinca major</i>	periwinkle
Araliaceae	<i>Hedera helix</i>	English ivy
Asteraceae	<i>Achillea millefolium</i>	yarrow
	<i>Artemisia douglasiana</i>	mugwort
	<i>Baccharis pilularis</i>	coyote brush
	<i>Carduus pycnocephalus</i>	Italian thistle
	<i>Calendula arvensis</i>	field-marigold
	<i>Centaurea solstitialis</i>	yellow starthistle
	<i>Cirsium vulgare</i>	bull thistle
	<i>Erigeron canadensis</i>	horseweed
	<i>Helminthotheca echioides</i>	bristly ox-tongue
	<i>Heterotheca grandiflora</i>	telegraph weed
	<i>Hypochaeris radicata</i>	rough cat's-ear
	<i>Hypochaeris glabra</i>	smooth cat's-ear
	<i>Lactuca serriola</i>	prickly lettuce
	<i>Lagophylla ramosissima</i>	common hareleaf
	<i>Madia sativa</i>	coast tarweed
	<i>Matricaria discoidea</i>	pineapple weed
	<i>Microseris douglasii</i>	microseris
	<i>Senecio vulgaris</i>	common groundsel
	<i>Silybum marianum</i>	milk thistle
	<i>Sonchus asper</i>	prickly sow thistle
<i>Stephanomeria</i> sp.	stephanomeria	
<i>Taraxacum officinale</i>	common dandelion	
Brassicaceae	<i>Brassica nigra</i>	black mustard
	<i>Cardamine oligosperma</i>	few-seeded bitter cress
	<i>Raphanus sativus</i>	wild radish
Caryophyllaceae	<i>Spergularia rubra</i>	purple sand-spurrey
	<i>Stellaria media</i> var. <i>media</i>	common chickweed
Convolvulaceae	<i>Convolvulus arvensis</i>	bindweed

Family	Scientific Name	Common Name
Crassulaceae	<i>Crassula connata</i>	sand pygmy weed
Cucurbitaceae	<i>Marah fabacea</i>	California man-root
Cupressaceae	<i>Sequoia sempervirens</i>	coast redwood
Cyperaceae	<i>Cyperus eragrostis</i>	tall flatsedge
Dryopteridaceae	<i>Polystichum munitum</i>	western sword fern
Equisetaceae	<i>Equisetum arvense</i>	common horsetail
Euphorbiaceae	<i>Euphorbia pepus</i>	petty spurge
	<i>Euphorbia lathyris</i>	caper spurge
Fabaceae	<i>Acacia dealbata</i>	silver wattle
	<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish clover
	<i>Genista monspessulana</i>	French broom
	<i>Lupinus bicolor</i>	annual lupine
	<i>Medicago polymorpha</i>	bur clover
	<i>Trifolium aureum</i>	golden clover
	<i>Trifolium hirtum</i>	rose clover
	<i>Trifolium incarnatum</i>	Crimson clover
	<i>Trifolium repens</i>	white clover
	<i>Vicia sativa</i>	spring vetch
Fagaceae	<i>Quercus agrifolia</i>	coast live oak
Geraniaceae	<i>Erodium botrys</i>	longbeak stork's bill
	<i>Erodium cicutarium</i>	redstem stork's bill
	<i>Geranium dissectum</i>	cutleaf geranium
Juncaceae	<i>Juncus bufonius</i>	toad rush
	<i>Juncus patens</i>	spreading rush
Lamiaceae	<i>Stachys rigida</i>	hedge nettle
Lauraceae	<i>Umbellularia californica</i>	California bay
Lythraceae	<i>Lythrum hyssopifolia</i>	hyssop loosestrife
Myrsinaceae	<i>Anagallis arvensis</i>	scarlet pimpernel
Myrtaceae	<i>Eucalyptus globulus</i>	blue gum
Oxalidaceae	<i>Oxalis pes-caprae</i>	Bermuda buttercup
Papaveraceae	<i>Eschscholzia californica</i>	California poppy
Pinaceae	<i>Pinus radiata</i>	Monterey pine
Plantaginaceae	<i>Linaria maroccana</i>	toadflax
	<i>Plantago coronopus</i>	cut-leaved plantain
	<i>Plantago lanceolata</i>	English plantain
Poaceae	<i>Agrostis stolonifera</i>	creeping bent grass
	<i>Avena fatua</i>	wild oat
	<i>Bromus carinatus</i>	California brome
	<i>Bromus diandrus</i>	ripgut brome

Family	Scientific Name	Common Name
	<i>Bromus hordeaceus</i>	softchess
	<i>Festuca myuros</i>	rattail sixweeks grass
	<i>Festuca ovina</i>	sheep fescue
	<i>Festuca perennis</i>	Italian ryegrass
	<i>Holcus lanatus</i>	common velvet grass
	<i>Hordeum marinum</i>	Mediterranean barley
	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	foxtail barley
	<i>Melica californica</i>	California melic
	<i>Phalaris aquatica</i>	Harding grass
	<i>Poa annua</i>	annual bluegrass
	<i>Polypogon monspeliensis</i>	rabbits foot grass
Polemoniaceae	<i>Navarretia squarrosa</i>	skunkweed
Polygonaceae	<i>Rumex acetosella</i>	sheep sorrel
	<i>Rumex crispus</i>	curly dock
Rosaceae	<i>Heteromeles arbutifolia</i>	toyon
	<i>Rubus armeniacus</i>	Himalayan blackberry
	<i>Rubus parviflorus</i>	thimble berry
Rubiaceae	<i>Galium aparine</i>	common bedstraw
Salicaceae	<i>Populus fremontii</i>	Fremont cottonwood
	<i>Salix lasiolepis</i>	arroyo willow
Sapindaceae	<i>Acer macrophyllum</i>	bigleaf maple
Scrophulariaceae	<i>Scrophularia californica</i>	California figwort
Solanaceae	<i>Solanum umbelliferum</i>	blue witch
Urticaceae	<i>Urtica dioica</i>	stinging nettle

The species are arranged alphabetically by family name for all vascular plants encountered during the plant survey. Plants are also listed alphabetically within each family. Species nomenclature is from Baldwin (2012). Former names have also been included for species where the nomenclature has not been updated on the National Wetland Inventory.