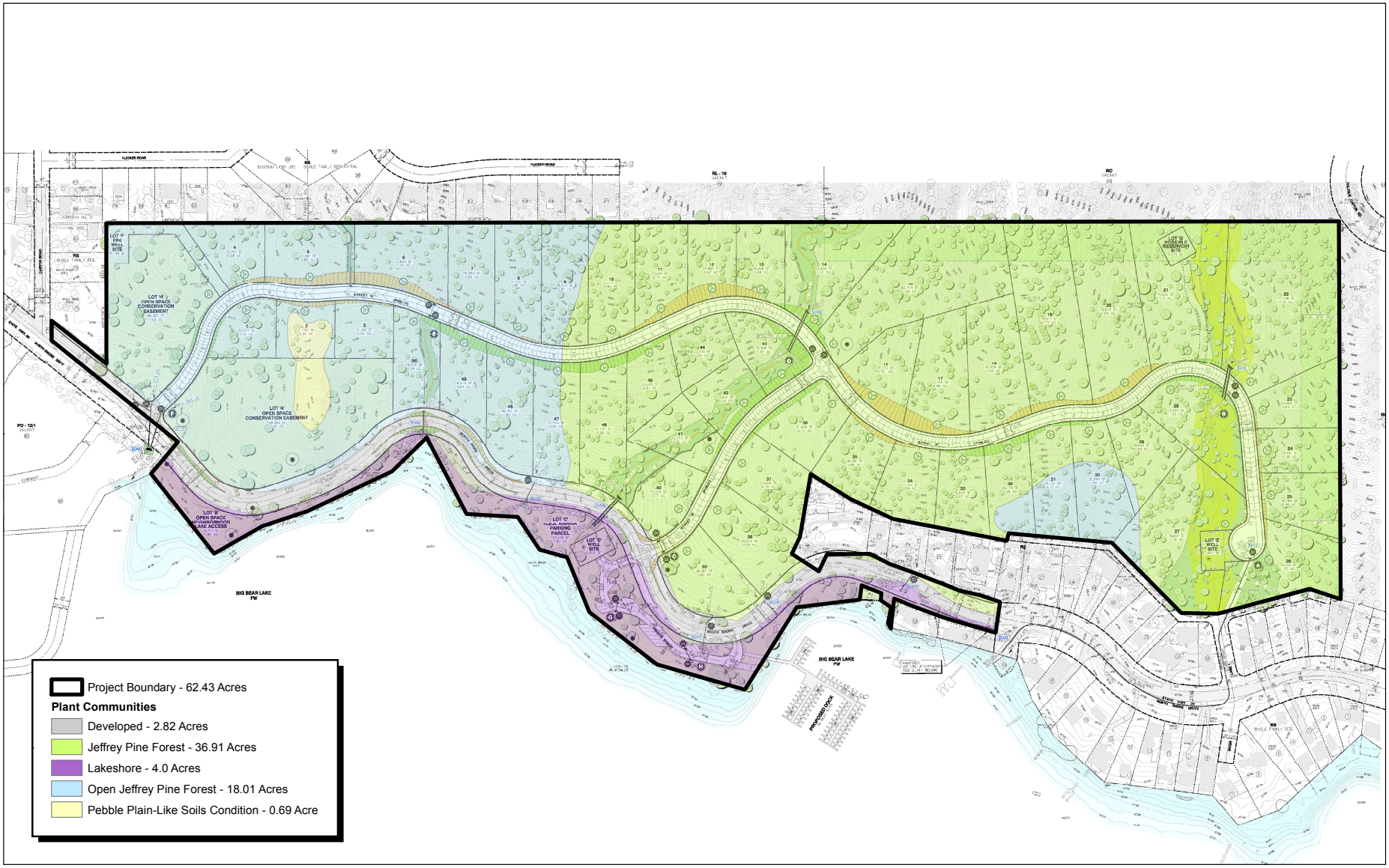


Source: Source: Hicks & Hartwick, Inc. (December 2010), Tim Krantz (2008), Scott White & MBA.

NORTH

350 175 0 350

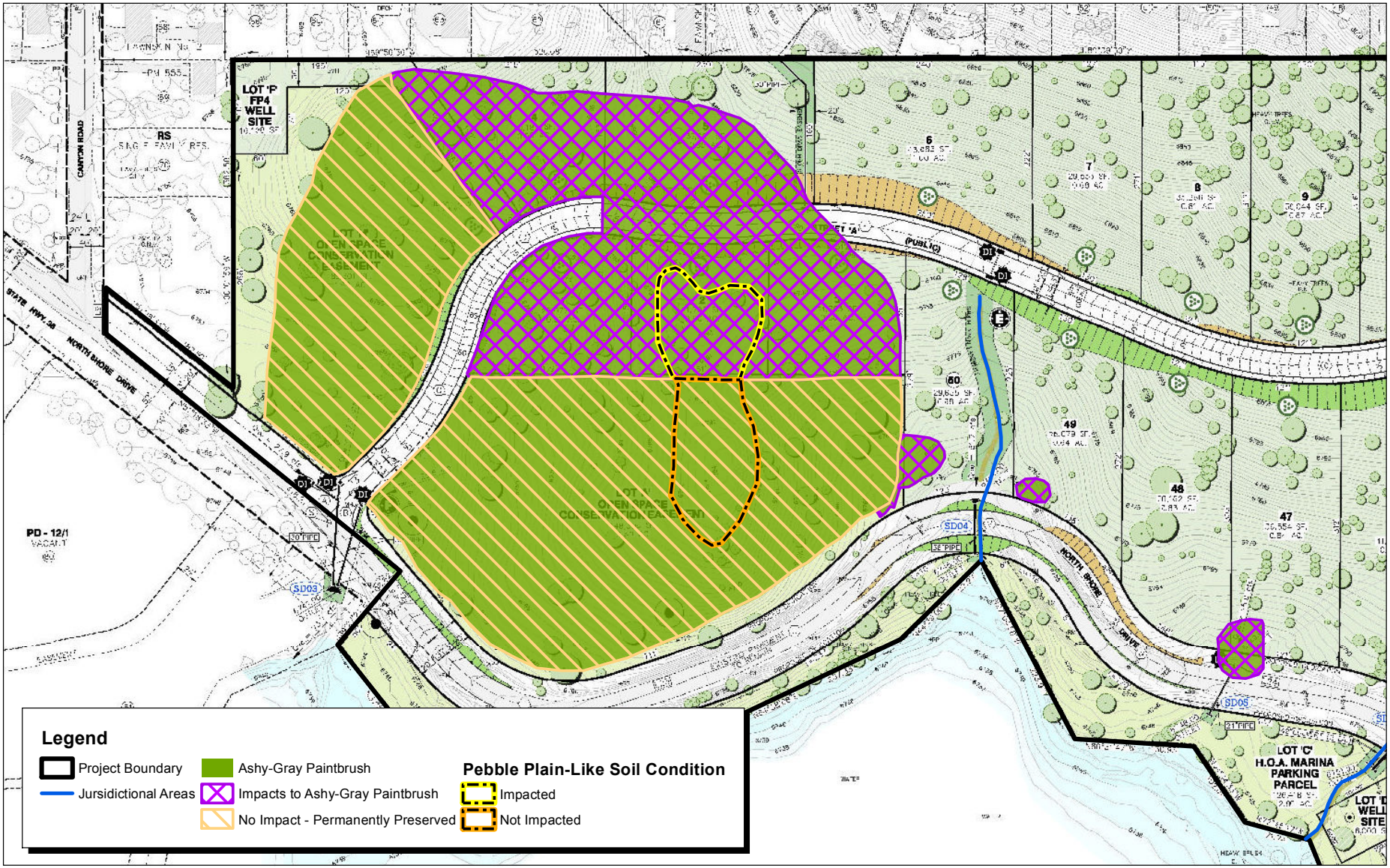
Feet

Michael Brandman Associates

00520089 • 11/2011 | 2-1_veg.mxd

Exhibit 2-1
Plant Communities Map

SAN BERNARDINO COUNTY
MOON CAMP RESIDENTIAL SUBDIVISION PROJECT



Source: Hicks and Hartwick, Inc.

150 75 0 150
Feet

NORTH

Michael Brandman Associates

00520089 • 10/2011 | 2-2_soil_conditions.mxd

Exhibit 2-2
Occupied Ashy-Gray Indian Paintbrush and Pebble Plain Soil Conditions

SAN BERNARDINO COUNTY
MOON CAMP RESIDENTIAL SUBDIVISION PROJECT

Lakeshore Species

Approximately 4.0 acres of the southern boundary of the Project site is formed by the shore of Big Bear Lake. Plant species along the shore itself consist primarily of herbaceous native and non-native species of periodically saturated soils, including willowherb (*Epilobium* sp.), wire-grass (*Juncus mexicanus*), cursed buttercup (*Ranunculus sceleratus*), and several cinquefoil species (*Potentilla* spp.). Several seedling cottonwood trees (*Populus balsamifera* spp. *trichocarpa*) also occur in this plant community. Small patches of ruderal species transitioning into upland grassland occur along the lakeshore south of SR-38. The lake was well below its maximum level in 2001 to 2002 due to acute drought conditions. Vegetation in the narrow strip is patchy and occurs above the high-water level in areas where small areas of Jeffrey pine forest are interspersed among open ruderal vegetation and grasslands and scattered patches of arroyo willow (*Salix lasiolepis*) and red willow (*Salix laevigata*).

Developed

Developed areas (abutting SR-38) occur on 2.82 acres along the shoreline of the Project site. Plants found in this vegetation type consist of native and non-native ornamental species which offer very little habitat value for native wildlife species. Paved areas such as SR-38 and existing turnouts are included in this vegetation type.

Wildlife

The project site has the potential to support a large variety of wildlife species which are discussed in detail in the following sections.

Amphibians

Amphibians require moisture for at least a portion of their life cycle and many require standing or flowing water for reproduction. Although more typical in mesic conditions, there are a number of amphibians species that occur or potentially occur even in the more xeric habitats. These species are able to survive in dry areas by remaining beneath the soil in burrows, under logs or leaf litter, and emerging only when temperatures are low and humidity is high. Many of these species' habitats are associated with water, and they emerge to breed once the rainy season begins. Soil moisture conditions can remain high throughout the year within some habitat types, depending on factors such as amount of vegetation cover, elevation, and slope aspect.

No amphibians were detected during the field surveys; however, leaf litter and rotting logs on the Project site provide potential habitat for the Pacific slender salamander (*Batrachoseps pacificus*). The western toad (*Bufo boreas*) would also be expected to occur on the Project site.

Reptiles

Reptilian diversity and abundance typically vary with vegetation type and character. Many species prefer only one or two vegetation types; however, most will forage in a variety of habitats. Most species occurring in open areas use rodent burrows for cover and protection from predators and extreme weather conditions. Those species discussed below that were not observed during surveys

are expected to occur based on the presence of suitable habitat (substrate and vegetation) within the Project site.

Reptile species observed during the surveys include the western fence lizard (*Scleroporus occidentalis*), sagebrush lizard (*Sceloperus graciosus*), western skink (*Eumeces skiltonianus*), southern alligator lizard (*Elgaria multicarinatus*), and southern Pacific rattlesnake (*Crotalus viridis helleri*). Common reptile species expected to occur on the Project site include the side-blotched lizard (*Uta stansburiana*) and gopher snake (*Pituophis melanoleucus*).

Birds

Montane conifer forests in the San Bernardino Mountains can experience severe weather conditions during the winter months. Nonetheless, several resident bird species are expected to occur on the Project site, using the habitats throughout the year. Other species are present only during certain seasons.

Common resident bird species observed on the Project site during surveys include the following:

- Band-tailed pigeon (*Columba fasciata*);
- Great-horned owl (*Bubo virginianus*);
- Acorn woodpecker (*Melanerpes formicivorus*);
- Red-breasted sapsucker (*Sphyrapicus ruber*);
- Hairy woodpecker (*Picoides villosus*);
- Nuttall's woodpecker (*Picoides nuttallii*);
- Northern flicker (*Colaptes auratus*);
- Black phoebe (*Sayornis nigricans*);
- Stellar's jay (*Cyanocitta stelleri*);
- Common raven (*Corvus corax*);
- Mountain chickadee (*Poecile gambeli*);
- Bushtit (*Psaltriparus minimus*);
- Red-breasted nuthatch (*Sitta canadensis*);
- White-breasted nuthatch (*Sitta carolinensis*);
- House wren (*Troglodytes aedon*);
- Western bluebird (*Sialia mexicana*);
- Northern mockingbird (*Mimus polyglottos*);
- European starling (*Sturnus vulgaris*);
- Spotted towhee (*Pipilo maculatus*);
- Dark-eyed junco (*Junco hyemalis*);
- Brewer's blackbird (*Euphagus cyanocephalus*);
- Brown-headed cowbird (*Molothrus ater*);
- House finch (*Carpodacus mexicanus*);
- Red crossbill (*Loxia curvirostra*); and
- Wild turkey (*Meleagris gallopavo*).

Mammals

The ornate shrew (*Sorex ornatus*), brush mouse (*Peromyscus boylii*), western grey squirrel (*Sciurus griseus*), California ground squirrel (*Spermophilus beecheyi*), dusky-footed woodrat (*Neotoma fuscipes*), California vole (*Microtus californicus*), and coyote (*Canis latrans*) were observed on the Project site during the surveys. Larger mammals that may occur on the Project site include the gray fox (*Urocyon cinereoargenteus*), black bear (*Ursus americanus*), badger (*Taxidea taxus*), and mountain lion (*Felis concolor*). The California myotis (*Myotis californicus*) and big brown bat (*Eptesicus fuscus*) may occur on the Project site. Gaps in peeling bark and hollow snags or limbs provide potential roosting and maternal colony opportunities for these and other bat species. Other mammals expected to occur on the Project site include the following:

- Dusky shrew (*Sorex monticolus*);
- Broad-footed mole (*Scapanus latimanus*);
- Merriam's chipmunk (*Tamias merriami*);
- Lodgepole chipmunk (*Tamias speciosus*);
- Golden-mantled ground squirrel (*Spermophilus lateralis*);
- Deer mouse (*Peromyscus maniculatus*);
- Western harvest mouse (*Reithrodontomys megalotis*);
- Botta's pocket gopher (*Thomomys bottae*); and
- House mouse (*Mus musculus*).

Special Status Biological Resources

The following discussion addresses special status biological resources observed, reported, or having the potential to occur on the Project site. These resources include plant and wildlife species that have been afforded special status and/or recognition by federal and state resource agencies, as well as the CNPS. Table 2-2, Special Status Plant Species, and Table 2-4, Special Status Wildlife Species, provide a summary of special status plant and wildlife species known to occur in the region of the Project site, and includes information on the status, potential for occurrence, and definitions for the various status designations.

Special Status Plants

Botanical surveys during 2002 and 2007 were limited in calculation capability on the Project site and throughout southern California due to prolonged drought. Many plant species in the Project region are either annual (i.e., complete their life cycles in a single year and then die) or perennial herbs (i.e., die back to the ground level each year and persist as underground bulbs or root crowns). In poor rainfall years, annual and perennial herbs may not have been visible, though they may have existed on site as an inactive seed, bulb, or root crown. Most of the special status plants in the Big Bear area are perennial herbs, making a conclusive determination of "presence" or "absence" based on field surveys difficult during low rainfall years. However, previous reports of presence and determination of habitat quality are helpful in estimating the probability of a special status plant species occurrence.

The White survey was conducted on three dates, April 30, June 7, and August 8, during the 2007 season. The 2007 precipitation season (measured from July 1 to June 30 annually) was a record drought year for the San Bernardino Mountains, with only 11.66 inches of precipitation recorded at Big Bear Dam, compared to an average annual precipitation of 36.00 inches. As a result of the drought conditions under which previous surveys had been conducted, Dr. Timothy Krantz performed Supplemental Focused Special Status Plant Species Survey on the Project site in 2008 and 2010, which were normal precipitation years. The 2008 precipitation year was average, with 35.29 inches through May 2008, and flowering of both annual and perennial species exhibited good anthesis. The Supplemental Focused Special Status Plant Species Surveys (2008 and 2010; see Appendix A) were able to confirm the presence and distribution of the plants in a normal rainfall year. A list of potential special status plant species located within the 2011 Alternative Project area and site are described within Table 2-2, below.

Table 2-2: Special Status Plant Species Potentially Occurring Within the Project Region

Species	Status[1]			Likelihood for Occurrence
	USFWS	CDFG	CNPS	
Abronia nana ssp. *covillei* Coville's dwarf abronia	None	None	4	None; restricted to carbonates soils
Allium parishii Parish's onion	None	None	4	Low; above known elevation range
Antennaria marginata White-margined everlasting	None	None	2	None; outside of known geographic range (only local occurrences in Barton Flats area)
Arabis breweri var. *pecuniaria* San Bernardino rock-cress	None	None	1B	None; outside geographical range
Arabis dispar Pinyon rock-cress	None	None	2	None; outside known geographic range (only occurs on desert-facing slopes)
Arabis parishii Parish's rock-cress	None	None	1B	Observed
Arabis shockleyi Shockley's rock-cress	None	None	2	None; restricted to carbonates soils
Arenaria lanuginosa ssp. *saxosa* Rock sandwort	None	None	2	Moderate; marginally suitable habitat
Arenaria ursina Big Bear Valley sandwort	FT	C	1B	High; suitable habitat
Astragalus albens Cushenbury milk-vetch	FE	C	1B	None; no suitable habitat (carbonate soils)
Astragalus bicristatus Crested milk-vetch	None	None	4	High; suitable habitat
Astragalus lentiginosus var. *sierrae* Big Bear Valley milk-vetch	None	None	1B	High; suitable habitat
Astragalus leucolobus Big Bear Valley woollypod	None	None	1B	Observed
Atriplex parishii Parish's smallscale	None	None	1B	None; no suitable habitat (alkali sink)
Berberis fremontii Fremont's barberry	None	None	3	None; no suitable habitat (presumed extinct in Cushenbury area)
Botrychium crenulatum Scalloped moonwort	None	None	2	None; no suitable habitat (marshes, bogs)
Calochortus palmeri var. *palmeri* Palmer's mariposa lily	None	None	1B	Moderate; marginally suitable habitat
Calochortus plummerae Plummer's mariposa lily	None	None	1B	None; above known elevation range
Castilleja cinerea Ashy-Gray Indian Paintbrush	FT	None	1B	Observed

Table 2-2 (cont.): Special Status Plant Species Potentially Occurring Within the Project Region

Species	Status[1]			Likelihood for Occurrence
	USFWS	CDFG	CNPS	
Castilleja lasiorhyncha San Bernardino Mountain owl's clover	None	None	1B	High; suitable habitat
Dryopteris filix-mas Male fern	None	None	2	Low; local rarity; outside known range
Dudleya abramsii ssp. *affinis* San Bernardino Mountains dudleya	None	None	1B	Moderate; marginally suitable habitat
Erigeron breweri var. *jacinteus* San Jacinto Mountains daisy	None	None	4	None; below known elevation range
Erigeron parishii Parish's daisy	FT	None	1B	None; no suitable habitat (carbonate soils)
Erigeron unicaulis Limestone daisy	None	None	2	None; outside known geographic range (local reports erroneous)
Eriogonum foliosum Leafy buckwheat	None	None	1B	High; suitable habitat
Eriogonum kennedyi var. *austromontanum* Southern mountain buckwheat	FT	None	1B	Low; suitable habitat (see text)
Eriogonum ovalifolium var. *vineum* Cushenbury buckwheat	FE	None	1B	None; no suitable habitat (carbonate soils)
Eriophyllum lanatum var. *obovatum* Southern Sierra wooly sunflower	None	None	4	Low; margin of known geographic range
Fimbristylis thermalis Hot springs fimbristylis	None	None	4	None; no suitable habitat (alkaline meadows, hot springs)
Galium jepsonii Jepson's bedstraw	None	None	4	High; suitable habitat
Galium johnsttonii Johnston's bedstraw	None	None	4	High; suitable habitat
Gentiana fremontii Moss gentian	None	None	2	None; no suitable habitat
Gilia leptantha ssp. *leptantha* San Bernardino Mountains gilia	None	None	1B	Low (see text)
Helianthus nuttalli ssp. *parishii* Los Angeles sunflower	None	None	1A	None; presumed extinct, above known elevation range
Heuchura hirsutissima Shaggy-haired alum root	None	None	1B	Low; limited suitable habitat
Heuchura parishii Parish's alumroot	None	None	1B	Low; limited suitable habitat
Horkelia wilderae Barton Flats horkelia	None	None	1B	None; outside known geographic range, endemic to Barton Flats area
Hulsea vestita ssp. *parryi* Parry's sunflower	None	None	4	None; outside known geographic range (only occurs on desert-facing slopes)

Table 2-2 (cont.): Special Status Plant Species Potentially Occurring Within the Project Region

Species	Status[1]			Likelihood for Occurrence
	USFWS	CDFG	CNPS	
Hulsea vestita ssp. *pygmaea* Pygmy hulsea	None	None	1B	None; below elevation range
Ivesia argyrocoma Silver-haired ivesia	None	None	1B	Observed
Juncus duranii Duran's rush	None	None	4	High; suitable habitat
Lesquerella kingii var. *bernardina* San Bernardino Mountains bladderpod	FE	None	1B	None; no suitable habitat (carbonate soils)
Lewisia brachycalyx Short-sepaled lewisia	None	None	2	Moderate; limited suitable habitat
Lilium humbodtii ssp. *ocellatum* Ocellated Humboldt lily	None	None	4	None; above known elevation range
Lillium parryi Lemon lily	None	None	1B	None; no suitable habitat
Linanthus killipii Baldwin Lake linanthus	None	None	1B	High; suitable habitat
Malaxiis monohyllos ssp. *brachypoda* Adder's mouth	None	None	2	None; below known elevation range
Mimulus exiguus San Bernardino Mountain monkeyflower	None	None	1B	High; suitable habitat
Mimulus purpureus var. *purpureus* Purple monkeyflower	None	None	2	Observed
Monardella macrantha ssp. *hallii* Hall's monardella	None	None	1B	None; outside known geographic range
Navarretia peninsularis Baja navarretia	None	None	1B	Low; limited suitable habitat
Oxytheca caryophylloides Chickweed oxytheca	None	None	4	High; suitable habitat
Oxytheca parishii var. *cienegensis* Cienega seca oxytheca	None	None	1B	None; outside known geographic range
Oxytheca parishii var. *goodmaniana* Cushenbury oxytheca	FE	None	1B	None; no suitable habitat (carbonate soils)
Oxytropis oreophila Mountain oxytrope	None	None	2	None; below known elevation range
Perideridia parishii ssp. *parishii* Parish's yampah	None	None	2	Low; limited suitable habitat
Phacelia exilis Transverse Range phacelia	None	None	4	High; suitable habitat
Phacelia mohavensis Mojave phacelia	None	None	4	High; suitable habitat

Table 2-2 (cont.): Special Status Plant Species Potentially Occurring Within the Project Region

Species	Status[1]			Likelihood for Occurrence
	USFWS	CDFG	CNPS	
Phlox dolichantha Bear Valley phlox	None	None	1B	Observed
Poa atropurpurea San Bernardino bluegrass	FE	None	1B	Low; limited suitable habitat
Poliomintha incana Frosted mint	None	None	1A	None; no suitable habitat (dunes and sandy flats), above known elevation range
Polystichum kruckebergii Krukeberg's sword fern	None	None	4	None; limited suitable habitat, outside known geographic distribution
Populus angustifolia Narrow-leaved cottonwood	None	None	2	None; outside known geographic range
Pyrrocoma uniflora ssp. *gossypina* Bear Valley pyrrocoma	None	None	1B	Moderate; suitable habitat
Rupertia rigida Parish's rupertia	None	None	4	High; limited suitable habitat
Scutellaria bolanderi ssp. *austromntanum* Southern mountain skullcap	None	None	1B	None, outside known geographic range, above known elevation range
Sedum niveum Davidson's stonecrop	None	None	4	None; no suitable habitat (rock ledges and cliffs)
Selaginella asprella Bluish spike-moss	None	None	4	Low; limited suitable habitat
Senecio bernardinus San Bernardino butterweed	None	None	1B	Low; limited suitable habitat
Senecio ionophyllus Tehachapi ragwort	None	None	4	Low; limited suitable habitat
Sidalcea hickmanii ssp. *parishii* Parish's checkerbloom	C	R	1B	Low; limited suitable habitat
Sidalcea pedata Bird's foot checkerbloom	FE	SE	1B	Low to moderate (see text); suitable habitat
Sphenopholis obtusata Prairie wedge grass	None	None	2	High; suitable habitat
Streptanthus bernardinus Laguna Mountains jewelflower	None	None	4	High; suitable habitat
Streptanthus campestris Southern jewelflower	None	None	1B	High; suitable habitat
Swertia neglecta Pine green-gentian	None	None	4	High; suitable habitat
Taraxacum californicum California dandelion	FE	None	1B	Low; limited suitable habitat
Thelypodium stenopetalum Slender-petaled thelypodium	FE	None	1B	None; no suitable habitat (alkaline meadows)
Trichostema micranthum Small-flowered bluecurls	None	None	4	High; suitable habitat

Table 2-2 (cont.): Special Status Plant Species Potentially Occurring Within the Project Region

Species	Status[1]			Likelihood for Occurrence
	USFWS	CDFG	CNPS	
Viola pinetorum ssp. *grisea* Grey-leaved violet	None	None	1B	Low; outside known geographic range

Status Definitions:

USFWS

FE: Species designated as endangered under the federal Endangered Species Act. Endangered = "any species in danger of extinction throughout all or a significant portion of its range."

FT: Species designated as threatened under the Federal Endangered Species Act. Threatened = "species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."

FPE: Proposed for federal listing as Endangered.

FPT: Proposed for federal listing as Threatened.

C: Candidate for federal listing as Threatened or Endangered.

SOC: Species of Concern

CDFG

ST: Threatened = "a species that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this Act" (California Endangered Species Act).

SE: Endangered = "a species is endangered when its prospects of survival and reproduction are in immediate jeopardy from one or more causes."

R: Rare

C: Candidate for state listing as Threatened or Endangered.

CNPS

List 1A: Plants Presumed Extinct in California

List 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

List 2: Plants Rare, Threatened, or Endangered in California But More Common Elsewhere

List 3: Plants About Which We Need More Information- A Review List

List 4: Plants of Limited Distribution - A Watch List

As outlined within Table 2-2, eighty-one (81) special status plant species are known to occur in the Project region, 30 of which occur or have a moderate or higher potential to occur on the Project site. In addition, six of these special status plant species have been observed on the Project site. A brief description of these special status plant species are described bellow:

Parish's Rock-Cress (*Arabis parishii*). Parish's rock cress is a CNPS List 1B species that typically blooms from April to May. This perennial herb occurs in rocky, quartzite and clay, or sometimes carbonate soils in pebble plains, pinyon-juniper woodlands, and upper montane coniferous forests from approximately 3,900 to 8,000 feet above msl. It is endemic to the San Bernardino Mountains. A 2002 survey of the project site found the species was observed uncommonly in scattered patches throughout pebble plain and open Jeffrey pine forest on the project site during botanical surveys conducted in 2002 (White and Leatherman, 2002). A 2007 survey conducted by Scott White Biological Consulting, and a 2008 and 2010 Supplemental Focused Special Status Plant Species Survey conducted by Timothy Krantz Biological Consulting reaffirmed that no changes in the species location or size have occurred.

Big Bear Valley Woollypod *(Astragalus leucolobus)*. Big Bear Valley woollypod is a CNPS List 1B species that typically blooms from May to July. This perennial herb occurs in rocky soils of lower montane coniferous forest, pebble plain, pinyon-juniper woodland, and upper montane

coniferous forests from approximately 5,600 to 8,000 feet above msl. It is found in the San Bernardino, San Gabriel, San Jacinto, and Santa Rosa mountains. This species was observed throughout the Project site during botanical surveys conducted in 2002 (White and Leatherman, 2002). The 2007 White survey and 2008 and 2010 Supplemental Focused Special Status Plant Species Survey (Krantz, 2010) reaffirmed that no changes in the species location or size have occurred.

Palmer's Mariposa Lily *(Calochortus palmeri var. palmeri)*. Palmer's mariposa lily is a CNPS List 1B species that typically blooms between May and July. This perennial, bulbiferous herb occurs in mesic chaparral, lower montane coniferous forest, meadows, and seeps from approximately 3,200 to 7,200 feet above msl. It is a California endemic found in the South Coast and Transverse ranges in Kern, Los Angeles, Riverside, Santa Barbara, San Bernardino, San Luis Obispo, and Ventura counties. This species has a moderate potential to occur on-site; however, were not observed on the Project site during focused surveys conducted in 2002, 2007, 2008, or 2010.

Ashy-Gray Indian Paintbrush (*Castilleja cinerea*). Ashy-Gray Indian Paintbrush is a federally-listed Threatened and CNPS List 1B species. It is a root parasite on other plants, often parasitizing the Federally-listed Threatened southern mountain buckwheat and Wright's matting buckwheat. It is a perennial herb, and typically blooms between May and August. It occurs in pebble plains, meadows, seeps, and open pinyon or Jeffrey pine forest from approximately 5,900 to 9,300 feet above msl and is endemic to the eastern San Bernardino Mountains (Big Bear Valley, Holcomb Valley, Onyx Summit, Snow Valley, and Sugarloaf Ridge). Scott White identified two eastern occurrences of Ashy-Gray Indian Paintbrush in his 2007 botanical report, indicated as occurring north of (offsite) Lots 22, and 29-30-31 of the adjacent existing residential tract (White 2007). However, as discussed in the Krantz (2008) botanical report for the Moon Camp project site, the previous findings of Scott White (2007) were found to be erroneous with respect to identifying two occurrences of Ashy-Gray Indian Paintbrush habitat located in the southeast portion of the Project site.

All areas identified by White as containing Ashy-Gray Indian Paintbrush were re-visited during the Supplemental Focused Special Status Plant Species Survey (August 29, 2010), conducted during a year of normal rainfall. The primary focus of the Supplemental Focused Special Status Plant Species Survey (August 29, 2010) was to further delineate and quantify occurrences of Ashy-Gray Indian Paintbrush on the Project site. The 2010 survey confirmed that no occurrences of Ashy-Gray Indian Paintbrush existed at the two southeasterly sites, and the middle occurrence was confirmed as delineated in the Krantz 2008 survey. The general distribution of the westerly Ashy-Gray Indian Paintbrush occurrence was approximately the same as in both the White and Krantz (2008) surveys.

Findings and conclusions of the Supplemental Focused Special Status Plant Species Survey conducted by Dr. Krantz (August 29, 2010) with respect to the Ashy-Gray Indian Paintbrush at the Project site are described below.

Discrete Occurrences of Ashy-Gray Indian Paintbrush

Occurrences of Ashy-Gray Indian Paintbrush identified by Krantz (2008) were confirmed during the Supplemental Focused Special Status Plant Species Survey (August 29, 2010), including approximately 50 plants at the location at the rear of proposed Lots 47-48; nine plants at the rear of Lot 49; and three plants on the west bank of the swale at the rear of Lot 50. A recent large tree-fall above the swale may alter the exposure and drainage pattern immediately around the swale, but the three Ashy-Gray Indian Paintbrush plants were still observed at this location in 2010.

Open Space Lot A

Krantz conducted a discrete count of the Ashy-Gray Indian Paintbrush occurrences on Lot A by systematically walking the surrounding area of the knoll at this location. Altogether, a total of approximately 230 individual Ashy-Gray Indian Paintbrush occurrences were identified within the boundaries of Lot A.

Open Space Lot H

The newly-proposed Lot H Open Space Conservation Easement was created to protect the high densities of Ashy-Gray Indian Paintbrush occurring in this area. The highest concentration of these plants extends in a broad opening in the Jeffrey pine woodland, in association with Wright's matting buckwheat. A total of approximately 4,665 Ashy-Gray Indian Paintbrush occurrences were estimated to occur in this area based on a combination of discrete counts and a belt transect through the middle of the highest density area. Altogether, a total of 5,567 Ashy-Gray Indian Paintbrush plants were estimated to occur on the Moon Camp property. Permanent protection of Lot H results in preservation of 84 percent (4,665 plants of 5,567 plants) of the total Ashy-Gray Indian Paintbrush plants onsite.

Lots 1-5, Road Easement and Well Lot F

Discrete counts of Ashy-Gray Indian Paintbrush plants were conducted on Lots 1-5 of the revised Moon Camp subdivision, including the new Lots 1, 2, and 3. The new Lot 1 contains approximately 45 plants, all located within a 5m-radius of the southeast corner of the Project site. These plants are within the rear-lot and side-lot building setbacks, established for the 2011 Alternative Project. Therefore, although not protected by a conservation easement, these plants may not be disturbed by physical development of the lot.

Ashy-Gray Indian Paintbrush plants on the new Lot 2 are scattered across the Lot, with approximately 150 plants.

The new Lot 3 contains approximately 175 Ashy-Gray Indian Paintbrush plants. Lot 4 contains approximately 70 Ashy-Gray Indian Paintbrush plants to the front-center of the Lot, and another 20 plants to rear of the Lot (not in the buildable area of the Lot), for a total of approximately 90 plants; and Lot 5 contains approximately 30 plants and another approximately 40 Ashy-Gray Indian

Paintbrush plants are in the road right-of-way across the front of Lot 5. Well Site Lot F and the associated access road contain approximately 80 plants.

The total estimated numbers of Ashy-Gray Indian Paintbrush plants located within the proposed 2011 Alternative Project site are outlined within Table 2-3, below. In addition, the location of occupied Ashy-Gray Indian Paintbrush plants is located within Exhibit 2-2.

Table 2-3: Summary of Ashy-Gray Indian Paintbrush Occurrence on the Moon Camp Site

Lot Number	Total Plants
Lot 1	45
Lot 2	150
Lot 3	175
Lot 4	90
Lot 5	30
Lot 47	50
Lot 49	9
Lot 50	3
Lot A	230
Lot F	80
Road ROW*	40
Lot H	4,665
Total	5,567

Source: Supplemental Focused Special Status Plant Species Survey (August 29, 2010).
* ROW = Right of Way.

Redesign of the lot layout, as reflected in the 2011 Alternative Project, results in a significant increase in Ashy-Gray Indian Paintbrush conservation. Of the 5,567 Ashy-Gray Indian Paintbrush plants determined to occur on site through the updated plant surveys, 4,895 plants will be permanently protected within Lot A and H, representing 88 percent of the total number of Ashy-Gray Indian Paintbrush plants within the proposed Project site. Of the remaining Ashy-Gray Indian Paintbrush plants on private Lots, plants within Lots 1, 47, 49, and 50 are all within the rear Lot building setbacks, as well as 20 plants on Lot 4, for a total of 127 plants.

San Bernardino Mountains Dudleya *(Dudleya abramsii ssp. affinis)*. The San Bernardino Mountains dudleya is a CNPS List 1B species that typically blooms from April to June. This perennial herb occurs in granitic, quartzite, or carbonate soils of pebble plain, pinyon-juniper woodland, and upper montane coniferous forest from approximately 5,800 to 8,500 feet above msl. This species is endemic to the San Bernardino Mountains. The project site provides marginally suitable habitat for this species and the potential for occurrence is considered to be moderate.

Leafy Buckwheat (*Eriogonum foliosum)*. Leafy buckwheat is a CNPS List 1B species that typically blooms from July to October. This annual herb occurs in sandy soils of chaparral, lower montane coniferous forest, and pinyon-juniper woodland from approximately 3,900 to 7,200 feet above msl. This species is found in scattered locations from Big Bear Valley south to Baja California. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Jepson's Bedstraw (*Galium jepsonii*). Jepson's bedstraw is a CNPS List 4 species that typically blooms from July to August. This rhizomatous, perennial herb occurs in granitic, rocky or gravelly soils in lower and upper montane coniferous forests from approximately 6,500 to 8,100 feet above msl. This species is found in the San Gabriel and San Bernardino mountains. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Johnston's Bedstraw (*Galium johnstonii*). Johnston's bedstraw is a CNPS List 4 species that typically blooms from June to July. This perennial herb occurs in chaparral, lower montane coniferous forest, pinyon-juniper woodland, and riparian woodland from approximately 5,300 to 7,500 feet above msl. This species is found in the San Gabriel and San Bernardino mountains. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Silver-Haired Ivesia (*Ivesia argyrocoma*). Silver-haired ivesia is a CNPS List 1B species that typically blooms between June and August. This perennial herb occurs in alkaline meadows and seeps, pebble plains, and upper montane coniferous forest from approximately 4,900 to 8,800 feet above msl. It occurs in the San Bernardino Mountains and a disjunct population occurs in the mountains of Baja California. This species was reported on the Project site by MBA and was observed on the Project site during the 2002, 2008 and 2010 botanical surveys.

Duran's Rush (*Juncus duranii)*. Duran's rush is a CNPS List 4 species that typically blooms from July to August. It is a rhizomatous, perennial herb that occurs in mexic soils of lower montane coniferous forest, meadows and seeps, and upper montane coniferous forest from approximately 5,800 feet to 9,000 feet above msl. This species is found in the San Bernardino, San Gabriel, and San Jacinto mountains. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Short-Sepaled Lewisia (*Lewisia brachycalyx*). Short-sepaled lewisia is a CNPS List 2 species that typically blooms from May to June. It is a perennial herb that occurs in mesic meadows and seeps, and lower montane coniferous forest from 4,500 to 7,500 feet above msl. This species is endemic to the San Bernardino Mountains. The project site provides limited suitable habitat for this species and the potential for occurrence is considered to be moderate.

Baldwin Lake Linanthus (*Linanthus killipii*). The Baldwin Lake linanthus is a CNPS List 1B species that blooms from May to July. It is an annual herb that occurs in alkaline meadows and seeps, pebble plain, pinyon-juniper woodland, and upper montane coniferous forest from approximately 5,500 to 7,800 feet above msl. This species is endemic to the San Bernardino Mountains. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

San Bernardino Mountain Monkeyflower (*Mimulus exiguus*). The San Bernardino Mountain monkeyflower is a CNPS List 1B species that typically blooms from June to July. It is an annual herb that occurs in mesic, clay soils of meadows and seeps, pebble plain, and upper montane coniferous forest between approximately 5,800 and 7,500 feet above msl. This species is found in the San Bernardino Mountains and high mountains of Baja California. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Purple Monkeyflower (*Mimulus purpureus var. purpureus*). Purple monkeyflower is a CNPS List 2 species that typically blooms from May to July. It is an annual herb that occurs in meadows and seeps, pebble plain, and upper montane coniferous forest from approximately 6,100 to 7,500 feet above msl. This species is found in the San Bernardino Mountains and high mountains of Baja California. The species was first observed on site during botanical surveys in 1988 and was later observed on the Project site, including within Lot "A", and along a draw on the eastern portion of the site, corresponding to Lot 50 (Krantz, 2008).

Chickweed Oxytheca *(Oxytheca caryophylloides).* Chickweed oxytheca is a CNPS List 4 species that typically blooms from July to September. It is an annual herb that occurs in sandy soils of lower montane coniferous forest from approximately 3,900 to 8,500 feet above msl. This species is found in the southern Sierra Nevada, Transverse Ranges, and San Jacinto Mountains. The project site provides suitable habitat for this species and the potential for occurrence is considered to be high.

Parish's Yampah (*Perideridia parishii ssp. parishii*). Parish's yampah is a CNPS List 2 species that typically blooms from June to August. It is a perennial herb that occurs in lower and upper montane coniferous forests, and meadows and seeps above approximately 6,500 feet above msl. This species is found in the San Bernardino Mountains and in disjunct populations in Arizona and New Mexico. There is a low potential for this species to occur on site.

Transverse Range Phacelia (*Phacelia exilis*). The Transverse Range phacelia is a CNPS List 4 species that typically blooms from May to August. It is an annual herb that occurs in sandy or gravelly soils in lower and upper montane coniferous forests, and meadows and seeps from approximately 3,500 to 8,500 feet above msl. This species is found in the southern Sierra Nevada and Transverse Ranges. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Mojave Phacelia (*Phacelia mohavensis*). The Mojave phacelia is a CNPS List 4 species that typically blooms from April to August. It is an annual herb that occurs in sandy or gravelly soils of cismontane woodland, lower montane coniferous forest, meadows and seeps, and pinyon-juniper woodland from approximately 4,500 to 8,100 feet above msl. This species is found in the San Gabriel and San Bernardino mountains. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Bear Valley Phlox (*Phlox dolichantha*). The Bear Valley phlox is a CNPS List 1B species that blooms from June to July. It is a perennial herb that occurs in pebble plain and upper montane coniferous forest from approximately 6,500 to 8,800 feet above msl. This species is endemic to the San Bernardino Mountains. Although restricted to Big Bear and Holcomb Valleys, its regional distribution extends up to the summit of Sugarloag Mountain south of Big Bear Valley and as far north as White Mountain, northwest of Holcomb Valley. The taxon is fairly common within its range and is not considered to be a high priority for formal listing or more formal protection (Krantz 2008). Krantz (2008) found the species to be rather widely distributed on the Project site in open black oak woodland and under Jeffrey pines.

San Bernardino Bluegrass (*Poa atropurpurea*). San Bernardino bluegrass is a Federally-listed Endangered and CNPS List 1B species that typically blooms from May to June. It is a rhizomatous, perennial herb that occurs in mesic meadows and seeps between approximately 4,800 and 7,200 feet above msl. This species is found in the San Bernardino and Laguna mountains (San Diego). The project site does not provide suitable habitat for this species and the potential to occur is considered to be low.

Bear Valley Pyrrocoma (*Pyrrocoma uniflora ssp. gosssypina*). Bear Valley pyrrocoma is a CNPS List 1B species that typically blooms from July to August. It is a perennial herb that occurs in meadows and seeps, and pebble plain from approximately 5,200 to 7,600 feet above msl. This species is endemic to the San Bernardino Mountains. The project site does not provide suitable habitat for this species and the potential to occur is considered to be low.

Parish's Rupertia (*Rupertia rigida*). Parish's rupertia is a CNPS List 4 species that typically blooms from June to July. It is a perennial herb that occurs in chaparral, cismontane woodland, and lower montane coniferous forest below approximately 8,100 feet above msl. This species is found in the San Bernardino Mountains, Peninsular Ranges, and Baja California. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Prairie Wedge Grass (*Sphenopholis obtusata).* Prairie wedge grass is a CNPS List 2 species that typically blooms from April to July. It is a perennial herb that occurs in mesic soils of cismontane woodland, meadows and seeps between approximately 1,000 and 6,550 feet above msl. This species is found in a few widely scattered locations in Amador, Fresno, Inyo, Mono, Riverside, and

San Bernardino counties in California. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Laguna Mountains Jewelflower (*Streptanthus bernardinus*). The Laguna Mountains jewelflower is a CNPS List 4 species that typically blooms from June to July. It is a perennial herb that occurs in chaparral, and lower montane coniferous forest between approximately 3,900 and 8,100 feet above msl. This species is found in the Transverse and Peninsular ranges and Baja California. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Southern Jewelflower *(Streptanthus campestris*). The southern jewelflower is CNPS List 1B species that typically blooms from May to July. It is a perennial herb that occurs in rocky soils of chaparral, lower montane coniferous forest, and pinyon-juniper woodland from approximately 2,900 to 7,500 feet above msl. This species is known from fewer than twenty occurrences in Riverside, San Bernardino, and San Diego counties, and Baja California. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Pine Green-Gentian (*Swertia neglecta)*. Pine green-gentian is a CNPS List 4 species that typically blooms from May to July. It is a perennial herb that occurs in lower and upper montane coniferous forests, and pinyon-juniper woodlands from approximately 4,500 to 8,100 feet above msl. This species is found in the South Coastal and Transverse ranges within Los Angeles, San Bernardino, and Ventura counties. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Small-Flowered Bluecurls (*Trichostema micranthum*). Small-flowered bluecurls is a CNPS List 4 species that typically blooms from July to September. It is an annual herb that occurs in mesic soils in lower montane coniferous forest and meadows and seeps from 6,500 to 7,500 feet above msl. This species is found in the San Bernardino Mountains and Baja California. The project site provides suitable habitat for this species and the potential to occur is considered to be high.

Special Status Wildlife

Fifty-three (53) special status wildlife species are known to occur within the region, 22 of which have a moderate or high potential to occur within the Project site. Focused surveys for the bald eagle, California spotted owl, southwestern willow flycatcher, and southern rubber boa were conducted in the winter, spring, summer and fall of 2002. Additional focused surveys were conducted for the southwestern willow flycatcher and San Bernardino Mountains flying squirrel during spring and summer 2007. Two special status wildlife species (bald eagle and southern sagebrush lizard) have been observed on the Project site. A brief description of the special status wildlife species that were determined to have a moderate to high potential to occur on the Project site, as well as those species for which focused surveys were conducted, is provided below and summarized in Table 2-4.

Table 2-4: Special Status Wildlife Species Potentially Occurring Within the Project Region

Species	Status1		Likelihood for Occurrence
	USFWS	CDFG	
Invertebrates			
Euchloe hyantis ssp. *andrewsi* Andrews' marble butterfly	SOC	C	Low; above known elevation range, limited suitable habitat
Amphibians			
Ensatina escholtzii croceater Yellow-blotched salamander	SOC	SSC	Low; limited marginally suitable habitat
Ensatina escholtzii klauberi Large-blotched salamander	SOC	SSC	None; above known elevation range, outside known geographic range
Rana muscosa Mountain yellow-legged frog	FPE	SSC	None; no suitable habitat
Scaphiopus hamondii Western spadefoot toad	SOC	SSC	None; above known elevation range
Taricha torosa torosa Coast range newt	SOC	SSC	None; no suitable habitat, above known elevation range
Reptiles			
Anniella pulchra pulchra Silvery legless lizard	SOC	SSC	Low; above known elevation range
Charina bottae umbricata Southern rubber boa	SOC	ST	Low; limited suitable habitat
Cnemidophorus tigris multiscutatus Coastal western whiptail	SOC	C	Moderate; suitable habitat
Coleonyx variegatus abbotti San Diego banded gecko	SOC	C	None; above known elevation range, no suitable habitat
Diadophis punctatus modestus San Bernardino ringneck snake	SOC	C	Low; limited suitable habitat
Lampropeltis zonata parvirubra San Bernardino Mountain kingsnake	SOC	C	Moderate; marginally suitable habitat
Lichanura trivirgata roseofusca Coastal rosy boa	SOC	C	None; above known elevation range
Phrynosoma coronatum ssp. *blainvillei* San Diego coast horned lizard	SOC	SSC/P	None; above known elevation, lack of suitable habitat
Sceloporus graciosus vendenbergianus Southern sagebrush lizard	SOC	C	Observed
Salvadora hexalepis virgultea Coast patch-nosed snake	SOC	SSC	None; lack of suitable habitat, above known elevation
Thamnophis hammondii hammondii Two-striped garter snake	C	SSC	None; no suitable habitat
Birds			
Accipiter cooperii Cooper's hawk	C	SSC	Nesting: Moderate Foraging: High
Accipiter gentilis Northern goshawk	SOC	SSC	Nesting: None Foraging: Moderate

Table 2-4 (cont.): Special Status Wildlife Species Potentially Occurring Within the Project Region

Species	Status1		Likelihood for Occurrence
	USFWS	CDFG	
Accipiter striatus Sharp-shinned hawk	C	SSC	Nesting: None Foraging: High in winter
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	SOC	SSC	Nesting: None Foraging: None; above known elevation range
Amphispiza belli belli Bell's sage sparrow	SOC	SSC	Nesting: None Foraging: None; above known elevation range
Aquila chrysaetos Golden eagle	C	SSC	Nesting: None Foraging: High
Asio otus Long-eared owl	C	SSC	Nesting: Low Foraging: Moderate
Buteo regalis Ferruginous hawk	SOC	SSC	Nesting: None Foraging: Low in winter
Circus cyaneus Northern harrier	C	SSC	Nesting: None Foraging: Low
Cypseloides niger Black swift	C	SSC	Nesting: None Foraging: Moderate
Dendroica petechia Yellow warbler	C	SSC	Nesting: None Foraging: Moderate
Elanus leucereus White-tailed kite	C	FP	Nesting: Low Foraging: Low
Empidonax traillii extimus Southwestern willow flycatcher	FE	SE	Nesting: Low Foraging: Moderate; rare migrant
Eremophila alpestris actia California horned lark	C	SSC	Nesting: None Foraging: None; above known elevation range
Falco columbaris Merlin	C	SSC	Nesting: None Foraging: Low
Falco mexicanus Prairie falcon	C	SSC	Nesting: None Foraging: Low
Falco peregrinus anatum American Peregrine falcon	C	FE	Nesting: None Foraging : Low
Haliaeetus leucocephalus Bald eagle		SE	Observed Observed
Lanius ludovicianus Loggerhead shrike	SOC	SSC	Nesting: None Foraging: None; above known elevation range
Piranga flava Hepatic tanager	C	SSC	Nesting: Low Foraging: Low
Progne subis Purple martin	C	SSC	Nesting: Low Foraging: Low; local rarity
Strix occidentalis occidentalis California spotted owl	SOC	SSC	Nesting: Low/None observed during focused surveys Foraging: High/Observed in close proximity to project site
Vireo vicinior Gray vireo	C	SSC	Nesting: None Foraging: Low

Table 2-4 (cont.): Special Status Wildlife Species Potentially Occurring Within the Project Region

Species	Status1		Likelihood for Occurrence
	USFWS	CDFG	
Mammals			
Antrozus pallidus Pallid bat	C	SSC	Roosting: Low Foraging: Low
Euderma maculatum Spotted bat	SOC	SSC	Roosting: None Foraging: Moderate
Eumops perotis californicus California mastiff bat	SOC	SSC	Roosting: None Foraging: Low
Glaucomys sabrinus californicus San Bernardino Mountain flying squirrel	SOC	SSC	Breeding: Low Foraging: High
Myotis ciliolabrum Small-footed myotis	SOC	C	Roosting: Low Foraging: High
Myotis evotis Long-eared myotis	SOC	C	Roosting: High Foraging: High
Myotis lucifugus Occult little brown bat	SOC	SSC	Roosting: High Foraging: High
Myotis thysanodes Fringed myotis	SOC	C	Roosting: Low Foraging: Moderate
Myotis volans Long-legged myotis	SOC	C	Roosting: Moderate Foraging: Moderate
Myotis yumanensis Yuma myotis	SOC	C	Roosting: Low Foraging: Moderate
Onychomys torridus ramona Southern grasshopper mouse	SOC	SSC	None; no suitable habitat
Perognathus alticola alticola White-eared pocket mouse	SOC	SSC	None; presumed extinct locally
Plecotus townsendii townsendii Pacific western big-eared bat	SOC	SSC	Roosting: None Foraging: Moderate

Status Definitions:

USFWS

FE: Species designated as Endangered under the Federal Endangered Species Act. Endangered = "any species in danger of extinction throughout all or a significant portion of its range."

FT: Species designated as Threatened under the Federal Endangered Species Act. Threatened = "species likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range."

FPE: Proposed for federal listing as Endangered.

FPT: Proposed for federal listing as Threatened.

C: Candidate for federal listing as Threatened or Endangered.

SOC: Species of Concern

CDFG

SR: Rare = "a species is rare when, although not presently Threatened with extinction, it is in such small numbers throughout its range that it may become Endangered if its present environment worsens."

ST: Threatened = "a species that, although not presently Threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this Act (California Endangered Species Act)."

SE: Endangered = "a species is endangered when its prospects of survival and reproduction are in immediate jeopardy from one or more causes."

SSC: Species of Special Concern.

FP: Fully Protected species are protected by special legislation and cannot be taken at any time.

P: Protected species are also protected by special legislation and can only be taken with a permit issued by the CDFG.

C: Candidate for state listing as Threatened or Endangered.

A brief description of the special status wildlife species that were determined to have a moderate to high potential to occur on the Project site, as well as those species for which focused surveys were conducted, is provided below:

Reptiles

Southern Rubber Boa (*Charina bottae umbbricata)*. The southern rubber boa is a Federal Species of Concern and State-listed Threatened species found in the San Bernardino and San Jacinto mountains at elevations between 4,900 and 7,900 feet above msl. The majority of the localities for this species are in a 10-mile long strip of the San Bernardino Mountains between Twin Peaks in the west to Green Valley in the east. Known locations for this species occur on the north-facing slopes immediately south of Big Bear Lake. This species usually occurs in moist woodlands and coniferous forests with deep, well developed soils. It is a burrower and also commonly makes use of rock out crops for hibernation. Large downed logs and a well-developed litter layer are considered important for cover and for maintaining soil moisture. Surveys for this species were conducted in the spring and summer of 2002. An additional assessment of the Project site was conducted during February 2007 by Dr. Glenn R. Stewart, PhD, Professor Eneritus of Zoology and Environmental Sciences, Cal Poly Pomona, a noted authority on the SRB (see Appendix A of this Revised and Recirculated Draft EIR No. 2). No southern rubber boas were encountered during surveys. Given the lack of historical records in the immediate vicinity of the Project site, the negative results of two independent focused survey techniques, and the assessment results of Dr. Stewart, the southern rubber boa has a low potential to occur on the Project site.

Coastal Western Whiptail (*Cnemidophorus tigris multiscutatus*). The coastal western whiptail is a Federal Species of Concern. It is a moderately large, slender lizard typically found in open scrub, chaparral, and woodland communities in semi-arid areas or where vegetation is sparse, from below sea level to 7,000 feet above msl. This species is restricted to the western coast of North America from Ventura County south through the northern two-thirds of the Baja California peninsula. The project site provides suitable habitat for this species; however, it is at the maximum elevation for this species and its potential to occur is considered to be moderate.

San Bernardino Mountain Kingsnake (*Lampropeltis zonata parvirubra*). The San Bernardino mountain king snake is a Federal Species of Concern that occurs in the San Jacinto, San Bernardino, and San Gabriel mountains. This species typically occurs in open stands of ponderosa pine, Jeffrey pine, Coulter pine, and/or black oak at elevations ranging from 4,500 to 6,500 feet above msl. This species occurs at higher elevations, but is less common. Partially shaded rock outcrops appear to be an important microhabitat element for refugia and basking sites. The project site provides marginally suitable habitat for this species and its potential to occur is considered to be moderate.

Southern Sagebrush Lizard (*Sceloporus graciosus vandenbergianus*). The southern sagebrush lizard is a Federal Species of Concern that occurs in open coniferous forests and shrubland above 3,000 feet above msl. Its known range extends from Mount Pinos south to Baja California. This

species inhabits mixed conifer forest, black oak woodlands, montane chaparral, and pinyon-juniper woodlands. This species was observed frequently on the Project site.

Birds

Cooper's Hawk (*Accipiter cooperii*). The Cooper's hawk is a State Species of Special Concern. Both resident and migratory populations exist in San Bernardino County. Wintering Cooper's hawks are often seen in wooded urban areas and native woodland communities. Preferred nesting habitats include riparian forests, mountain canyons, and oak woodlands. Cooper's hawks in the region prey on small birds and rodents that live in woodland and, occasionally, scrub and chaparral communities. Breeding residents have been observed in the vicinity of Big Bear Lake. The project site provides suitable foraging habitat, but a limited amount of nesting habitat for this raptor. Therefore, its overall potential to occur is considered to be high, although the potential for nesting is moderate.

Northern Goshawk (*Accipiter gentilis*). The northern goshawk is a Federal Species of Concern and State Species of Special Concern. Rare in southern California, goshawks have been observed during the breeding season only on Mount Abel, Mount Pinos, and in the San Bernardino and San Jacinto mountains. Breeding has not been documented in the San Bernardino Mountains, although goshawks have been observed near Big Bear Lake. Goshawks occur in a variety of coniferous forest communities, including ponderosa and Jeffrey pine, mixed conifer, white fire and lodgepole pine. Large snags and downed logs are believed to be important habitat elements because they increase the abundance of small- to medium sized birds and mammals composing this species prey base. Limited suitable foraging habitat is present on the Project site and the potential for this species is considered moderate for foraging, but no potential for nesting.

Sharp-shinned Hawk (*Accipiter striatus*). The sharp-shinned hawk is a State Species of Special Concern. This raptor is a fairly common winter visitor throughout southern California. It prefers woodland communities, but can also be found in virtually any habitat as it passes through the area during migration. The sharp-shinned hawk is a fairly common winter visitor in the Big Bear Lake vicinity, and its potential to occur for foraging is considered to be high. However, the Project site provides no nesting habitat for this raptor.

Golden Eagle (*Aquila chryysaetos*). The golden eagle is a State Species of Special Concern. This raptor is uncommon, but widely distributed throughout foothill, lower montane, and desert montane habitats in southern California. Golden eagles nest primarily on cliffs and hunt for rabbits and other small mammals in open habitats such as grasslands, oak savannas, and open shrublands. No nesting habitat is present on the Project site; however, the potential for foraging on the Project site is considered high.

Long-eared Owl (*Asio otus*). The long-eared owl is a State Species of Special Concern. It breeds and roosts in riparian forests and woodlands or other dense forest habitats. This owl forages at night in open habitats including marshes, grasslands, and agricultural fields. It occurs throughout North

America but is an increasingly rare breeder in southern California. The project site provides moderate suitable foraging habitat and limited nesting habitat, for this species.

Black Swift (*Cypseloides niger*). The black swift is a State Species of Special Concern. It is known to breed in the San Gabriel Mountains, Mill Creek Canyon in the San Bernardino Mountains, and the San Jacinto Mountains. This species occurs in mountain and foothill canyons where it nests in rocky cliffs behind waterfalls. No suitable nesting habitat is present on the Project site; however, this project site could provide suitable foraging habitat and the potential for this species to forage on the Project site is considered moderate.

Yellow Warbler (*Dendroica petechia*). The western yellow-warbler is a California Species of Special Concern. This subspecies of yellow warbler that breeds in southern California is the western yellow warbler (*D.p. brewsteri*). This subspecies occurs in coastal areas from northwestern Washington south to western Baja California. In southern California, yellow warblers breed locally in riparian woodlands. The yellow warbler is an abundant migrant and would be expected to occur in spring and fall during migration. No suitable nesting habitat is present on the Project site; however, the potential for foraging migrants on the Project site is considered moderate.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*). The southwestern willow flycatcher is a federally- and State-listed endangered species. This subspecies has declined drastically due to a loss of breeding habitat and nest parasitism by brown-headed cowbirds. This species occurs in riparian habitats along rivers, streams, or other wetlands where dense growths of willows (*Salix* sp.), baccharis (*Baccharis* sp.), arrowweed (*Pluchea* sp.), tamarisk (*Tamarix* sp.), or other plants are present, often with a scattered overstory of cottonwood (*Populus* sp.). The potential for this species to occur on the Project site as a foraging migrant is considered to be high, but its potential to nest on the Project site is considered low. Surveys for this species were conducted in the spring and summer of 2002 and again in 2007. No breeding or individual southwestern willow flycatchers were detected during the surveys. Willows along the shoreline are patchy and lack the dense growth or willow thicket favored by this species as territorial or breeding habitat. Therefore, breeding southwestern willow flycatchers are not expected to occur on the Project site.

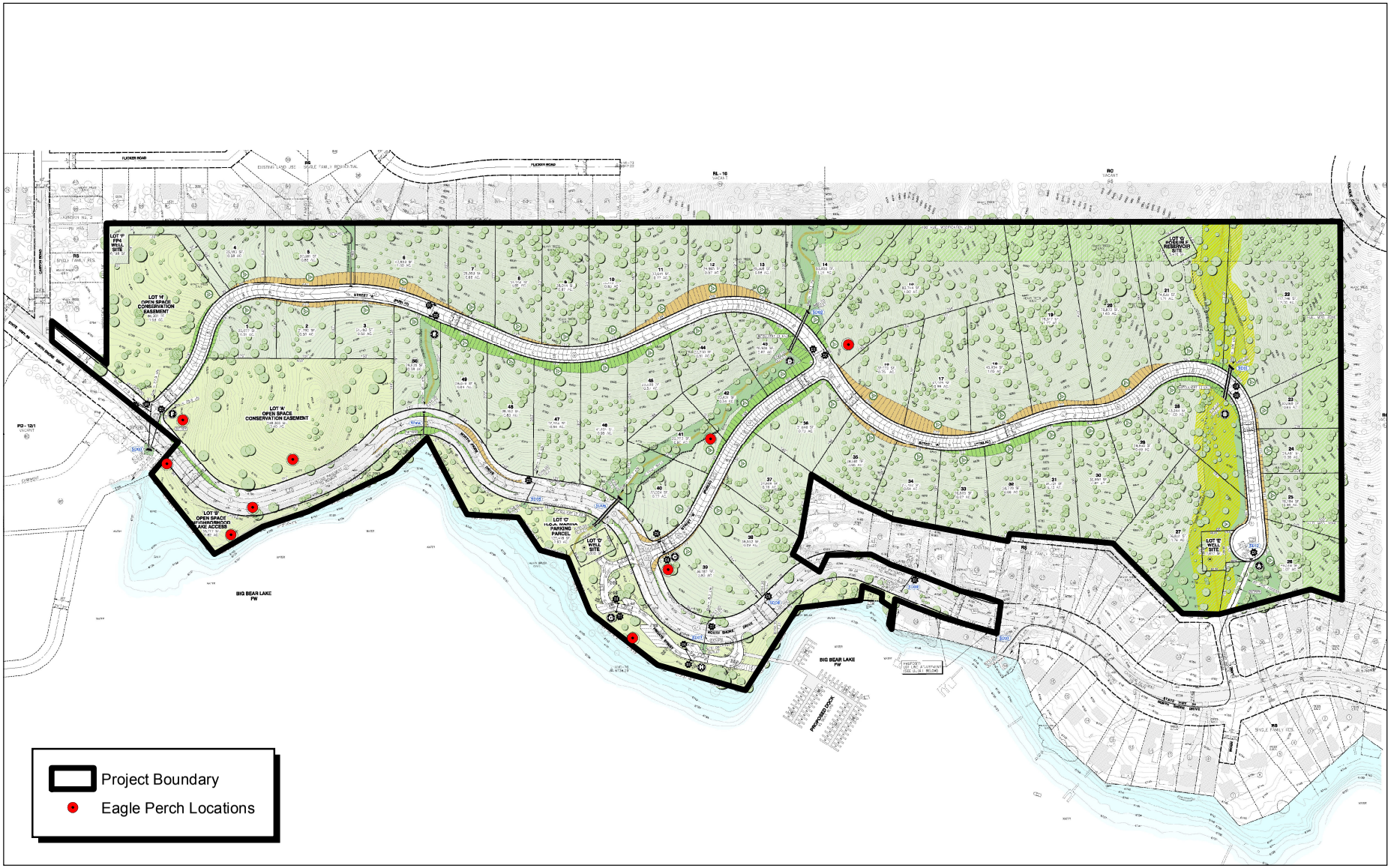
Bald Eagle (*Haliaeetus leucocephalus*). The bald eagle is a State-listed endangered species. This raptor typically overwinters in small numbers in southern California near lakes and reservoirs where they feed on fish, coots, and waterfowl. The largest known wintering population in southern California is at Big Bear Lake in the San Bernardino Mountains, where twenty to thirty eagles typically congregate from November to March. This species is known to be present on the Project site in winter and could potentially nest on the Project site. Surveys and records searches were conducted for the Project site in the winter of 2002 and 2007 to determine bald eagle use of perch trees and favored roosting locations (refer to Appendix A of this Revised and Recirculated Draft EIR). The surveys found that the site is used extensively by bald eagles. Bald eagle perch and roost locations were recorded and individual trees were marked with numbered tags. Tree perch locations

are shown on Exhibit 2-3. The records search confirmed extensive use of the Project site by bald eagles and found that the most commonly recorded use of a single tree was also on the Project site. In 2007 two bald eagle nests with potentially two pair of bald eagles were located in the Big Bear Lake area (Forest Service, June 25, 2007). One of the nests was located near Grout Bay, which is just west of the Project site.

California Spotted Owl (*Strix occidentalis occidentalis*). The California spotted owl is a Federal Species of Concern and State Species of Special Concern. This species occurs in all of the major mountain ranges in southern California, although some ranges support very few pairs. It is found at elevations ranging from below 1,000 feet to 8,500 feet above msl in mature forests typically with a dense, multi-layered canopy. Its prey base consists of woodrats (i.e., *Neotoma* spp.) and other rodents. Surveys were conducted for this species on the Project site in the spring and summer of 2002 (refer to Appendix A). Although one male spotted owl was detected approximately one mile to the northwest of the Project site, no nesting pairs or individuals were observed on the Project site. The San Bernardino National Forest has been conducting focused spotted owl surveys for the past several years and is monitoring the known breeding owls and territories which are located several miles north of the Project site in the dense conifer forest. Therefore, no nesting pairs presently occur on the Project site; however, individuals have a high potential to forage on the Project site

Mammals

Spotted bat (*Euderma maculatum).* The spotted bat is a Federal Species of Concern that occurs throughout much of the western United States, occupying a variety of habitats from arid deserts and grasslands through mixed conifer forests Because of the low frequency of their echolocation calls large open habitat is predicted to be preferred. Spotted bats roost in the small cracks found in cliffs and stony outcrops. They feed almost entirely on moths. The project site does not provide roosting habitat but it does provide potentially suitable foraging habitat for this species.



Source: Hicks & Hartwick, Inc. (December, 2010), Bon Terra Consulting (July, 2003), Tim Krantz (2008), Scott White & MBA.

NORTH

350 175 0 350

Feet

Michael Brandman Associates

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Exhibit 2-3
Eagle Perch Locations Map

SAN BERNARDINO COUNTY
MOON CAMP RESIDENTIAL SUBDIVISION PROJECT

San Bernardino Mountain Flying Squirrel (*Glaucomys sabrinus californicus*). The San Bernardino Mountain flying squirrel is a Federal Species of Concern and State Species of Special Concern. It occurs in the San Bernardino Mountains between 5,200 and 8,500 feet above msl. This species prefers mid- to upper-elevation, dense, mature coniferous forest habitats, particularly those containing white fir. They use cavities in large trees, snags, and logs for cover. The project site provides suitable foraging habitat for this species and the potential for occurrence is considered high. The northeastern portion of the Project site provides potential nesting habitat as the forest in this area more dense with some portions having a closed canopy. This species was trapped in 1998 by the Forest Service approximately 0.5 mile north of the northern boundary of the Project site. A focused survey was conducted on the Project site in 2007 and resulted in negative findings.

Small-footed Myotis (*Myotis ciliolabrum*). The small-footed myotis is a Federal Species of Concern that occurs throughout much of the western United States, occupying a variety of habitats. This species feeds among trees or over brush, and roosts in cavities of cliffs, trees, or rocks and within caves or mine shafts. The project site provides potentially suitable roosting and foraging habitat for this species and the potential for occurrence is considered to be low for roosting and high for foraging.

Long-eared Myotis (*Myotis evotis*). The long-eared myotis is a Federal Species of Concern that is restricted to high-elevation habitats. It is known to occur in Coon Creek in the San Bernardino National Forest. This species can occur in a variety of habitats, but are usually associated with coniferous forests where they roost under exfoliating tree bark. The project site provides potentially suitable roosting and foraging habitat for this species and the potential for occurrence is considered to be high for foraging and roosting.

Occult Little Brown Bat (*Myotis lucifugus*). The occult little brown bat is a Federal Species of Concern and State Species of Special Concern that is restricted to high-elevation habitats. This species occurs in pine forests at elevations ranging from 6,000 to 9,000 feet above msl. It roosts in buildings, trees, and cliffs and feeds over water or open sites. The project site provides suitable roosting and foraging habitat and the potential for this species to occur is considered to be high for foraging and roosting.

Fringed Myotis (*Myotis thysanodes*). The fringed myotis is a Federal Species of Concern that is restricted to high-elevation habitats. This species has been observed on Arrastre Creek on the San Bernardino National Forest. It occurs in a wide variety of habitats but is most commonly found in dry pine or mixed conifer forests and pinyon-juniper woodlands where it will roost in caves, buildings, mine shafts, rock crevices in cliff faces, trees, and bridges. Hibernation has only been documented in buildings and mines. The project site provides marginally suitable roosting and foraging habitat for this species and potential for occurrence is considered to be moderate for foraging and low for roosting.

Long-legged Myotis (*Myotis volans*). The long-legged myotis is a Federal Species of Concern that is restricted to high-elevation habitats. This species has been observed on Arrastre Creek on the San Bernardino National Forest. It is primarily a bat of coniferous forests but also occurs seasonally in riparian and desert habitats. It uses abandoned buildings, cliff crevices, exfoliating tree bark, and hollows within snags as summer day roosts; caves and mine tunnels for hibernation. The project site provides marginally suitable foraging and roosting habitat for this species and its potential to occur on the Project site is considered to be moderate for foraging and roosting.

Yuma Myotis (*Myotis yumanensis*). The Yuma myotis is a Federal Species of Concern and a relatively small bat that occurs statewide. This species is closely associated with water and wooded canyon bottoms throughout its range. Caves and old buildings are preferred roosting habitats, with roosts numbering up to 2,000 individuals. The project site provides potentially suitable foraging habitat for this species and the potential for this species to forage on the Project site is considered to be moderate; however, this species is not expected to roost on the Project site.

Pacific Western Big-eared Bat (*Plecotus townsendii pallescens*). The Pacific western big-eared bat occurs throughout California and is a Federal Species of Concern and State Species of Special Concern. In the southern portion of the state, the subspecies, *P.t. pallescens*, occupies a variety of communities, including oak woodlands, arid deserts, grasslands, and high-elevation forests and meadows. Known roosting sites in California include mines, caves, and buildings. The project site would provide foraging habitat for this species and it has a moderate potential to forage on the Project site; however, no suitable roosting habitat is present.

Critical Habitat

The site is not located within any critical habitat designated areas for federally listed species.

Wildlife Movement

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (e.g., foraging for food or water, defending territories, searching for mates, accessing breeding areas, or securing cover). A number of terms have been used in various wildlife movement studies, such as "travel route," "wildlife corridor," and "wildlife crossing" to refer to areas in which wildlife move from one area to another.

To clarify the meaning of these terms and to facilitate the discussion on wildlife movement in this analysis, these terms are briefly defined as follows:

- *Travel Route:* a landscape feature such as a ridgeline, drainage, canyon, or riparian strip within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites).

- *Wildlife Corridor:* a piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another.
- *Wildlife Crossing:* a small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) established in 1918 the federal prohibition, unless permitted by regulations, to pursue, hunt, take, capture, or kill any migratory bird species or any part, nest, or egg of any such migratory bird species covered by the act. Impacts to any bird (or its nest) listed by the MBTA are considered punishable by fines and/or imprisonment. Additionally, impacts to nesting MBTA-listed species are considered a significant impact by Fish and Game Code per guideline Section 3513 and United States Code per guideline Sections 703 et seq.

Jurisdictional Waters

A Delineation of federal and State Jurisdictional Waters was prepared by RBF (Consulting (March 2002) in conjunction with the 2004 Draft EIR for several unnamed drainages located within the Project site. Prior to visiting the site, RBF conducted a review of U.S. Geological Survey (USGS) topographic maps (Quadrangle *Fawnskin, California*, dated 1996) and aerial photographs to identify areas that *may* fall under an agency's jurisdiction. United States Army Corps of Engineers (USACE) jurisdictional wetlands are delineated using the methods outlined in the USACE Wetland Delineation Manual (1987) based on hydrologic and edaphic features of the site, and on the vegetation composition of the site. Non-wetland waters of the United States (U.S.) are delineated based on the limits of the ordinary high water mark (OHWM) as determined by erosion, the deposition of vegetation or debris, and changes in the vegetation. Generally, CDFG takes jurisdiction to the bank of the stream/channels or to the limit of the adjacent riparian vegetation, whichever is greater. Analysis of the Project site consists of field surveys and verification of current conditions conducted in March 2002 (as outlined within the 2004 EIR).

Vegetation within the drainages of the Project site consisted of upland habitat, dominated by Jeffrey pines. Soils within the drainages were documented to be silty-sand (large grain). Soil samples taken on-site were generally dry and lacked characteristics of hydric soils (i.e., odor, streaking, mottling). No flow within the on-site drainages was observed during the March 15, 2002, field visit. However, evidence of an OHWM was observed within the drainages, primarily indicated by sediment deposits. It should also be noted that Big Bear Lake adjoins the Project site to the south. Based on discussions with the Big Bear Municipal Water District, the current water level of Big Bear Lake (as of May 27, 2009) is 6,738.1-feet above msl. The OHWM is reported to be 6,743.2 feet above msl.

Waters of the U.S. (Non-Wetland) Determination

Based on the results of the field observations and data collection, RBF identified 0.15-acre of Corps jurisdictional "waters of the U.S." within the Proposed Project site. The drainages are ephemeral. Utilizing the most current development plans, it was determined that roadway improvements would impact 0.04-acre of Corps jurisdiction.

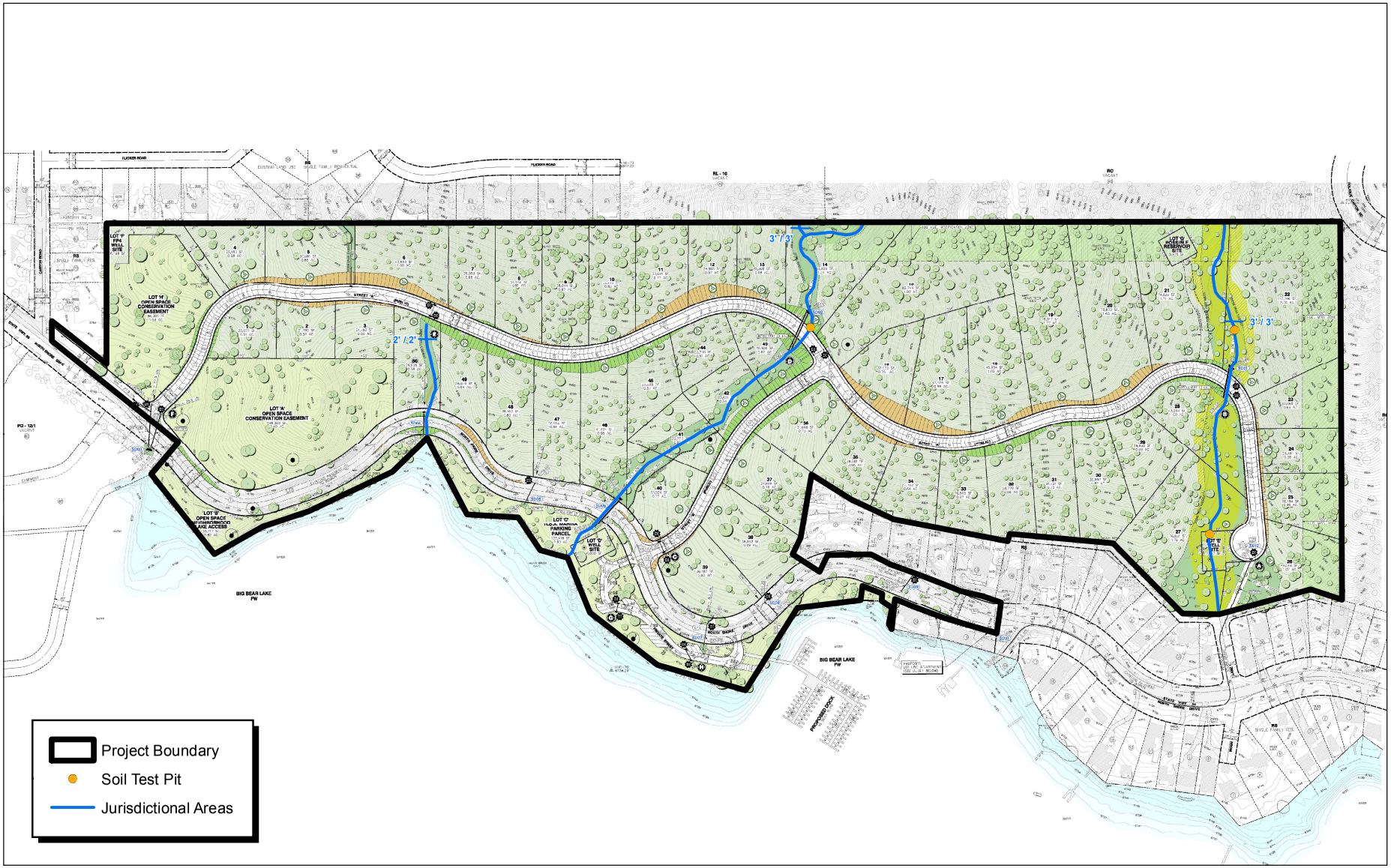
California Department of Fish and Game (1603) Jurisdiction

Based on the results of the field observations and data collection, RBF identified 0.15-acre of CDFG jurisdictional waters. Utilizing the most current development plans, it was determined that roadway improvements would impact 0.04-acre of CDFG jurisdiction.

2.1.4 - Regulatory Setting

This regulatory framework identifies the federal, state, and local statutes, ordinances, or policies that govern the conservation and protection of biological resources and must be considered during the decision-making process for projects that have the potential to affect biological resources. In this context, biological resources are defined to include the following:

- Any species identified as a federal candidate for listing, a sensitive species, or as having special status in local or regional plans, policies or regulations, by the CDFG or USFWS;
- Habitat designated as State Sensitive Habitats by the CDFG Natural Heritage Program;
- Wetlands or other "waters of the U.S." afforded protection pursuant to Section 404 of the Clean Water Act (CWA);
- Riparian or wetland habitats afforded protection pursuant to Section 1600 of the State Fish and Game Code (Code);
- Native resident or migratory wildlife corridors;
- Native wildlife nursery sites;
- Occupied nesting habitat for birds afforded protection pursuant to the MBTA; and
- Plant and wildlife habitats afforded protection pursuant to Habitat Conservation Plans (HCPs) and Natural Community Conservation Plans (NCCPs).



Source: Hicks & Hartwick, Inc. (December, 2010), Bon Terra Consulting (July, 2003), Tim Krantz (2008), Scott White & MBA.

NORTH

350 175 0 350

Feet

Michael Brandman Associates

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Exhibit 2-4
Jurisdictional Map

SAN BERNARDINO COUNTY
MOON CAMP RESIDENTIAL SUBDIVISION PROJECT

Federal

Federal Endangered Species Act (FESA)

The purposes of this Act are to provide a means to conserve the ecosystems that endangered and threatened species depend on and to provide a program for conservation and recovery of these species. FESA defines species as "endangered" and "threatened" and provides regulatory protection for any species so designated. Section 9 of the FESA prohibits the take of species listed by the USFWS as threatened or endangered. As defined in the FESA, take means "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in such conduct." In recognition that take cannot always be avoided, Section 10(a) of the FESA includes provisions for take that is incidental to, but not the purpose of, otherwise lawful activities. Section 10(a)(1)(B) permits (incidental take permits) may be issued if taking is incidental and does not jeopardize the survival and recovery of the species in the wild.

Section 7(a)(2) of the FESA requires all federal agencies, including the USFWS, to evaluate the Project with respect to any species proposed for listing or already listed as endangered or threatened and their critical habitat, if any is proposed or designated. Federal agencies must undertake programs for the conservation of endangered and threatened species, and are prohibited from authorizing, funding, or carrying out any action that will jeopardize a listed species or destroy or modify its "critical habitat." As defined in the FESA, "individuals, organizations, states, local governments, and other non-Federal entities are affected by the designation of critical habitat only if their actions occur on federal lands, require a Federal permit, license, or other authorization, or involve federal funding."

Migratory Bird Treaty Act

The MBTA makes it unlawful to pursue, capture, kill, or possess or attempt to do the same to any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union. As with the FESA, the MBTA authorizes the Secretary of the Interior to issue permits for incidental take.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act will continue to protect the bald eagle following delisting under FESA. Originally passed in 1940 to protect bald eagles, the Eagle Act was amended in 1962 to protect golden eagles as well, by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16 U.S.C. 668(a); 50 CFR 22). "Take" includes pursue, shoot, shoot at, poison, would, kill capture, trap, collect, molest or disturb (16 U.S.C. 668(c); 50 CFR 22.3).

Section 404 of the Federal Clean Water Act

Section 404 of the Federal CWA, which is administered by the USACE, regulates the discharge of dredge and fill material into waters of the U.S. USACE has established a series of nationwide permits that authorize certain activities in waters of the U.S., provided that a proposed activity can

demonstrate compliance with standard conditions. Normally, USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the U.S. Projects that result in impacts to less than 0.5 acre of waters of the U.S. can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. However, USACE has discretionary authority to require an Environmental Impact Statement (EIS) for projects that result in impacts to an area 0.5 acre and above. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

State

Section 2080 and 2081 of the State Fish and Game Code

Section 2080 of the Code states that no person shall import into this state (California), export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission (State Fish and Game Commission) determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, the Native Plant Protection Act, or the California Desert Native Plants Act. Under Section 2081 of the Code, the CDFG may authorize individuals or public agencies to import, export, take, or possess, any state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or memoranda of understanding if: 1) the take is incidental to an otherwise lawful activity; 2) impacts of the authorized take are minimized and fully mitigated; 3) the permit is consistent with any regulations adopted pursuant to any recovery plan for the species; and 4) the applicant ensures adequate funding to implement the measures required by CDFG. CDFG shall make this determination based on the best scientific and other information that is reasonably available and shall include consideration of the species' capability to survive and reproduce.

Section 3503 of the State Fish and Game Code

Section 3503 of the Code states, "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

Section 1600 of the State Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California are subject to the regulatory authority of the CDFG pursuant to Sections 1600 through 1602 of the Code, requiring preparation of a Streambed Alteration Agreement. Under the Code, a stream is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Included are watercourses with surface or subsurface flows that support or have supported riparian vegetation. CDFG also has jurisdiction within altered or artificial waterways based on the value of those waterways to fish and wildlife, and also has jurisdiction over dry washes that carry water ephemerally during storm events.

Native Plant Protection Act

The Native Plant Protection Act includes measures to preserve, protect, and enhance rare and endangered native plants. The definition of "rare and endangered" differs from those contained in the California Endangered Species Act (CESA). However, the list of native plants afforded protection pursuant to this act includes those listed as rare and endangered under the CESA. The Native Plant Protection Act provides limitations on take as follows: "...no person will import into this State, or take, possess, or sell within this State" any rare or endangered native plant, except in compliance with provisions of the act. Individual land owners are required to notify the CDFG at least 10 days in advance of changing land uses to allow the CDFG to salvage any rare or endangered native plant material.

Natural Community Conservation Planning Program

The NCCP Program, initiated by Governor Pete Wilson in 1991 and managed by the CDFG, is designed to conserve multiple species and their habitats, while also providing for the compatible use of private land. Through local planning, the NCCP planning process protects wildlife and habitat before the landscape becomes so fragmented or degraded by development that listings are required under the FESA. Instead of saving small, disconnected units of habitat for just one species at a time, agencies, local jurisdictions, and other interested parties have an opportunity, through the NCCP, to work cooperatively to develop plans that consider broad landscapes, or "ecosystems," and the needs of many species. Partners enroll in the programs and, by mutual consent, habitat areas with high conservation values are set aside and may not be developed. Partners also agree to study, monitor, and develop management plans for these "reserve" areas. The program provides a process for fostering economic growth by allowing approved development in enrolled areas with lower conservation values.

Carbonate Plant Critical Habitat/San Bernardino Mountains Carbonate Habitat Management Strategy

On January 23, 2003, the USFWS designated critical habitat for five federally-listed plants on 13,180 acres of land in the San Bernardino Mountains. The five plants are Cushenbury milk-vetch (*Astragalus albens*), Cushenbury buckwheat (*Eriogonum ovalifolium var. vineum*), San Bernardino Mountains bladderpod (*Lesqueralla kingii ssp. bernardina)*, Cushenbery oxytheca (*Oxytheca parishii var. goodmaniana*), and Parish's daisy (*Erigeron parishii*). Critical habitat for these species covers 11,980 acres between the western edge of White Mountain and the eastern edge of Rattlesnake Canyon, 685 acres northeast of Big Bear Lake, and 515 acres of San Bernardino National Forest lands on Sugarlump Ridge south of Bear Valley. The project site is not located in any areas designated as critical habitat for these five carbonate plants. In addition, a Carbonate Habitat Management Strategy is currently being developed to address the long-term conservation of carbonate habitat in the San Bernardino Mountains. The strategy identifies potential and occupied carbonate habitat and actions to conserve carbonate plants. Plant surveys on the Project site have not identified any carbonate

habitat on the Project site that may be subject to conservation measures outlined in the Carbonate Habitat Management Strategy.

County

County of San Bernardino General Plan

The County of San Bernardino General Plan contains goals and policies/actions designed to preserve biological resources that apply to development within the County's jurisdiction. The general plan contains a list of Rare, Endangered and Threatened species that occur in San Bernardino County, adverse effects on which result in a mandatory finding of significant effect pursuant to State California Environmental Quality Act (CEQA) Guidelines, Section 15065 if individuals are adversely affected by County land use map changes and discretionary land use approvals, thereby requiring the preparation of an Environmental Impact Report (EIR). Listed plant species identified within the General Plan with potential to occur on the Project site include Parish's checkerbloom and bird's foot checkerbloom. Listed wildlife species identified within the General Plan with potential to occur on the Project site include the southern rubber boa and bald eagle.

County of San Bernardino Biotic Resources Overlay District

The project site lies within a County of San Bernardino Biotic Resources (BR) Overlay District. The purpose of the BR Overlay District is to "implement General Plan policies regarding the protection and conservation of beneficial rare and endangered plants and animal resources and their habitats which have been identified within unincorporated areas of the county" (Article 2, 85.030201). The County General Plan implements the intent of the BR Overlay District by requiring all proposed land uses with a minimum of 25 percent of the total proposed development area within the BR Overlay District to prepare a biological technical report identifying impacts to biological resources and mitigation measures designed to reduce or eliminate Project related impacts.

Plant Protection and Management Ordinance – County of San Bernardino Development Code

The County of San Bernardino requires under Chapter 8, Division 9 of the County Development Code (Plant Protection and Management) that development on all private and public lands within the unincorporated areas of San Bernardino County is subject to specific requirements. Removal of any native plant from unincorporated areas of San Bernardino requires the approval of a removal permit. Additionally, the following sections of the ordinance would apply to native plants on the Project site:

89.0110(b) The provisions of this Division shall not authorize the removal of perch trees within identified American bald eagle habitat.

89.0115(c) The reviewing authority may require certification from an appropriate tree expert or native plant expert that such tree removals are appropriate, supportive of a healthy environment and are in compliance with the provisions of this chapter.

89.0205 Any coniferous tree or portion thereof, including stumps, shall be treated in accordance with one of the methods specified in the County of San Bernardino Development Code Sections 89.0205 and 89.0210 within fifteen (15) days after such a tree or portion of such a tree has been cut.

2.1.5 - Thresholds of Significance

The following criteria for establishing the significance of potential impacts on biological resources were derived from Appendix G of the CEQA Guidelines. A significant impact would occur if a Project:

a) Has a substantial adverse effect, through either direct or indirect modification of potentially suitable or occupied habitat, or direct take, to any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;

b) Has an adverse effect on existing riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS;

c) Has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

d) Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native, resident, or migratory wildlife corridors or impedes the use of native wildlife nursery sites;

e) Conflicts with regional policies or other local policies or ordinances protecting biological resources; and

f) Conflicts with approved local, regional, or state habitat conservation plans.

2.1.6 - Project Impact Analysis

Sensitive Plant Communities

Pebble Plain like Soils. Approximately 1,511 acres of pebble plain are known to exist in the San Bernardino Mountains (Krantz, 2008), 60 percent (906 acres) of which occurs on public lands. In addition, according to the 2008 Supplemental Focused Special Status Plant Species Survey indicated that Pebble plain soil conditions occurred on approximately 0.69 acres of the Project site, north of State Route 38 (SR-38). The report stated that it appeared as a distinct open patch within open Jeffrey pine forest in the western portion of the Project site and that the substrate in this area consisted of clay soil mixed with quartzite pebbles and gravel that were continually pushed to the surface through frost action. However, a Supplemental Focused Special Status Plant Species Survey (August 29, 2010) was conducted to respond to concerns raised in comments received on the Revised and Recirculated Draft EIR No. 1. The Supplemental Focused Special Status Plant Species Survey (August 29, 2010) concludes that the prior biological surveys mischaracterized the 0.69 acre portion of the Project site as

true pebble plain. As discussed in the Supplemental Focused Special Status Plant Species Survey (August 29, 2010), the area previously classified as pebble plain habitat is not actually pebble plain due to the lack of the two key indicator species. The 2010 Supplemental Focused Special Status Plant Species Survey findings augment the Supplemental Focused Special Status Plant Species Survey conducted by Dr. Krantz, dated June 29, 2008, providing an additional above-average precipitation year for observation. Therefore, based on the findings of the 2010 Supplemental Focused Special Status Plant Species Survey, no true pebble plain habitat exists, and the implementation of the 2011 Alternative Project will not result in a potentially significant impact due to impacts to this area of the Project. However, even if true pebble plain habitat existed on site and was adversely impacted by development of the Project, Mitigation Measure BR-1a would mitigate such impacts.

Mitigation Measure BR-1a requires permanent conservation of a 10-acre parcel, known as the Dixie Lee Lane parcel that contains high quality pebble plain habitat. Although Mitigation Measure BR-1a is intended to mitigate impacts to the Ashy-Gray Indian Paintbrush, the existence of high quality pebble plain habitat on that property would lessen any project impacts to the extent they occurred. According to the Supplemental Focused Special Status Plant Species Survey (August 29, 2010), the 10-acre Dixie Lee Lane pebble plain is estimated to contain very high densities of the two indicator species *Arenaria ursina* and *Eriogonum kennedyi austromontanum*, with an estimated population in the tens of thousands. Moreover, Dr. Krantz characterized the Dixie Lee Lane property as a "textbook example of this rare plant community." Dr. Krantz further opined that, to the best of his knowledge, the Dixie Lee Lane property represents the highest density of pebble plain plant species of any privately held land in Big Bear Valley. The 2011 Alternative Project proposes to implement Mitigation Measure BR-1a to conserve the 10-acre Dixie Lee Lane pebble plain, ultimately preserving the very high densities of the two indicator species. Accordingly, the 2011 Alternative Project will have a less than significant impact on pebble plain habitat.

Special Status Plant Species Known to Occur on the Project Site

One Federally-listed Threatened and CNPS List 1B species, Ashy-Gray Indian Paintbrush; and five CNPS List 1B species, Parish's rock cress, Big Bear Valley woollypod, silver-haired ivesia, purple monkeyflower, and Bear Valley phlox, were observed on the Project site during the 2002, 2007, 2008, and 2010 Supplemental Focused Special Status Plant Species Survey. The surveys identified an herbaceous layer of Wright's matting buckwheat (in the western half of the Project site) and found inclusions of Ashy-Gray Indian Paintbrush and Parish's rock cress throughout an approximate 18.01-acre area of open Jeffrey pine forest. Silver haired ivesia was found to be concentrated entirely within the Project site's mapped pebble plain habitat. Bear Valley woollypod was found in patches scattered throughout Jeffrey pine forest habitat on the Project site. Purple monkeyflower was found to be widely distributed on the pebble plain-like soils conditions in the conservation area, with a small portion of the population extending down the draw to the east into the southern half of proposed Lot 50. Finally Bear Valley phlox was found to be distributed in the open black oak woodland and under Jeffrey pines.

Development of the 2011 Alternative Project has the potential to significantly impact the aforementioned special status plant species. In addition to protecting the most exemplary and best quality habitat on-site (located within the newly-proposed Lot H Open Space Conservation Easement), all five of the CNPS List 1B status species observed on-site will be protected through Mitigation Measures BR-1b, BR-1d and BR-12 which provide for the establishment and management of conservation area encompasses the location of these plants.

Ashy-Gray Indian Paintbrush

As concluded within the Supplemental Focused Special Status Plant Species Survey (August 29, 2010), approximately 5,567 Ashy-Gray Indian Paintbrush occurrences are located within the proposed Project site. Of the 5,567 occurrences, 4,895 will be permanently protected within the Open Space Conservation Easement of Lot A and H, representing 88 percent of the total occurrences of Ashy-Gray Indian Paintbrush within the proposed Project site. Of the remaining Ashy-Gray Indian Paintbrush plants within the boundaries of private Lots, plants within Lots 1, 47, 49, and 50, are all within the rear Lot building setbacks, as well as 20 plants on Lot 4, for a total of 127 plants.

Discrete counts of Ashy-Gray Indian Paintbrush occurrences were also conducted on Lots 1-5 of the revised Moon Camp subdivision, including the new Lots 1, 2, and 3. The new Lot 1 contains approximately 45 plants, all located within a 5 (five) meter radius of the southeast corner of the property, within the rear-lot and side-lot building setbacks. In addition, Ashy-Gray Indian Paintbrush plants on the new Lot 2 are scattered across the Lot, with approximately 150 plants.

The new Lot 3 contains approximately 175 plants. Lot 4 contains approximately 70 plants to the front-center of the Lot, and another 20 plants to rear of the Lot, within the required building setback, for a total of approximately 90 plants; and Lot 5 contains approximately 30 plants and another approximately 40 Ashy-Gray Indian Paintbrush plants are in the road right-of-way across the front of Lot 5. Well Site Lot F and the associated access road contain approximately 80 plants. In total, the 2011 Alternative Project will impact approximately 672 occurrences of Ashy-Gray Indian Paintbrush occupying approximately 1.55 acres. Based on the foregoing, the reconfiguration of the 2011 Alternative Project and creation of permanent conservation easements covering the areas designated as Lot H and Lot A will permanently conserve approximately 88 percent of the Ashy-Gray Indian Paintbrush occurrences on the Project site (4,895 occurrences conserved, compared to 672 impacted occurrences). This onsite conservation of Ashy-Gray Indian Paintbrush occurrences results in mitigation for 2011 Alternative project impacts at more than a 7:1 ratio.

Additionally, Mitigation Measure BR-1a requires permanent conservation of the 10 acre, off-site, Dixie Lee Lane parcel that acts as further mitigation for impacts to the Ashy-Gray Indian Paintbrush. These 10 acres of pebble plain are private land located at the northern terminus of Dixie Lee Lane in the Sugarloaf area of Big Bear Valley. The 10 acres are fenced and exhibit very high densities of the two indicator species (*Arenaria ursina* and *Eriogonum kennedyi austromontanum*). Implementation of Mitigation Measure BR-1a will conserve the high quality pebble plain that is one of the best

remaining examples of pebble plain habitat in private ownership and will protect the high density of pebble plain soil conditions. As indicated in the Supplemental Focused Special Status Plant Species Survey (August 29, 2010) performed by Dr. Krantz, the 10 acre parcel comprises habitat that can support the Ashy-Gray Indian Paintbrush and, in fact, during the survey, multiple occurrences of this plant species were observed. Accordingly, in addition to formal conservation of 88 percent of the Ashy-Gray Indian Paintbrush occurrences on the Project site, through conservation easements covering Lot H and Lot A, permanent preservation of the 10 acre Dixie Lee property will provide further mitigation for impacts to the Ashy-Gray Indian Paintbrush species. With the preservation of the Dixie Lee Lane property, the 2011 Alternative Project will permanently set aside 15.38 acres of Ashy-Gray Indian Paintbrush occupied habitat. On an acreage basis, the 2011 Alternative Project is mitigating impacts on an approximately 10:1 basis.

The on-site preservation of 88 percent of Ashy-Gray Indian Paintbrush occurrences and implementation of Mitigation Measures BR-1a through BR-1d will reduce impacts to the Ashy-Gray Indian Paintbrush to less than significant levels.

Special Status Plant Species Potentially Occurring on the Project Site

Special status plants known to occur on the Project site are described in the preceding sub-section. As outlined within focused surveys and reports conducted in 2002, 2007, 2008, or 2010, various special-status plants could potentially occur on the Project site. Based upon location and site characteristics, six listed threatened or endangered species could potentially occur on the Project site. These include bird's foot checkerbloom (endangered), San Bernardino bluegrass (endangered), California dandelion (endangered), Big Bear Valley sandwort (threatened), southern mountain buckwheat (endangered), and slender-petalled thelypodium (endangered). In addition, 26 CNPS List 1B or 2 species could potentially occur on the Project site. See below for a list of special-status plants that could potentially occur on the Project site:

- Rock sandwort;
- Big Bear Valley milk vetch;
- Palmer's mariposa lily;
- San Bernardino Mountain owl's clover;
- Male fern;
- San Bernardino Mountains dudleya;
- Leafy buckwheat;
- San Bernardino Mountain gilia;
- Shaggy-haired alum root;
- Parish's alumroot;
- Short-sepaled lewisia;
- Lemon lily;
- Baldwin Lake linanthus;
- San Bernardino Mountain monkeyflower;
- Purple monkeyflower;
- Baja navarretia;
- Parish's yampah;
- Bear Valley phlox;
- Bear Valley pyrrocoma;
- San Bernardino butterweed;
- Prairie wedge grass;
- Southern jewelflower; and
- Grey-leaved violet.

According to the Supplemental Focused Special Status Plant Species Survey conducted by Dr. Krantz (2008), no endangered, threatened, or special-status plant species were identified on the Moon Camp property, and the potential for any occurrence of such species is considered to be extremely low. In addition, impacts to CNPS List 1B or 2 species special status plants, not listed as threatened or endangered (Section IV. B.4.) do not meet the County's CEQA threshold for a potentially significant impact. Therefore, impacts in this regard will be less than significant.

Special Status Wildlife Species

The 2011 Alternative Project would result in the loss of potential habitat for several special status wildlife species found onsite or potentially present on the Project site. For those species expected to occur, potential impacts were evaluated for the habitat that the species is expected to occupy.

Reptiles

Implementation of the 2011 Alternative Project may result in impacts on special status reptile species. One federal Species of Concern, the southern sagebrush lizard, has been observed on the Project site. Four additional species that are federal Species of Concern and/or State Species of Special Concern have potential to occur on the Project site. These species are the silvery legless lizard, coastal western whiptail, San Bernardino ringneck snake, and San Bernardino Mountain kingsnake. The loss of potential habitat and species would be considered potentially significant because development of the 2011 Alternative Project could substantially diminish habitat for wildlife in the region and reduce specific populations of reptile species of concern in the region to below self-sustaining numbers. However, mitigation measures BR-2 through BR-8 will reduce these impacts to special status wildlife species to a level of less than significant.

In addition, intensive surveys for the State-listed Threatened southern rubber boa were conducted on the Project site in the spring and summer of 2002 and an additional assessment was conducted by Dr. Glenn Stewart, PhD, Professor Emeritus of Zoology and Environmental Sciences, Cal Poly Pomona, in February 2007. Given the negative results of two independent focused survey techniques, the results of Dr. Stewart's assessment, and the lack of historical records in the immediate vicinity of the Project site, the survey report concluded that this species has a low potential to occur on the Project site.

Birds

2011 Alternative Project implementation may result in impacts on special status bird species. Nineteen sensitive bird species (Federal Species of Concern, State Endangered Species and State Species of Special Concern) occur or have the potential to occur on the Project site and are discussed below.

Bald Eagle. The bald eagle was taken off the federal list of threatened species, but remains on the State endangered species list. Small wintering populations of bald eagle often occur in scattered mountain locations in the region. Big Bear Lake supports the largest wintering population of bald

eagle in southern California and may include as many as 30 individuals in peak years. The bald eagle was observed using several trees on the Project site for perch and roost locations. A records search also demonstrated that some of the most utilized perch and roost trees on the north shore of the lake are located on the Project site. Given the limited distribution of wintering populations of bald eagles in southern California, removal of these trees and/or construction of uses in proximity to trees are considered a significant impact. Therefore, any construction activities in proximity to the identified perch and most trees are considered by the County as a significant impact under CEQA. Two pair of bald eagles were documented nesting at Big Bear during Spring/Summer 2007. As the bald eagle has recently nested at Big Bear, ongoing surveys of the Project site during breeding season is recommended to verify the continued absence of nesting bald eagles on the Project site.

Mitigation measures BR-4, B-6 and B-7 will reduce identified impacts to the bald eagles potentially occurring on the Project site. Although Mitigation Measures BR-4, B-6 and B-7 will reduce impacts to the bald eagle, implementation of the 2011 Alternative Project will directly impact eagle perch locations. Based on the County of San Bernardino criteria for determining impacts to bald eagles, any removal of perch trees or human activity resulting in light and/or noise impacts are considered a significant impact under CEQA. This threshold is so restrictive that there is no reasonable configuration to the 2011 Alternative Project that could avoid a significant impact to the bald eagle. Therefore, further project modifications would not avoid or substantially reduce the identified impacts to bald eagles. Therefore, impacts in this regard will remain significant and unavoidable.

Cooper's Hawk, Northern Goshawk, Sharp-shinned Hawk, Golden Eagle, Long-eared Owl, Ferruginous Hawk, Northern Harrier, White-tailed Kite, Merlin, American Peregrine Falcon, Osprey, Prairie Falcon, and California Spotted Owl. 2011 Alternative Project implementation would reduce the amount of foraging habitat for these species. This impact would contribute to the cumulative loss of foraging habitat for these raptor species. However, the loss of potential foraging habitat for these species would be considered adverse, but less than significant due to the limited amount of habitat loss relative to the availability of foraging habitat for these species in the San Bernardino Mountains and National Forest.

The Cooper's hawk, long-eared owl, white-tailed kite, and California spotted owl also have potential to nest on the Project site. If an active raptor nest (common or special status species) were found on the Project site, the loss of the nest would be considered a violation of the California Fish and Game Code Sections 3503, 3503.5, and 3513. The loss of any active raptor nest occurring on the Project site would be considered significant.

Mitigation measures BR-4, B-6 and B-7 will be imposed on the 2011 Alternative Project to minimize impacts to these species. Compliance with these mitigation measures would reduce potential impacts to these species to a level of less than significant.

Black Swift, Yellow Warbler, Hepatic Tanager, Purple Martin, and Gray Vireo. 2011 Alternative Project implementation would reduce the amount of foraging habitat for these species. In addition, the hepatic tanager and purple martin have potential to nest on the Project site and implementation of the 2011 Alternative Project may impact active nests. The loss of potential habitat for these species would be considered adverse, but less than significant due to the limited amount of habitat loss relative to the availability of habitat for these species in the San Bernardino Mountains and National Forest.

Mammals

2011 Alternative Project implementation may result in impacts on special status mammal species. No federally- and/or State-listed species have been observed on the Project site. However, 11 Federal Species of Concern and/or State Species of Special Concern have potential to occur on the Project site and are discussed below.

Pallid Bat, Spotted Bat, Small-Footed Myotis, Long-Eared Myotis, Occult Little Brown Bat, Fringed Myotis, Long-Legged Myotis, Yuma Myotis, and Pacific Western Big-Eared Bat. The project site provides suitable foraging habitat for these bat species. 2011 Alternative Project implementation would reduce the amount of foraging habitat for these species. The pallid bat, small-footed myotis, long-eared myotis, Occult little brown bat, fringed myotis, long-legged myotis, and Yuma myotis, also have potential to roost on the Project site. This impact would contribute to the cumulative loss of foraging and roosting habitat for these bat species. However, the loss of potential habitat for these species would be considered adverse, but less than significant, due to the limited amount of habitat loss relative to the availability of foraging and roosting habitat for these species in the San Bernardino Mountains and National Forest.

San Bernardino Mountain Flying Squirrel. Although focused surveys for the flying squirrel were negative, the Project site provides suitable foraging and breeding habitat for this species. 2011 Alternative Project implementation would impact habitat for this species. However, the loss of potential habitat would be considered adverse, but less than significant, due to the limited amount of habitat loss relative to the availability of habitat for this species in the San Bernardino Mountains and National Forest.

Direct Impacts

Flora and Vegetation Type Impacts

A total of 57.05 acres of native and non-native vegetation types, including developed areas, would be impacted by the 2011 Alternative Project.

Jeffrey Pine Forest

A total of 50.72 acres of Jeffrey pine forest, including 13.81 acres of open Jeffrey pine forest, would be impacted by the 2011 Alternative Project implementation. Approximately 58,526 acres of Jeffrey pine forest occurs in the San Bernardino National Forest and 141,604 acres in the Cleveland, San

Bernardino, Angeles and Los Padres National Forests collectively. Approximately 4.2 acres of open Jeffrey pine forest will be permanently preserved by a conservation easement. Impacts on this vegetation type would be considered less than significant since this vegetation type is common throughout the San Bernardino Mountains and other mountain ranges in the region.

Lake Shoreline

According to the 2004 Draft EIR, a total of 4.0 acres of ruderal lake shoreline would be impacted by the 2011 Alternative Project. Man-made lakes are essentially distinct ecosystems, with an aquatic fauna and flora that bears little resemblance to what naturally occurs in the streams that formed them. However, a Supplemental Focused Special Status Plant Species Survey (August 29, 2010) was conducted by Timothy Krantz, PhD to address comments submitted by concerned parties with regard to the Revised and Recirculated Draft EIR No. 2 for the Moon Camp 50-Lot Residential Subdivision, Tentative Tract 16136. The findings within both the 2008 and 2010 Supplemental Focused Special Status Plant Species Survey concluded that although there are some scattered occurrences of indicator plant species, wet meadow habitat no longer occurs along the shoreline portion of the Project site. This sensitive habitat has been replaced with mostly ruderal species and should be characterized as ruderal shoreline habitat. Therefore, impacts in this regard will be less than significant.

Developed

A total of 2.82 acres of disturbed vegetation in developed areas (SR-38) would be impacted by 2011 Alternative Project implementation. Impacts on this vegetation type would not be considered significant since this vegetation type is considered to have a low biological value.

Wildlife Impacts

The loss of habitat, loss of wildlife, wildlife displacement, and habitat fragmentation that would result from construction of the 2011 Alternative Project would not be considered significant because these impacts would not substantially diminish habitat for wildlife in the region nor reduce any specific wildlife populations in the region to below self-sustaining numbers.

Indirect Impacts

Indirect impacts are those related to disturbance by construction (such as noise, dust, and urban pollutants) and long-term use of the Project site and its effect on the adjacent habitat areas. The indirect impact discussion below includes a general assessment of the potential indirect affects (noise, dust and urban pollutants, lighting, human activity, and non-native species introduction), of the construction and operation of the 2011 Alternative Project. Particular focus is placed on the indirect effects on the natural open space area from the Alternative Project - 2011, collectively referred to as edge effects.

Edge effects occur where development, including roads, takes place adjacent to natural open space areas. Edge effects threaten the ecological integrity, recreational experience, aesthetic quality, public investment, and safety operations of preserved or undeveloped natural areas located adjacent to

developed areas. When development is configured in a manner that creates a high ratio of development edge to natural open space, there is an increase in the potential impacts caused by human use (indirect impacts). These indirect effects that address both the short-term construction and long-term use of the Project site are outlined below.

Pebble Plains

The Polique Canyon pebble plains are situated on USFS land approximately 1,056 feet northeast of the Moon Camp project site, at an elevation of about 60m (200 feet) above the 2011 Alternative Project. Forest Service comments on the Revised and Re-circulated Draft EIR expressed concern that development of the Moon Camp property could represent an indirect impact to the pebble plains from foot traffic generated by the Moon Camp residents. However, according to the Supplemental Focused Special Status Plant Species Survey (August 29, 2010), there is no apparent footpath or trail connection between the Moon Camp property and the pebble plains. For Moon Camp residents to hike up to the pebble plains, they would have to traverse up the 300+ meter-ridge with a 60m-elevation gain across the brush-covered slope. Therefore, an indirect impact to the pebble plains would be unlikely.

Noise Impacts

Noise levels on the Project site would increase over present levels during and upon completion of construction of the 2011 Alternative Project. During construction, temporary noise impacts have the potential to disrupt foraging, nesting, roosting, and denning activities for a variety of wildlife species. Upon completion of construction, noise levels on the Project site would increase as a result of increased human activity associated with residential uses. Both short and long-term noise impacts could potentially disrupt the foraging and roosting potential of the site for the bald eagle. Any interruption of the foraging and/or roosting behavior of the bald eagle would be considered a significant impact.

Noise attenuation measures were recommended within Section 4.6, Noise, of the Revised and Recirculated Draft EIR No. 1 (see Mitigation Measures NOI-1 through NOI-4). However, both short- and long-term residential noise impacts on the bald eagle would be considered an unavoidable significant impact of the 2011 Alternative Project.

Increased Dust and Urban Pollutants

Grading activities would disturb soils and result in the accumulation of dust on the surface of the leaves of trees, shrubs, and herbs in the natural open space areas adjacent to the Project site. The respiratory function of the plants in these areas would be impaired when dust accumulation is excessive. These impacts are considered adverse; however, the 2011 Alternative Project will be consistent with SCAQMD Rule 403, which governs emissions of fugitive dust. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour (mph), sweeping loose

dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, the 2011 Alternative Project will implement mitigation measure AQ-1 (see Section 4-2, Air Quality, of the Revised and Recirculated Draft EIR No. 1 located within Appendix A), further reducing impacts from dust. Compliance with South Coast Air Quality Management District (SCAQMD) Rule 403 and mitigation measure AQ-1 will reduce impacts in this regard to a level of less than significant.

Night Lighting

Lighting of the residential units would inadvertently result in an indirect effect on the behavioral patterns of nocturnal and crepuscular (i.e., active at dawn and dusk) wildlife that are present along the boundaries of the natural areas of the Project site. Of particular concern is the effect on small ground-dwelling animals that use the darkness to hide from predators, and on owls, which are specialized night foragers. In addition, the increase in night lighting could discourage nesting and roosting along the lake shore. Most notably, lighting associated with the 2011 Alternative Project could disrupt roosting behavior of the bald eagle on the Project site. Long-term and short-term light attenuation measures were recommended within Section 4.1, Aesthetics, of the Revised and Recirculated Draft EIR No. 1 (see Mitigation Measures A-1a, A-1b and A-4a through A-4f.). In addition, mitigation measures BR-9 and BR-10 will be implemented to require street lamps on the Project site not to exceed 20 feet in height, and be fully shielded to focus light onto the street surface and shall avoid any lighting spillover onto adjacent open space or properties. Furthermore, street lights will be required to utilize low color temperature lighting (e.g., red or orange). Mitigation measure BR-10 will also require outdoor lighting for proposed homes on the individual tentative tracts to not exceed 1,000 lumens. These restrictions on outdoor lighting of the individual lots must be clearly presented and explained to any potential prospective developers and/or homeowners prior to assumption of title and close of escrow. This requirement shall also be published in the Homeowner's Association Conditions, Covenants & Restrictions (CC&Rs). Therefore, with implement mitigation measures to reduce lighting impacts, the increased lighting would be considered less than significant.

Human Activity

The increase in human activity (i.e., noise, foot traffic) would increase the disturbance of natural open space adjacent to the Project site. Human disturbance could disrupt normal foraging and breeding behavior of wildlife remaining in adjacent areas, diminishing the value of these open space habitat areas. Most notably, residential activity associated with the 2011 Alternative Project –could disrupt foraging and roosting behavior of the bald eagle on the Project site. Mitigation measure BR-11 will be implemented to limit the amount of human disturbance on adjacent natural open space areas by posting signs along the northern and eastern perimeter of the Project site where the property boundary abuts USFS open space with the following statement: "Sensitive plant and wildlife habitat. Please use designated trails and keep pets on a leash at all times." In addition, a requirement stating that residents shall keep out of adjacent open space areas to the north with the exception of designated

trails will be published in the Homeowner Association CC&Rs and a map of designated hiking trails will be provided to all residents. Although the 2011 Alternative Project will implement mitigation measures to reduce impacts to open space habitat areas, the increased residential activity and habitat loss would be considered potentially significant.

Non-Native Species Introduction

The native habitat types within the natural open space areas adjacent to the Project site would be subject to greater pressure from non-native plant species within the developed portions of the Project site. Areas that have undergone disturbance generally contain a high number of non-native grasses and forbs that can successfully out-compete the native plants in the region. This will be especially true after initial project grading of the Project site. Should non-native plants establish themselves in these areas prior to the establishment of native plant species or non-native/non-invasive plant species in the landscape areas, the non-natives may become invasive in the natural open space areas. Left uncontrolled, these "weeds" may begin encroaching into the adjacent natural areas. These impacts could become significant if uncontrolled.

The 2011 Alternative Project will be required to implement mitigation measure BR-12 to develop a landscaping plan for the entire tract (inclusive of a plant palette) with an emphasis on native trees and plant species, and such plan shall be submitted to the County of San Bernardino for review and approval by a qualified biologist. The review will determine that invasive, non-native plant species are not to be used in the proposed landscaping. The biologist will suggest appropriate native plant substitutes or non-invasive, non-native plants. A note will be placed on the Composite Development Plan indicating that all proposed landscaping (including landscaping on individual lots) shall conform to the overall approved tract map landscaping plan. A requirement will be included stating that residents will be restricted to the use of tree and plant species approved per the overall tract map landscaping plan. The Homeowner Association CC&Rs shall also require individual lot owners to use only tree and plant species approved per the overall tract map landscaping plan/plant palette. Consistency with mitigation measure BR-12 will reduce impacts in this regard to a level of less than significant.

Jurisdictional Waters

Waters of the U.S. (Non-Wetland) Determination

Based on the results of the field observations and data collection, RBF identified 0.15 acre of USACE jurisdictional "waters of the U.S." within the Project site. The drainages are ephemeral; Big Bear Lake, although not included in the acreage calculation, is also considered jurisdictional by USACE. Utilizing the most current development plans, it was determined that the proposed improvements would impact up to 0.04 acres of waters of the U.S. under USACE jurisdiction. Therefore, recommendations were made to avoid the sensitive habitats, where feasible, and to mitigate off-site at 3:1 for direct impacts and 1:1 for indirect impacts if impacts couldn't be avoided. Consistency with mitigation measure BR-13 will reduce impacts in this regard to a level of less than significant.

California Department of Fish and Game (1602) Jurisdiction

Based on the results of the field observations and data collection, RBF identified 0.15 acre of CDFG jurisdictional streambed. Utilizing the most current development plans, it was determined that the proposed improvements would impact up to 0.04 acre of CDFG jurisdiction waters of the State. Therefore, recommendations were made to avoid the sensitive habitats, where feasible, and to mitigate off-site at 3:1 for direct impacts and 1:1 for indirect impacts if impacts couldn't be avoided. Consistency with mitigation measure BR-13 will reduce impacts in this regard to a level of less than significant.

Wildlife Movement

The development of the Project site would not impact designated wildlife corridors; however, it may affect local travel routes. Construction of the residential areas would result in reduced connectivity between Big Bear Lake as a water source to the contiguous open spaces on and to the north of the Project site. Additionally, construction of the 2011 Alternative Project–would result in increased traffic on the Project site by residents that would further impede movement of terrestrial wildlife currently crossing the site and SR-38. Although this impact is considered locally adverse, it is not considered significant because the impact does not substantially affect a regionally important wildlife movement corridor.

Potential Conflict With Regional and Local Policies/Plans

County of San Bernardino General Plan

The project site is located in unincorporated San Bernardino County and is subject to the provisions and policies of the County of San Bernardino General Plan. The General Plan contains a list of species considered Rare, Threatened, or Endangered by the County. Projects potentially impacting County-listed species must prepare an EIR to determine the significance of impacts on these species. Two plant species identified within the General Plan, Parish's checkerbloom and bird's foot checkerbloom, have the potential to occur on the Project site. Krantz's 2008 Supplemental Focused Special Status Plant Species Survey, during a normal precipitation year, concluded that neither of the two plant species were identified on site and they are not considered likely to occur on site.

County of San Bernardino Biotic Resources Overlay District

The intent of the BR Overlay District is to require the preparation of a biological technical report for projects within the BR Overlay District identifying impacts to biological resources and mitigation measures designed to reduce or eliminate 2011 Alternative Project-related impacts. The biological technical reports prepared as part of this Revised and Recirculated Draft EIR No. 2 are intended to satisfy the requirements of the BR Overlay District.

Plant Protection and Management Ordinance – County of San Bernardino Development Code

Title 8, Division 9 of the San Bernardino County Development Code contains policies and requirements applicable to the Project site, including Section 89.0110(a), 89.0115(c), and 89.0205.

Section 89.0110(b) states that the provisions of this Division shall not authorize the removal of perch trees within identified American bald eagle habitat.

Section 89.0115(c) requires that the County "may require certification from an appropriate tree expert or native plant expert that such tree removals are appropriate, supportive of a healthy environment and are in compliance with the provisions of this chapter." The Results of Bald Eagle Survey on Tentative Tract 16136, Moon Camp, Fawnskin, San Bernardino County, California, Bonterra Consulting Report (2002) and the Bald Eagle Count in Area, Moon Camp, Fawnskin, San Bernardino County, California, US Forest Services Report (2009), are intended to satisfy the requirements of this section (refer to Appendix A of this Revised and Recirculated Draft EIR No. 2). The County shall make a determination based on the evidence presented herein and in the Forester's Report as to the significance of the 2011 Alternative Project impacts to native plants and compliance with the provisions of Division 9 of the County Development Code.

The intent of Section 89.0205 is to treat coniferous tree species such that they don't present a risk of fire, and spread tree insect pests and infection. Compliance with this Section would be enforced by the County standard conditions and requirements during construction of the 2011 Alternative Project.

Wildlife Movement

The project site does not contain wildlife crossings or corridors. Nonetheless, the Project site could be used as a travel route connecting forest habitat to the north with Big Bear Lake. However, direct connection to open space areas north and east of the Project site are obstructed by SR-38. The importance of this travel route may be diminished by the vehicle traffic hazard associated with crossing SR-38 as well as the availability of similar habitat immediately adjacent to the east of the Project site.

Migratory Bird Treaty Act

There are a large number of bird species that were observed to use the Project site for nesting. Due to the difficulty locating nests of cavity-nesting and other species of birds, a preconstruction nesting bird survey is not feasible. However, implementation of the 2011 Alternative Project may impact the nests of species covered by the MBTA, including the Cooper's hawk, purple martin, and hepatic tanager. Therefore, the 2011 Alternative Project should time tree removal to occur outside of the nesting period for birds, generally February through July. However, Mitigation Measure BR-7 will require tree removal to occur outside of the nesting period for birds, reducing impacts to a level of less than significant.

Cumulative Impacts

Significant and unavoidable adverse impacts from development of the 2011 Alternative Project related to Biological Resources have been identified for impacts to the bald eagle. Mitigation Measure BR-4 requires that eagle perch locations be preserved in place upon completion of the 2011 Alternative Project, and that any development that may occur within the 2011 Alternative Project site

and in the individual lots must avoid impacts to trees larger than 24 inches diameter breast height (dbh) and their root structures. Still, even with the implementation of Mitigation Measure BR-4 and the establishment of nearly 6 acres of Conservation/Open Space set aside, some trees will still need to be removed from the 2011 Alternative Project site to allow for the development of the 50 residential lots. Additionally, due to the County's strict threshold for impacts to the bald eagle under CEQA, any human development and habitation on the Project site would result in a significant impact. This is considered a significant and unavoidable project-specific, as well as cumulative, impact.

Six listed threatened or endangered species could potentially occur on the Project site. These include bird's foot checkerbloom (endangered), San Bernardino bluegrass (endangered), California dandelion (endangered), Big Bear Valley sandwort (threatened), southern mountain buckwheat (endangered), and slender-petalled thelypodium (endangered). In addition, 26 CNPS List 1B or 2 species could potentially occur on the Project site. According to the Supplemental Focused Special Status Plant Species Survey conducted by Dr. Krantz (2008), no endangered, threatened, or special-status plant species were identified on the Moon Camp property, and the potential for any occurrence of such species is considered to be extremely low. In addition, impacts to CNPS List 1B or 2 species special status plants, not listed as threatened or end angered (Section IV. B.4.) would generally not meet the CEQA threshold for mandatory findings of significance. Therefore, impacts in this regard will be less than significant. When considered in connection with the development of the cumulative projects, the impacts of the 2011 Alternative Project on special status plant species are less than significant.

A total of 50.72 acres of Jeffrey pine forest, including 13.81 acres of open Jeffrey pine forest, would be impacted by 2011 Alternative Project implementation. Approximately 58,526 acres of Jeffrey pine forest occurs in the San Bernardino National Forest and 141,604 acres in the Cleveland, San Bernardino, Angeles and Los Padres National Forests, collectively. Approximately 4.2 acres of open Jeffrey pine forest will be permanently preserved by a conservation easement. Impacts on this vegetation type would be considered cumulatively less than significant since this vegetation type is common throughout the San Bernardino Mountains and other mountain ranges in the region.

A total of 4.0 acres of ruderal lake shoreline would be impacted by 2011 Alternative Project implementation. Man-made lakes are essentially distinct ecosystems, with an aquatic fauna and flora that bears little resemblance to what naturally occurs in the streams that formed them. Impacts on this vegetation type would be considered less than significant.

A total of 2.82 acres of disturbed vegetation in developed areas (SR-38) would be impacted by 2011 Alternative Project implementation. Impacts on this vegetation type would not be considered significant since this vegetation type is considered to have a low biological value.

In summary, when considered in conjunction with the other cumulative projects, the 2011 Alternative Project would add incrementally to the cumulative significant impact on the bald eagle. Accordingly, cumulative impacts to the bald eagle are considered significant and unavoidable.

2.1.7 - Mitigation Measures

The mitigation measures associated with the 2011 Alternative Project are described below.

Special Status Biological Resources

Special Status Plants and Plant Communities

MM BR-1a Prior to the initiation of clearing or grading activities on the Project site, a conservation easement shall be placed upon the 10-acre Dixie Lee Lane property. The conservation easement shall be in favor of a qualified conservation entity and shall be recorded in the San Bernardino County Recorder's Office. The easement shall provide for the continued protection and preservation of the property. The easement shall, at a minimum, restrict all use of the property that has the potential to impact the quality of pebble plain soils and other valuable biological habitat, including the occurrences of the Federally Threatened Ashy-Gray Indian Paintbrush. Project proponent shall also create a perpetual, non-wasting endowment for the management and preservation of the mitigation property. The management entity will be approved by the CDFG.

MM BR-1b Prior to the initiation of clearing or grading activities on the Project site, the 5.38-acre on-site conservation easements (including Lot-A and Lot-H) shall be established. The conservation easement shall be in favor of a qualified conservation entity and shall be recorded in the San Bernardino County Recorder's Office. The easement shall provide for the continued protection and preservation of the property. The easement shall, at a minimum, restrict all use of the property that has the potential to impact the occurrences of the Federally Threatened Ashy-Gray Indian Paintbrush. Project proponent shall also create a perpetual, non-wasting endowment for the management and preservation of the mitigation property. The management entity will be approved by the CDFG.

MM BR-1c Project Applicant shall take the following actions to further ensure the permanent preservation of the Conservation Areas (Lot A and Lot H):

- Restrict access by pedestrians and motor vehicles to the Conservation Areas. The Conservation Areas shall be secured through installation of fencing or other barriers to prevent access to Conservation Areas. Barriers shall be installed prior to commencement of any construction activities on site. Applicant shall also include provisions in the CC&Rs for the Project instituting penalties to residents who violate the restrictions and cause any damage to the protected plant habitat.
- Include enforcement provisions in the CCR's allowing the Homeowners Association, individual resident within the project and/or County of San

Bernardino to enforce any violation of the provisions intended for the protection of sensitive plant species located within Lot A and Lot H.

- Install appropriate signage identifying Conservation Areas and the sensitive nature of such areas on the project site and that access is prohibited.
- Prohibit use of invasive plant species in landscaping. Each lot owner shall be given a list of prohibited invasive plant species upon purchase of lot with the parcel. Landscape plans for individual parcels shall be approved by the County prior to development to ensure no inappropriate plant material is incorporated into the design of any individual lot or common area which may compromise the quality of the Conservation Areas.
- Development may not change the natural hydrologic conditions of the Conservation Areas. All grading plans shall be reviewed by the County to ensure hydrologic conditions of the conservation lands are not adversely changed by development
- Applicant or appointed conservation entity shall monitor Conservation Areas on a periodic basis to ensure invasive, non-native species are not present. All non-nature invasive plant species shall be removed from Conservation Areas.

MM BR-1d Construction to the rear portions of Lots 47, 48, 49, and 50 shall be restricted by means of building envelopes or building setback lines to prevent construction in the occupied Ashy-Gray Paintbrush habitat, wherever feasible.

Special Status Wildlife

MM BR-2 Trees and downed logs shall remain in place, to the extent that clearing is not required by the development process, and a 50-foot setback (measured on each side of the centerline) must be maintained along the deepest ravine at the eastern edge of the property. This measure will serve to preserve habitat for potential special status wildlife species.

MM BR-3 The project proponent shall have a biologist qualified with San Bernardino flying squirrel (SBFS) as a monitor during tree removal.

Minimize the number of trees, snags, and downed wood removed for project implementation. Compensating the removal of snags containing cavities; this would be achieved by constructing and erecting two nest boxes and one aggregate box per snag removed. Appendix A of this Revised and Recirculated Draft EIR No. 2 provides the specifications of the nest and aggregate boxes (Flying Squirrels 2007). These boxes should be located on the adjacent U.S. Forest Service (USFS) land (with their permission) and the locations marked with a global positioning system. The locations of the boxes shall be provided to the USFS so that their biologists could monitor the boxes for occupation by SBFS.