

**FINAL ENVIRONMENTAL ASSESSMENT**  
**for Issuance of Endangered Species Act Incidental Take Permits**  
**to the County of Santa Cruz and the City of Scotts Valley, California,**  
**for the Incidental Take of the Endangered Mount Hermon June Beetle (*Polyphylla barbata*)**  
**and Effects of Ground Disturbance on the Endangered Ben Lomond Spineflower**  
**(*Chorizanthe pungens* var. *hartwegiana*)**

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September 2011

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## 1.0 INTRODUCTION AND BACKGROUND

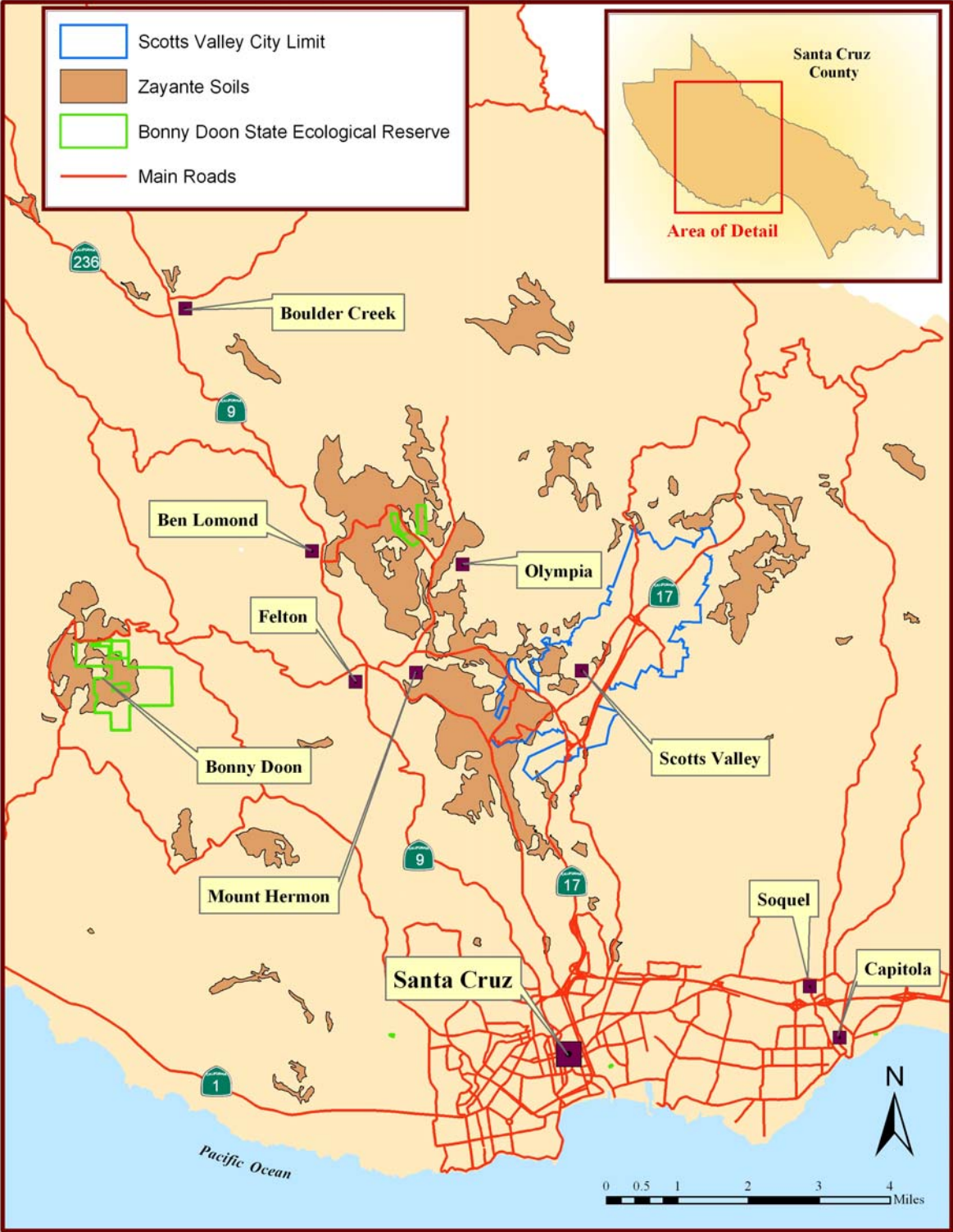
### 1.1 Introduction and Background

The U.S. Fish and Wildlife Service (Service) has prepared this Environmental Assessment (EA) to analyze the potential impacts to the human environment from the proposed action to issue incidental take permits (ITPs) under a proposed interim programmatic habitat conservation plan (IPHCP) to the City of Scotts Valley (City) and the County of Santa Cruz (County) pursuant to section 10(a)(1)(B) of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (Act), for the take of the federally endangered Mount Hermon June beetle (*Polyphylla barbata*). The purpose of this EA is to analyze the environmental effects of each alternative and provide the public with an opportunity to comment prior to a decision made by the Service.

Numerous private landowners within the City and County in the Zayante Sandhills (Sandhills) region (see Figure 1) are interested in applying for ITPs to allow incidental take of the Mount Hermon June beetle. These landowners have proposed projects on sites that are likely occupied by both Mount Hermon June beetles and Ben Lomond spineflowers (*Chorizanthe pungens var. hartwegiana*). The Service designated the Ben Lomond spineflower and Mount Hermon June beetle as federally endangered in 1994 and 1997, respectively, under the Act (59 *Federal Register* 5499; 62 *Federal Register* 3616). The Service has recommended that the City and County coordinate ITP applications and develop a regional programmatic habitat conservation plan (HCP) for the Sandhills. Completion of a regional HCP would provide conservation benefits for these and other rare species associated with this habitat and would streamline the local, state, and Federal permit processes. The Service recognizes that the City and County would require at least 3 to 5 years to develop a regional HCP. Consequently, the Service worked with the City and County to develop the proposed IPHCP for the Mount Hermon June beetle and Ben Lomond spineflower for small residential development projects proposed in areas with existing, dense residential development.

This EA has been prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, 42 USC § 4321 et seq.; the Council on Environmental Quality (CEQ) regulations for implementing NEPA, 40 CFR Parts 1500-1508; and the Department of Interior's Departmental Manual 516, Chapters 1-6, and Service NEPA Compliance Guidance at 550 FW 2. The Service is the NEPA Lead Agency. The County of Santa Cruz (County) has prepared an Initial Study and Negative Declaration (IS/ND) pursuant to the California Environmental Quality Act (CEQA) of 1970, Cal. Pub. Res. Code § 21000 et seq. The County is the CEQA Lead Agency and is processing the IS/ND as a separate document.

**Figure 1. Zayante Soils and General Locations of Sandhills Habitat**



Source: U.S. Fish and Wildlife Service, Santa Cruz County, and City of Scotts Valley. 2011. *Interim Programmatic Habitat Conservation Plan for the Endangered Mount Hermon June Beetle and Ben Lomond Spineflower*. January.

## **1.2 Purpose and Need**

Under the terms of section 10(a)(1)(B) and section 10(a)(2)(B) of the Act, “take” that is incidental to and not intended as part of an action is not considered to be prohibited under the Act provided that such take is in compliance with the terms and conditions of an ITP. The purpose of the proposed action by the Service is twofold: (1) to respond to ITP applications of the City and the County for incidental take of the Mount Hermon June beetle, pursuant to section 10(a)(1)(B) of the Act and its implementing regulations and policies, and (2) to protect, conserve, and enhance the Mount Hermon June beetle and the Ben Lomond spineflower and their habitat for the continuing benefit of the people of the United States pursuant to section 2(a)(4) of the Act.

The need for the proposed action is to:

- Provide a means and take steps to conserve the ecosystems depended on by the Mount Hermon June beetle and the Ben Lomond spineflower,
- Ensure the long-term survival of the Mount Hermon June beetle and the Ben Lomond spineflower through protection and management of the species and their habitat,
- Enable eligible small development projects to proceed under one of two ITPs issued under the IPHCP to the City and County, respectively, and
- Ensure compliance with the Act and other applicable Federal laws and regulations.

## **1.3 Decisions to be Made**

The decision to be made by the Service is whether or not to issue the ITPs based on the Proposed IPHCP Alternative (Preferred Alternative) or a Reduced Take Project Alternative, or to take No Action. The No Action Alternative would not involve issuing ITPs to the City and County; landowners who develop property supporting Mount Hermon June beetle habitat would apply individually for an ITP under section 10 of the Act until a regional HCP is completed and approved. The Service will use the EA to determine whether its decision can result in a Finding of No Significant Impact (FONSI) or if an Environmental Impact Statement (EIS) must be prepared.

## **1.4 Scoping and Consultation**

The Service conducted informal scoping and consultation to prepare this EA. This process consisted of gathering information from species experts, including but not limited to Service biologists, expert entomologists, and information from our files. The City and County were contacted during the preparation of the document to obtain information about existing policies, regulations, and environmental conditions. The Native American Heritage Commission (NAHC) was contacted and requested to provide information on locations of importance to Native Americans and a list of Native Americans that should be contacted. A letter to each organization on the NAHC list was also sent to solicit comments on this project. Further, information was obtained from studies, reports, and other documentation available from the following agencies: U.S. Environmental Protection Agency, U.S. Census Bureau, U.S. Department of Agriculture,

State Water Recourse Control Board, California Department of Finance, California Department of Public Health, Central Coast Water Quality Control Board, Monterey Bay Unified Air Pollution Control District, Association of Monterey Bay Area Governments, Santa Cruz County Regional Transportation Commission, City of Santa Cruz Water Department, Scotts Valley Water District, San Lorenzo Valley Water District, County of Santa Cruz, and City of Scotts Valley.

## **1.5 Contents of the Document**

This EA identifies, analyzes, and documents the environmental effects of the Proposed IPHCP Alternative (also referred to as the Preferred Alternative), the Reduced Take Project Alternative, and the No Action Alternative in the Sandhills region. The remaining sections in the EA are organized as follows:

- Section 2.0 describes a reasonable range of alternatives, including the issuance of ITPs based on a Preferred IPHCP Alternative and a Reduced Take Project Alternative (a modification of the Preferred Alternative), and implementation of a No Action Alternative.
- Section 3.0 discusses the existing resource conditions potentially affected.
- Section 4.0 discusses the effects of the Preferred Alternative and other alternatives on the human and natural environment. Along with information presented for the No Action Alternative, the existing conditions constitute the baseline for analyzing these effects.
- Section 5.0 compares and contrasts the environmental effects of the Preferred Alternative and the other alternatives.
- Section 6.0 provides the references used during this analysis.

This document analyzes direct impacts (those caused by an action that occurs at the same time and place) and indirect impacts (those caused by an action which occurs later in time or farther away but at a reasonably foreseeable time or place). Cumulative impacts (those caused by an entity that is either Federal or non-Federal) are the impacts of the proposed action when added to other past, present, and reasonably foreseeable future actions, and are also addressed in this document. Actions that could lessen potential impacts are identified, where appropriate.

## **1.6 Service NEPA Compliance Process**

The Service provides opportunities for the public to participate in the NEPA process, which promotes open communication and better decision-making. The draft EA was available for a 60-day public comment period. The availability of the draft EA was published in the Federal Register to notify interested persons. In addition, the draft EA was provided on our website as well as in the Scotts Valley City Hall, the Santa Cruz County Planning Department, and the downtown Santa Cruz, Felton and Scotts Valley libraries. A hard copy will be available for the public to review in our Ventura Fish and Wildlife Office during regular business hours. All persons and organizations having a potential interest in the proposed action and alternatives are

urged to participate in the NEPA environmental analysis process. After the public comment period closes, the Service revises and finalizes the EA based on substantive public comments, and either prepares a finding of no significant impact (FONSI), or publishes a notice of intent (NOI) to prepare an environmental impact statement (EIS) in the Federal Register if significant impacts are likely.

## 2.0 PROPOSED ACTION AND ALTERNATIVES

### 2.1 Proposed IPHCP Alternative (Preferred Alternative)

Under the Proposed IPHCP Alternative (also called the Preferred Alternative), the Service would issue two ITPs to the City and the County, respectively (also called “the Applicants”), for the incidental take of the Mount Hermon June beetle due to Covered Activities identified in the proposed IPHCP. The Applicants could extend their take authorization to individual landowners located within designated Project Units who meet the eligibility criteria set forth in the IPHCP through a Certificate of Inclusion. By signing the Certificate of Inclusion, the landowner certifies that he/she has read and understands his/her responsibilities under the IPHCP and relevant ITP and will execute them faithfully. Having signed the Certificate of Inclusion, the landowner would be covered for incidental take of the Mount Hermon June beetle as a result of applicant-permitted development projects on his/her parcel during the 5-year permit term.

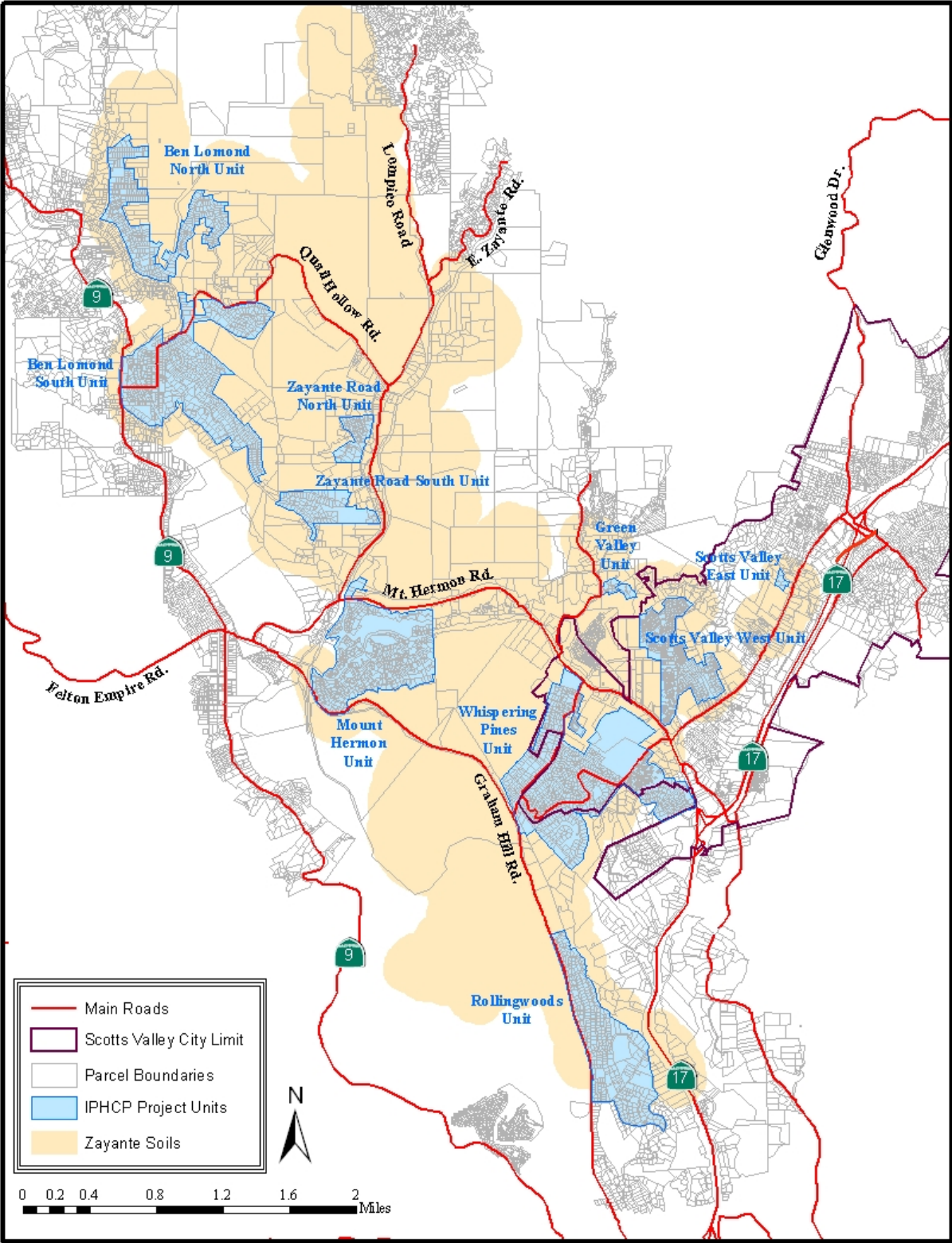
The ITPs issued by the Service to the City and County pursuant to the proposed IPHCP will expire when: the Sandhills Regional HCP is finalized, the total amount of habitat disturbance authorized under the ITPs is reached (139 acres), or 5 years have elapsed since issuance of the ITPs, whichever occurs first. Small development projects covered under the City and County’s ITPs (i.e., Covered Activities) must be completed before the ITPs expire. However, the IPHCP makes provisions for permit extension as long as take remains below the authorized amount specified in the ITPs. The Proposed IPHCP is further described below. Additional detail can be found in the IPHCP, which is hereby incorporated by reference in this EA.

#### 2.1.1 Covered Activities

The ITPs issued under the Preferred Alternative are intended to be used for certain eligible small development projects (*e.g.*, single family dwelling, garage, remodel, deck, swimming pool, etc.) proposed in areas with existing, dense residential development that support habitat for the Mount Hermon June beetle and Ben Lomond spineflower (see Figure 2 and Appendix A). Landowners would determine if their proposed project is eligible for participation based on a set of criteria and a checklist of eligibility requirements, which would be reviewed by the City or County. The eligibility criteria for coverage under the IPHCP include the following:

- Project is residential.
- Project is located on a parcel that is 1.5 acres or less in size.
- Project would result in ground disturbance of Zayante soils.

Figure 2. Project Units Covered Under the IPHCP



Source: U.S. Fish and Wildlife Service, Santa Cruz County, and City of Scotts Valley. 2011. *Interim Programmatic Habitat Conservation Plan for the Endangered Mount Hermon June Beetle and Ben Lomond Spineflower*. January.

- Development envelope for the project, when combined with the development envelope for any project previously implemented on the same parcel using the proposed IPHCP and the relevant ITP, will not exceed 15,000 square feet (0.34 acre).<sup>1</sup>
- Proposed development is one or more of the following project types that requires a City or County discretionary or building permit that involves ground disturbance. Examples include: (1) single family dwelling; (2) guest cottage (or accessory dwelling unit); (3) attached or detached garage, shed, storage building; (4) room addition; (5) remodels that involve ground disturbance; and (6) septic system installations and upgrades that involve new ground disturbance.
- On a case-by-case basis, the Service and the appropriate local jurisdiction may also approve for coverage under the proposed IPHCP and ITPs other similar development projects that meet the eligibility requirements listed in the proposed IPHCP.

Ten Project Units within the IPHCP boundary were identified within the communities of Ben Lomond, Felton, Mount Hermon, and Scotts Valley (see Figure 2). These Project Units range in size from 3.2 to 373.0 acres and encompass a total of 1,693.2 acres, including roads, common areas, and substantial areas containing prior development. Project Units include parcels in the vicinity of Rollingwoods, the Whispering Pines neighborhood, east and west Scotts Valley, Green Valley, Mount Hermon, north and south Zayante, and north and south Ben Lomond (see Appendix A for detailed parcel maps). Within these Project Units, a maximum of 139 acres of Sandhills habitat may be developed or otherwise disturbed under the Preferred Alternative as a result of Covered Activities. According to the proposed IPHCP, this acreage represents 5 percent of the estimated total amount (2,800 acres) of Sandhills habitat with documented occurrences of the Mount Hermon June beetle as of 2004.

Projects that meet these eligibility requirements and proceed step-wise through the process identified above for signing a Certificate of Inclusion can be covered by the proposed IPHCP and ITPs, and are thereby “Covered Activities” as referred to in the proposed IPHCP. This term is used throughout this EA.

### 2.1.2 Minimization and Mitigation Measures

The issuance of the ITPs to the City and County would be conditioned upon the implementation of the proposed IPHCP’s operating conservation program. The operating conservation program of the Preferred Alternative is intended to achieve its identified biological goals and objectives and to ensure that the impacts of Covered Activities on the Mount Hermon June beetle and Ben Lomond spineflower are minimized and mitigated to the maximum extent practicable. (These species are referred to as “Covered Species” in the proposed IPHCP and throughout this EA.) Please refer to the IPHCP for specific information on the biological goals and objectives.

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<sup>1</sup> For the purposes of the IPHCP and this EA, development envelope is defined as any portion of the project site that will undergo ground disturbance such as the following activities: grading (excavation and/or fill), land clearing, building, paving, installation of landscaping, or deposition of refuse or debris in relation to a discretionary or building permit.

## MINIMIZATION MEASURES

The IPHCP proposes to provide a process under which landowners may proceed with small development projects in areas where on-site avoidance of habitat for the Mount Hermon June beetle and Ben Lomond spineflower is often infeasible. In such cases, landowners will first be required to minimize habitat loss and disturbance via the implementation of the following required minimization measures (see the IPHCP for additional details about these measures):

- Impacts to plants that are native to the Sandhills must be avoided to the greatest extent feasible, consistent with the purpose of the Covered Activity.
- Ground-disturbing activities associated with construction (e.g., vegetation clearance, grading, digging, etc.) must be minimized between May 15 and August 15 within the development envelope.
- If construction-related ground disturbance associated with Covered Activities can not be scheduled to avoid the May 15 to August 15 time frame, participating landowners must ensure that areas that have been disturbed by construction activities are covered each evening during this time frame with tarps, landscape fabric, or other similar material. Only the immediate areas that have been recently disturbed must be covered in this manner between May 15 and August 15.
- Landscaping elements that degrade habitat must be minimized to the greatest extent feasible, as determined by the City or County, and consistent with the purpose of the Covered Activity.
- Indirect impacts to the Mount Hermon June beetle from project lighting must be minimized to the greatest extent feasible.

## MITIGATION MEASURES

In addition to the above minimization measures, the impacts of Covered Activities must be mitigated and compensated for through the implementation of the following mitigation measures (see the IPHCP for additional details about these measures):

- To the maximum extent feasible, the City and County will require that any revegetation or landscaping activities associated with Covered Activities are conducted using locally-derived source material (i.e., seeds or cuttings) of plant species native to the Sandhills, with particular emphasis on the plant species identified in Appendix F of the IPHCP.
- Prior to beginning any ground-disturbing activities, the impacts of Covered Activities must be mitigated in one of the following ways:
  1. Secure conservation credits for the Mount Hermon June beetle at a ratio of 1:1 in terms of acres of disturbance to numbers of credits (e.g., a project with a 0.1-acre

disturbance envelope will mitigate by securing 0.1 acre of conservation credits for the Mount Hermon June beetle) at the Zayante Sandhills Conservation Bank; or

2. Secure conservation credits for the Mount Hermon June beetle at a ratio of 1:1 in terms of acres of disturbance to numbers of credits (e.g., a project with a 0.1-acre disturbance envelope will mitigate by securing 0.1 acre of conservation credits for the Mount Hermon June beetle) at another Service-approved conservation bank, which also has an Operating Agreement with the County if the parcel is within the County's jurisdiction.

The mitigation ratio for Covered Activities will be 1 to 1 in terms of the area of disturbance envelope to the number of conservation credits of mitigation responsibility. For example, a landowner with a project that has a disturbance envelope of 0.1 acre will be required to mitigate this impact by securing 0.1 acre of conservation credits for the Mount Hermon June beetle. Unless there is another Service-approved conservation bank, revenue from the sale of these conservation credits will go toward the purchase price and management of the Service-approved Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank.

This conservation bank is comprised of 22.8 acres of high quality Sandhills habitat, including 22.4 acres of prime habitat for the Mount Hermon June beetle. More specifically, qualifying landowners who participate through a Certificate of Inclusion would pay a "mitigation fee" that the landowners (or the Applicants on behalf of the landowners) will use to purchase credits, commensurate with the amount of impact by the individual project. The Zayante Sandhills Conservation Bank will use the mitigation fees to provide long term management for the Covered Species in the preserve, which is owned and managed by the bank. (See Appendix B, *Summary of the Ben Lomond Sandhills Preserve*, for additional information about this conservation bank.) Monitoring and reporting requirements are also a component of the Preferred Alternative. The minimization and mitigation measures are further described in the IPHCP.

## **2.2 Reduced Take Project Alternative**

Under the Reduced Take Project Alternative, the total amount of development that would be covered under the IPHCP and related ITPs would be 100 acres, instead of 139 acres, as is currently proposed in the Preferred Alternative. The maximum disturbance footprint would remain at 15,000 square feet (0.34 acre) per parcel. The boundaries of the ten Project Units would remain unchanged (see Figure 2 and Appendix A). The minimization and mitigation measures of the proposed IPHCP operating conservation plan described above would also apply to this alternative; however, they would be implemented over less land area, as compared to the Preferred Alternative. This alternative would limit construction-related impacts to the Mount Hermon June beetle and Ben Lomond spineflower under the IPHCP by reducing the loss of habitat for the species by 39 acres, or about 1.5 percent of the remaining sandhills habitat, however a section 10(a)(1)(B) permit would still be needed.

While the Reduced Take Project Alternative would only cover 100 acres of disturbance-related effects from development, this alternative reduces opportunities for landowners to participate in a streamlined approach to comply with the Act when developing their parcel. This alternative

would also reduce the number of credits sold at the Zayante Sandhills Conservation Bank as a result of the City and County ITPs.

### **2.3 No Action Alternative**

Under this alternative, the Service would not issue ITPs for the Mount Hermon June beetle to the City and the County. So as not to be in violation of section 9 of the Act, landowners who own property supporting Mount Hermon June beetle habitat would have the following options:

1. They could avoid implementing projects that would result in take of Mount Hermon June beetle;
2. They could individually apply for an ITP from the Service to comply with the Act; or
3. They could wait for the County and City to complete a regional HCP.

As a result, some projects in areas containing Sandhills habitat may not be implemented or would be implemented only after the regional HCP is approved. If projects are not implemented, incidental take of the Mount Hermon June beetle associated with a proposed project would be avoided. We cannot estimate the number of individual ITP requests we would receive or could process within a five year period, however, we anticipate that the number of individual ITPs issued under this alternative would be less than the number of projects approved through a certificate of inclusion under the Preferred Alternative.

## **3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT**

This chapter provides information related to site conditions, environmental resources, public services, and plans and policies for the ten Project Units identified in the IPHCP. Relevant information from the IPHCP is provided herein to support, in part, the analysis of environmental effects. Other references are identified and cited.

### **3.1 Biological Resources**

The IPHCP provides a description of Sandhills habitat and the Covered Species in terms of their conservation status, life history, distribution, habitat requirements, threats, and recovery objectives. This information is based on various studies conducted by Richard A. Arnold, Jodi M. McGraw, and other biologists.

#### **3.1.1 Vegetation and Sensitive Habitat**

Predominant vegetation of the Santa Cruz Mountains consists of coast redwood forest and mixed evergreen forest. However, the coarse, low nutrient, sandy Zayante soils create a warmer and drier microclimate that supports uniquely adapted flora and fauna that are distinctly different from the surrounding forest and chaparral communities. The Zayante soils in the vicinity of the communities of Mount Hermon, Scotts Valley, Olympia, Felton, and Ben Lomond harbor a complex vegetation mosaic dominated by maritime coast range ponderosa pine forest and northern maritime chaparral. These communities overlap to form an intergrading mosaic of habitats that are collectively referred to as “Zayante Sandhills” or “Santa Cruz Sandhills”.

Throughout the IPHCP and this EA, these habitats are simply referred to as “Sandhills.” As of 2004, there were approximately 3,960 acres of Sandhills habitat across its range (McGraw, 2004).

The Sandhills ecosystem supports a diverse assemblage of rare and endemic plant species and disjunct populations. Ponderosa pines (*Pinus ponderosa*) in the Sandhills are disjunct populations (i.e., physically separated from other populations) of the species. Ponderosa pines are occasionally interspersed with knobcone pines (*Pinus attenuata*) and, in the Bonny Doon region, with the federally endangered Santa Cruz cypress (*Cupressus abramsiana*). Northern maritime chaparral on Zayante soils is dominated by silver-leafed manzanita (*Arctostaphylos silvicola*), a species recognized by the California Native Plant Society (CNPS) as rare or endangered (CNPS List 1B). This manzanita may occur as monotypic stands or be mixed with California-lilac (*Ceanothus* sp.), rose (*Adenostoma* sp.), yerba santa (*Eriodictyon* sp.), and other shrub species.

The two primary types of Sandhills habitat are sand parkland and sand chaparral. Sand parkland is characterized by scattered ponderosa pine trees and an open understory consisting of herbaceous plants and few shrubs. Sand chaparral is more densely vegetated; this habitat type is typically dominated by silver-leafed manzanita but also consists of other shrub species and herbaceous plants.

### 3.1.2 Wildlife

The plant communities, soils, and hydrology found within the 10 Project Units provide habitat for a variety of common mammal, bird, reptile, amphibian, and insect species. A summary and representative sample of the common species found follows. Special-status species are identified in Section 3.1.3 below.

A number of native and non-native mammals are present in the Project Units. These species have learned to successfully exploit the local resources, often regardless of nearby human activities. Examples of these mammals include squirrels (*Sciurus griseus* and *Spermophilus beecheyi*), gophers (*Thomomys bottae*), mice (*Mus musculus* and *Peromyscus maniculatus*), bats (*Corynorhinus townsendii townsendii*, *Myotis* sp. *Lasiurus cinereus*, *Eptesicus fuscus*, and *Antrozous pallidus*), rabbit (*Sylvilagus* spp.), raccoon (*Procyon lotor*), skunk (*Mephitis mephitis*), opossum (*Didelphis virginiana*), fox (*Urocyon cinereoargenteus* and *Vulpes vulpes*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), and deer (*Odocoileus hemionus*).

Birds utilizing the Project Units include a wide variety of insectivores, seed-eaters, and raptors many of which may nest in the Project Units. Examples of common species both year-round and migrants include quail (*Callipepla californica*), gulls (*Larus californicus*), doves (*Columba livia* and *Zenaida macroura*), hummingbirds (*Calypte anna* and *Selasphorus sasin*), blackbirds (*Agelaius phoeniceus* and *Euphagus cyanocephalus*), sparrows (*Passerella iliaca*, *Melospiza melodia*, and *Zonotrichia* spp.), jays (*Cyanocitta stelleri* and *Aphelocoma californica*), warblers (*Dendroica townsendi*, *Wilsonia pusilla*, and *Vermivora celata*), vultures (*Cathartes aura*), hawks (*Buteo* spp.), and owls (*Bubo virginianus*).

Examples of amphibians and reptiles that may be found in the Project Units include salamanders (*Batrachoseps attenuatus*, *Dicamptodon ensatus*, and *Aneides spp.*), newts (*Taricha spp.*), frogs (*Hyla (Pseudacris) regilla* and *Bufo boreas halophilus*), lizards (*Elgaria multicarinata* and *Sceloporus occidentalis*), and snakes (*Pituophis melanoleucus* and *Crotalus viridis*). Most of the insects and gastropods in the Project Units are those that would be found in many other areas throughout California and the western United States.

### 3.1.3 Listed, Proposed, and Candidate Species

#### COVERED SPECIES

The IPHCP covers the potential incidental take associated with the Covered Activities on the Mount Hermon June beetle and addresses impacts to the Ben Lomond spineflower. The Covered Species are further described below.

*Mount Hermon June Beetle.* The Mount Hermon June beetle has been found in association with Zayante sands and vegetation characteristic of the Sandhills. Additionally, adult Mount Hermon June beetles have been found in disturbed areas where remnants of Sandhills habitat still occur. All documented observations of Mount Hermon June beetle reproduction are from sites that harbor Zayante soils. A limited number of observations of adult Mount Hermon June beetles have occurred on sandy soils in the immediate vicinity of, although not specifically on, Zayante soils.

The Mount Hermon June beetle has been observed in approximately 150 locations in Sandhills habitat (Zayante soils) in the vicinity of Mount Hermon, Felton, Ben Lomond, Zayante, and Scotts Valley. The species was also recently discovered in the Bonny Doon area. While the entire known range of the Mount Hermon June beetle encompasses a total area of nearly 10,000 acres, suitable habitat for the endangered insect is only known to occur within approximately 2,800 acres of that total, as of 2004. The precise amount of habitat which is currently occupied by the Mount Hermon June beetle is unknown. There is a close association between locations where the Mount Hermon June beetle occurs and various native Sandhills plant species, including ponderosa pines and Ben Lomond spineflower.

*Ben Lomond Spineflower.* The Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*), a small, short-lived annual herb of the buckwheat family (Polygonaceae), was listed as federally endangered in 1997, but critical habitat has not been designated. Seeds germinate in late fall after the first substantial rains. Plants form a basal rosette of leaves in the winter, bolt in late February and early March, flower between March and May, and then set seed between June and July. In open habitat, the Ben Lomond spineflower can reach seedling densities of hundreds to thousands per square meter. When in bloom, the Ben Lomond spineflower often appears as a spreading mat of small, showy, pink flowers.

The Ben Lomond spineflower is endemic to the Sandhills and restricted to sandy soils of the Zayante series. Specifically, the Ben Lomond spineflower requires sandy soils in open, sparsely vegetated areas. The core of current and historical populations of the species occurs in the vicinity of Mount Hermon, Felton, Ben Lomond, Zayante, Scotts Valley, and Bonny Doon.

Population sizes vary widely from year to year due to interannual variability in climate, particularly rainfall.

*Remaining Habitat for Covered Species in the Project Units.* Sand mining, residential and commercial development, recreational uses, and invasive, non-native plant species have resulted in the loss and fragmentation of habitat for the Mount Hermon June beetle and the Ben Lomond spineflower. Specifically, in the Project Units covered by the IPHCP, existing populations of the Ben Lomond spineflower and Mount Hermon June beetle face numerous threats from ongoing activities associated with existing residential development. Of the total number of parcels in the 10 Project Units approximately 90 percent are developed and the average parcel size ranges from 0.14 to 0.65 acre. Despite development, the Mount Hermon June beetle and Ben Lomond spineflower are found around existing roads, sidewalks, and buildings, and in small vacant lots surrounded by residential development. The IPHCP identifies numerous ongoing activities associated with the existing residential development that threaten these populations (see IPHCP Table 4), which are unnaturally small and may be susceptible to extirpation from random genetic, demographic, or environmental events. Given the ongoing threats, habitat fragmentation, and developed nature of the Project Units, the remaining habitat for these species in these areas is highly degraded and suboptimal.

However, habitat within the Project Units does provide some long-term conservation value for the Mount Hermon June beetle and Ben Lomond spineflower. Though degraded, fragmented, and reduced in size, habitat within the 10 Project Units support persisting populations even as many of the Project Units were developed more than 40 years ago. The Mount Hermon June beetle lives the vast majority of its life below ground. Therefore, it is likely that development within the Project Units, at least at the current level, would not cause extirpations of Mount Hermon June beetle populations in these areas. The fact that Mount Hermon June beetles, which have a life cycle of 2 to 3 years, still inhabit these areas suggests that populations are able to persist in the Project Units despite the current amount of ground disturbance.

It is likely that remaining habitat in the Project Units also provides connectivity between otherwise isolated populations of the Mount Hermon June beetle and Ben Lomond spineflower. Many of the Project Units are located adjacent to intact habitat that is being preserved and, in some cases, specifically managed for long-term persistence of these species. Maintaining habitat and populations within the Project Units could allow migration between populations in these protected areas. Connectivity and migration can help maintain genetic diversity and facilitate natural recolonization of habitat following extirpations that might result from fire, disease, or other events.

#### NON-COVERED SPECIES

The Zayante Sandhills ecosystem harbors a diversity of rare and endemic plant species and disjunct populations. In addition to the Mount Hermon June beetle and Ben Lomond spineflower, the Zayante Sandhills supports the federally endangered Zayante band-winged grasshopper (*Trimerotropis infantilis*) and the federally and state endangered Ben Lomond wallflower (*Erysimum teretifolium*). However, we do not expect to find the Zayante band-winged grasshopper and Ben Lomond wallflower in the Project Units because they have not

been observed coexisting with dense development in urbanized areas. Although a number of other federally listed species occur in the San Lorenzo River watershed, (Table 1), they are not currently known to occur in any of the Project Units. However, it is possible that these species could potentially be discovered in the Project Units in the future.

A number of state listed species, species of concern, or California Native Plant Society (CNPS) plant species of concern may occur in the Project Units (Table 1). These species have been identified according to CNDDDB research, literature review, and data in our files for other projects that have occurred in and around the Project Units.

**Table 1. Special-Status Plant and Animal Species**

Species	CNPS Status	State Status	Federal Status	Habitat Affinities
<b>Mammals</b>				
Pallid bat <i>Antrozous pallidus</i>	N/A	species of special concern	-	roosts in caves, trees, and buildings; known in the Project Units
Townsend's western big-eared bat <i>Corynorhinus townsendii</i>	N/A	species of special concern	species of concern	roosts in caves and buildings; known in local redwoods/Project Units
Western small-footed myotis <i>Myotis ciliolabrum</i>	N/A	-	species of concern	grassland, oak and pine woodland; roosts in mines and trees
Long-eared myotis <i>Myotis evotis</i>	N/A	-	species of concern	forest habitats; roosts in trees, rock outcrops, caves, and buildings
Fringed myotis <i>Myotis thysanodes</i>	N/A	-	species of concern	coniferous and deciduous forests; roosts in caves, trees, and rock outcrops; known in Project Units
Long-legged myotis <i>Myotis volans</i>	N/A	-	species of concern	variety of habitats; roosts in trees, rock crevices, and buildings; known in Project Units
Yuma myotis (a.k.a. San Joaquin myotis) <i>Myotis yumanensis</i>	N/A	species of special concern	species of concern	variety of habitats; roosts in buildings, trees, and rock outcrops; known in Project Units
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	N/A	species of special concern	species of concern	prefers deciduous and mixed woodlands and scrub
Santa Cruz kangaroo rat <i>Dipodomys venustus</i>	N/A			inland areas that are dry with loose soil for burrowing
<b>Birds</b>				
Cooper's hawk (nesting) <i>Accipiter cooperi</i>	N/A	species of special concern	-	nest and forages in woodlands
Sharp-shinned hawk (nesting) <i>Accipiter striatus</i>	N/A	species of special concern	-	nest (usually conifers) and forages in dense woodlands
Golden eagle	N/A	species of	-	nest in large trees and cliffs;

Species	CNPS Status	State Status	Federal Status	Habitat Affinities
<i>Aquila chrysaetos</i>		special concern; fully protected species		forages in a variety of habitats
Merlin (wintering) <i>Falco columbarius</i>	N/A	species of special concern	-	winters in grassland, oak savanna, and woodlands
Long-eared owl (nesting) <i>Asio otus</i>	N/A	species of special concern	-	prefers dense riparian woodlands and forest
Vaux's swift (nesting) <i>Chaetura vauxizones</i>	N/A	species of special concern	-	nesting in trees usually along riparian corridors
Purple martin (nesting) <i>Progne subis</i>	N/A	species of special concern	-	usually nests in old woodpecker cavities
Yellow warbler <i>Dendroica petechia brewsteri</i>	N/A	species of special concern	-	usually nests in riparian habitats; prefers willows and cottonwoods near water
<b>Amphibians</b>				
California red-legged frog <i>Rana draytonii</i>	N/A	species of special concern; protected species	threatened	breeds in slow creeks, ponds and marshes with emergent vegetation; uses uplands during wet months
Foothill yellow-legged frog <i>Rana boylei</i>	N/A	species of special concern; protected species	species of concern	breeds in perennial streams with cobble-sized substrate in chaparral and woodlands
Western pond turtle <i>Clemmys marmorata</i>	N/A	-	species of concern	permanent ponds, creeks and rivers; nests in uplands +/- 400 meters from water
<b>Reptiles</b>				
Western whiptail snake <i>Cnemidophorus tigris mundus</i>	N/A		endangered	sandy or rocky areas with scattered shrubs and sparse vegetation; closely associated with silver-leaved manzanita in chaparral habitat.
California horned lizard <i>Phrynosoma coronatum frontale</i>	N/A	species of special concern; protected species	species of concern	chaparral habitat
<b>Invertebrates</b>				
Ohlone tiger beetle <i>Cicindela ohlone</i>	N/A	N/A	endangered	Endemic to Santa Cruz County in coastal terrace grasslands with poorly drained clay or sandy clay soils. Current known distribution includes at least one location within the City of Scotts Valley.
Mount Hermon June beetle <i>Polyphylla barbata</i>	N/A	N/A	endangered	sandhills habitat
Zayante band-winged	N/A	N/A	endangered	sandhills habitat; critical habitat

Species	CNPS Status	State Status	Federal Status	Habitat Affinities
grasshopper <i>Trimerotropis infantilis</i>				present
Opler's longhorn moth <i>Adela oplerella</i>	N/A	N/A	species of special concern	grasslands associated with <i>Platystemon californicus</i>
<b>Plants</b>				
Ben Lomond spineflower <i>Chorizanthe pungens</i> var. <i>hartwegiana</i>	List 1B	-	endangered	sunny areas in sandhills habitat
Ben Lomond wallflower <i>Erysimum teretifolium</i>	List 1B	endangered	endangered	sunny areas in sandhills habitat
Santa Cruz cypress <i>Hesperocyparis abramsiana</i> (current name) <i>Cupressus abramsiana</i> (previous name)	List 1B	endangered	endangered	sandstone and granitic substrates in lower montane coniferous forest and chaparral from Santa Cruz and San Mateo counties. Five known populations occur in the Santa Cruz Mountains, four of which are in Santa Cruz County.
San Francisco popcorn flower <i>Plagiobothrys diffusus</i>	List 1B	endangered	species of special concern	coastal prairie
Scotts Valley polygonum <i>Polygonum hickmanii</i>	List 1B	endangered	endangered	grassland habitats on mudstone and sandstone in the northern Scotts Valley area
Scotts Valley spineflower <i>Chorizanthe robusta</i> var. <i>hartwegii</i>	List 1B	-	endangered	grasslands and seeps on mudstone or Purisima outcrops on four parcels in northern Scotts Valley.
Santa Cruz clover <i>Trifolium buckwestiorum</i>	List 1B	-	-	coastal prairie
Santa Cruz tarplant <i>Holocarpha macradenia</i>	List 1B	endangered	threatened	coastal prairie; current known distribution includes at least seven populations in the vicinity of the cities of Santa Cruz and Soquel
Kellogg's horkelia <i>Horkelia cuneata</i> ssp. <i>sericea</i>	List 1B	-	species of special concern	coastal scrub/ sandy soils
Small-leaved lomatium <i>Lomatium parviflorum</i>	List 4	-	-	coastal scrub
Silver-leaved manzanita <i>Arctostaphylos silvicola</i>	List 1B	-	species of special concern	inland marine sands
Gairdner's yampah <i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	List 4	-	species of special concern	coastal prairie
Maple-leaved checkerbloom <i>Sidalcea malachroides</i>	List 1B	-	-	coastal prairie/ coastal scrub
San Francisco champion <i>Silene verecunda</i> ssp. <i>verecunda</i>	List 1B	-	species of special concern	coastal prairie/ sandy soils
Ben Lomond buckwheat	List 1B	-	-	sandy habitats in chaparral,

Species	CNPS Status	State Status	Federal Status	Habitat Affinities
<i>Eriogonum nudum</i> var. <i>decurrens</i>				cismontane woodland and maritime Ponderosa pine sandhills
Santa Cruz monkeyflower <i>Mimulus rattanii</i> ssp. <i>decurtatus</i>	List 4	-	-	gravelly margins in chaparral and lower montane coniferous forest
Curly-leaved monardella <i>Monardella undulata</i>	List 4	-	-	coastal dunes, chaparral, maritime Ponderosa pine sandhills, coastal prairie

### 3.1.4 Wetlands

The Project Units include areas that contain or are near watercourses and riparian zones. Watercourses within or adjacent to the Project Units include Powder Mill Creek, Carbonera Creek, Bean Creek, Zayante Creek, Newell Creek, and the San Lorenzo River. Federal agencies are charged through Executive Order 11990, Protection of Wetlands, May 24, 1977, with protection of wetlands/riparian zones. Also, public and private applicants and Federal approval actions must adhere to Section 404 of the Clean Water Act, governing dredging and fill within jurisdictional wetlands of the U.S.

## 3.2 Geology and Soils

The IPHCP Project Units occur on the western slope of the Santa Cruz Mountains, which have complex ridges that reach elevations of 2,000 to 3,400 feet above mean sea level (MSL) and slopes between 40 and 60 percent. Topography of the area ranges from steep, mountainous hillsides to gently rolling valley grasslands. The Santa Cruz Mountains are primarily formed of igneous rock which has been overlain in places by marine sediments deposited by the ancient seas that once covered the area. The Zayante soils that formed from these marine sandstone deposits occur in scattered pockets throughout the San Lorenzo watershed, but predominate in the Project Units (County of Santa Cruz, 2009c). According to the Soil Survey of Santa Cruz County, California, Zayante soils are endemic to Santa Cruz County and are deep, coarse textured, poorly developed, and well-drained (USDA Natural Resource Conservation Service, 1976). In the Project Units, slopes range mostly from 5 to 30 percent, but can be up to 75 percent in isolated areas. Runoff is medium or rapid, and the hazard of erosion is slight or moderate. A few steeper areas have been subject to moderate to severe rilling and gullyng.

The Project Units are not located within or adjacent to a mapped fault zone; therefore the potential for ground surface rupture is low in these units. However, the Project Units are likely to be subject to strong seismic shaking during the life of any future improvements. Additionally, liquefaction and landslide potential does exist in some locations within the Project Units, as identified in the County's liquefaction and landslide mapping.

### **3.3 Water Resources and Water Quality**

The Project Units are located in the San Lorenzo River Watershed, which is approximately 138 square miles in size. The San Lorenzo River tributaries that drain the slopes of Ben Lomond Mountain, which extends from the University of California Santa Cruz campus up to Boulder Creek along the western side of the watershed, have substrates of mostly granitic origin, but there are some limestone deposits associated with the granite. Remaining tributaries in the watershed are composed primarily of sedimentary substrate materials. A segment of the San Lorenzo River runs along the western and southern edge of the Ben Lomond South Unit.

San Lorenzo River tributaries that are on or in proximity to the other Project Units include Powder Mill Creek, Carbonera Creek, Bean Creek, Zayante Creek, and Newell Creek. The Project Units lie mostly outside of the FEMA 100- and 500-year floodplains for these watercourses (County of Santa Cruz, 2009c). However, in some cases floodplains, specifically areas within the 1 percent base flood elevation, are immediately adjacent to or within limited portions of these Project Units.

A number of the water bodies in the Project Units are identified by the Central Coast Regional Water Quality Control Board (CCRWQCB) under Section 303(d) of the 1972 Federal Clean Water Act, as Impaired Waterbodies in that they do not meet water quality objectives and are not supporting their beneficial uses. They include the Carbonera Creek, Zayante Creek, Newell Creek, and the San Lorenzo River. Once a water body is placed on this list, the CCRWQCB must evaluate the nature of the impairment and develop a Total Maximum Daily Load (TMDL), if appropriate and necessary. For each TMDL developed, the CCRWQCB will develop a water quality control plan for each water body. TMDLs have not been formally established for these water bodies, based on the 2006 Clean Water Act Section 303(d) List of Impaired Waterbodies, which is the current active List (CCRWQCB, 2007). TMDLs for pathogens will be formally established for Carbonera Creek and San Lorenzo River in 2011 once the U.S. Environmental Protection Agency approves the 2008 update to the 303(d) List (CCRWQCB, 2010).

The Project Units are located in mapped groundwater recharge areas. Water supply services in the Project Units are provided by the City of Santa Cruz, the San Lorenzo Valley Water District, the Scotts Valley Water District, the Mt. Hermon Water System, or from private wells. The water supplies of these agencies are further described below.

#### **3.3.1 City of Santa Cruz Water Department**

The City of Santa Cruz Water Department (SCWD) is responsible for providing water to the residents of the City of Santa Cruz and additional customers outside the City limits within the County of Santa Cruz and a portion of the City of Capitola. The SCWD provides water services only to the Rollingwoods IPHCP Project Unit, located off of Graham Hill Road.

The SCWD water system is comprised of four main production elements: 1) the North Coast sources, 2) the San Lorenzo River, 3) Loch Lomond Reservoir, and 4) the Live Oak Wells. The system relies entirely on rainfall, surface runoff, and groundwater infiltration occurring within watersheds located in Santa Cruz County.

The SCWD's 2005 Urban Water Management Plan (UWMP) indicates that in average conditions, there appears to be approximately 300 million gallons per year (MGY) of remaining water supply capacity with existing sources and operations (SCWD, 2006). The UWMP estimates that water demand under normal conditions will exceed water system capacity at some time between 2015 and 2020, such that by the year 2020 a deficit condition is expected. However, based on a recently completed Water Supply Assessment, demand may not exceed the capacity of the existing system under normal conditions until after 2025 (Erlor & Kalinowski, Inc., 2009).

Under drought conditions, the City estimates a deficit of approximately 100 to 545 MG during a single dry year, and a deficit of approximately 1,200 to 1,645 MG during a multiple dry year condition (SCWD, 2006). The City has and continues to implement water conservation measures to reduce demand, implements curtailment during droughts to reduce demand, and is pursuing construction of a seawater desalination plant as a supplemental water source during drought conditions (SCWD, 2006).

Additionally, the City's Water Shortage Contingency Plan is in place to: (1) conserve water supply for the greatest public benefit; (2) mitigate the effects of a water supply shortage on public health and safety, economic activity, and customer lifestyle; and (3) budget water use so that supply will be available for the most essential purposes for the duration of the water shortage (SCWD, 2009). The SCWD pursues conservation programs and is a member of the California Urban Water Conservation Council, which further commits the SCWD to preserving water (SCWD, 2006).

In terms of water quality, the City's tap water meets all EPA and California drinking water health standards (SCMU Review, 2010).

### 3.3.2 San Lorenzo Valley Water District

The San Lorenzo Valley Water District (SLVWD) supplies water to the communities of Boulder Creek, Brookdale, Ben Lomond, and portions of Felton and the City of Scotts Valley and adjacent unincorporated areas. The SLVWD serves the Whispering Pines, Zayante Road North and South, and the Ben Lomond North and South IPHCP Project Units.

The SLVWD currently produces approximately 2.0 million gallons per day (MGD), on average based on customer demand, according to the SLVWD Water Supply Master Plan (SLVWD, 2009a). The active water sources consist of five stream diversions and seven groundwater wells. The Northern Service Area is supplied by streams and wells, the conjunctive use<sup>2</sup> of which has provided a reliable supply through past drought cycles. The Southern Service Area relies solely on groundwater.

As indicated in the SLVWD Water Supply Master Plan, on average the system utilizes about 80 percent of the streamflows available for diversion, and never less than 70 percent. Groundwater

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<sup>2</sup> The deliberate combined use of groundwater and surface water is commonly termed "conjunctive use."

storage is currently SLVWD's only reliable source for satisfying water demand during periods of low streamflow. Because groundwater storage is many times greater than annual use, several years of above average groundwater production can be sustained with relatively limited consequences. However, if not balanced by long-term average recharge, a significant potential for groundwater overdraft exists in the long term. Groundwater level records in the Northern Service Area indicate that production has been effectively balanced by recharge during the last 24 years, largely because of conjunctive use practices. Depressed groundwater levels in the Southern Service Area indicate that its recent rates of production may not be sustainable (SLVWD, 2009a).

Projected 2030 demand will require supplemental water and expanded conveyance. The Master Plan indicates that this can be accomplished by: (1) exercising SLVWD's entitlement to Loch Lomond, (2) providing supplemental water to the Southern Service Area via a new North-South Intertie between the two service areas, and (3) conservation (SLVWD, 2009a).

The SLVWD's water quality met or surpassed all state and Federal criteria for public health protection in 2008 (SLVWD, 2009b).

### 3.3.3 Scotts Valley Water District

The Scotts Valley Water District (SVWD) serves most of the incorporated area of the City of Scotts Valley, and a portion of the unincorporated area north of the City of Scotts Valley. The SVWD serves the Scotts Valley East and West, and the Green Valley IPHCP Project Units. The SVWD comprises 55 miles of drinking water (potable) mains, eight drinking water (potable) storage tanks, nine drinking water (potable) booster pump stations, six active production wells and four drinking water treatment plants/facilities (SVWD, 2005). In addition, the SVWD also operates a recycled water system to supply irrigation water.

The SVWD utilizes groundwater from the Santa Margarita Groundwater Basin. According to the SVWD's Groundwater Modeling Study, the estimated safe yield of the Basin is approximately 3,320 acre-feet per year (AFY) (ETIC Engineering, Inc., 2006), which is significantly less than the 4,200 AFY previously determined to be available (SVWD, 2005). Groundwater elevation declines have been identified in certain subbasins. The SVWD's Urban Water Management Plan (UWMP) indicates that the addition of the Recycled Water Program and slower growth rates should help to mitigate these declines in groundwater levels (SVWD, 2005). The UWMP also indicates that future demand can be met by the use and expansion of recycled water, the redistribution of pumping, and by incorporating groundwater management goals to achieve the maximum sustainable yield available to Basin users. The SVWD also pursues conservation programs and is a member of the California Urban Water Conservation Council, which further commits the SVWD to preserving water (SVWD, 2005).

Pressure filter and chemical treatment enables the District water to meet all the drinking water standards set under Federal and state laws and regulations (SVWD, 2010).

#### 3.3.4 Mt. Hermon Water System

The Mt. Hermon Water System is operated by Mt. Hermon Association, Inc. and serves a portion of the Mount Hermon IPHCP Project Unit. Approximately 2,500 residential customers are within the Mt. Hermon service area. Groundwater is the primary source of water supply. No violations of Federal or state laws have been recorded for this water provider (California Department of Public Health, 2010).

### 3.4 Air Quality

Santa Cruz County is located in the North Central Coast Air Basin (NCCAB), which also includes Monterey and San Benito counties. Within the NCCAB, the Monterey Bay Unified Air Pollution Control District (MBUAPCD) is responsible for ensuring that the state and Federal air pollutant emissions standards are not violated. The MBUAPCD develops and enforces air quality regulations for non-vehicular sources, issues permits, participates in air quality planning, and operates a regional air quality monitoring network.

The NCCAB is an unclassified or attainment area for all of the National Ambient Air Quality Standards (NAAQS). The NCCAB has a Federal maintenance plan for the 8-hour ozone NAAQS for the Monterey Bay Area as required by the Clean Air Act (MBUAPCD, 2007). This plan provides the demonstrated basis for maintenance of the ozone NAAQS with projected emissions inventories through the year 2014 for ozone. The maintenance plan meets the Federal requirements of the Clean Air Act by the U.S EPA as a revision to Monterey Bay Area portion of the California State Implementation Plan (74 FR 66916).

The NCCAB does not meet state standards for ozone and particulate matter (PM<sub>10</sub>), which is respirable particulate matter less than 10 microns in size, and therefore is a nonattainment area for these standards (MBUAPCD, 2009). Regional pollutants of concern in the Basin related to this state nonattainment area include ozone precursors (Volatile Organic Compounds [VOCs] and nitrogen oxides [NO<sub>x</sub>]), and dust.

### 3.5 Cultural Resources

The potential for archaeological and historical resources to occur exists throughout the Project Units. In conformance with Section 106 of the National Historic Preservation Act (NHPA), a cultural resources records search of all pertinent survey and site data was conducted for this project at the Northwest Information Center, Sonoma State University, on February 10, 2009. The records were accessed by utilizing the Felton USGS 7.5-minute quadrangle map and included the Sandhills project area along with a ¼ mile radius around the Project Units. In addition to Information Center maps and site record forms, other sources that were reviewed included the Directory of Properties in the Historic Property Data File for Santa Cruz County, the National Register of Historic Places (NRHP), the California Register of Historic Resources, the California Inventory of Historic Resources (1976), the California Historical Landmarks (1996), and the California Points of Historical Interest (1992).

The Native American Heritage Commission (NAHC) was contacted on March 20, 2009 and requested to provide information on locations of importance to Native Americans and a list of

Native Americans that should be contacted. The NAHC sacred lands search failed to identify any traditional properties in the project area. The NAHC provided a list of Native American organizations that should be contacted concerning locations of importance to Native Americans in the project area. A letter to each organization on the NAHC list was sent on March 24, 2009, providing information about the proposed project and requesting information on locations of importance to Native Americans. To date, two responses were received by phone. A member of the Indian Canyon Mutsun Band of Costanoan, expressed interest in being notified of any excavation in the project units and would like to monitor those activities. A member of the Amah Mutsun Tribal Band, requested to be notified of any discoveries during excavation. Neither respondent had any specific information on known properties within the project areas.

Approximately fifty studies have been conducted within the ¼-mile radius of the Project Units. The types of cultural resource sites recorded in the Sandhills project area include, but are not limited to, Native American village sites, temporary camp sites, lithic scatters, historic settlement features, and historic architecture.

A single family residence (The Pines, also known as the Corbett House) is located just outside, but within a ¼-mile radius of the Ben Lomond North Unit and has been determined to be National Register (NR) eligible, based on the records search. The County's Adopted Historic Resources Inventory also identifies this and three other known historic structures located in the Project Units, including the Hammond Home and Shorey House located in the Ben Lomond North Unit and the Mt. Hermon Conference Center Auditorium located in the Mount Hermon Unit (County of Santa Cruz, 1989). The Mt. Hermon Conference Center and the Hammond House are properties determined to have local historical significance and the Shorey House has been evaluated and determine ineligible for designation as an historical resource based on NR criteria. The locally-significant Hammond Home is a residential property that could potentially be covered by the County's ITP. Additionally, the landscape within the Sandhills area was radically different prior to development, and, as a result, areas that appear disturbed may still harbor significant resources.

## **3.6 Socioeconomics and Environmental Justice**

### **3.6.1 Land Use and Housing**

The IPHCP Project Units are located in the County or the City. Growth and development in the County is subject to the jurisdiction of the County and must occur in accordance with the County's 1994 General Plan and Local Coastal Plan (General Plan) and the County Code. Likewise, growth and development in the City is subject to the jurisdiction of the City and must occur in accordance with the City's 1994 General Plan and the City Municipal Code. County and City general plan land use designations and zoning districts that apply to the Project Units allow for a range of residential uses. Non-residential uses would not be allowed in these areas, in accordance with the approved plans identified above. All of the Project Units are outside of the California Coastal Zone.

### 3.6.2 Demographics

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations (EO 12898), issued on 11 February 1994, mandates Federal agencies to assess whether their actions have disproportionate environmental or human health impacts on minority and low-income populations. The intent of this order is to ensure that all communities, including minority, low-income, or federally recognized tribes, live in a safe and healthful environment.

Environmental Justice promotes the fair treatment of people of all races, incomes, and cultures with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment implies that no person or group of people should endure a disproportionate share of the negative environmental impacts resulting either directly or indirectly from the activities conducted to execute this country’s domestic and foreign policies or programs. Environmental Justice has been defined as the pursuit of equal justice and equal protection under the law for all environmental statutes and regulations without discrimination based on race, ethnicity, or socioeconomic status. All Federal activities are evaluated for their impact on the human environment and compliance with EO 12898 to ensure Environmental Justice. Demographic information is included below to provide the basis for this evaluation.

Table 2 shows the Association of Monterey Bay Area Governments (AMBAG) population and housing unit projections for the City of Scotts Valley and Santa Cruz County from 2005 through to 2035 (AMBAG, 2008). The average annual growth rate for Santa Cruz County over this period is expected to be approximately 0.45 percent. The average annual growth rate for the City of Scotts Valley is expected to be slightly lower, at approximately 0.39 percent.

**Table 2. AMBAG Population and Housing Unit Projections**

Population by Year							
	2005	2010	2015	2020	2025	2030	2035
City of Scotts Valley	11,565	11,923	12,126	12,311	12,427	12,688	12,921
Santa Cruz County	260,092	268,041	273,983	280,493	285,735	290,597	295,621
Housing Units by Year							
	2005	2010	2015	2020	2025	2030	2035
City of Scotts Valley	4,616	4,784	4,848	4,919	4,965	5,071	5,164
Santa Cruz County	102,872	105,509	107,496	110,143	112,040	113,865	115,590

Table 3 shows the racial characteristics for Santa Cruz County from 2000 to 2008. The data shows a slight trend toward increased diversity of the county’s population, with relatively large increases in the proportion of the population identifying themselves as Hispanic, Asian, or multi-race (California Department of Finance, 2010).

**Table 3. Racial Characteristics for Santa Cruz County**

Race/Ethnicity	Population by Year								
	2000	2001	2002	2003	2004	2005	2006	2007	2008
White	169,002	167,726	164,696	161,615	158,832	156,229	153,819	152,105	150,920
Hispanic	69,980	72,042	75,152	78,232	81,456	84,781	88,232	92,139	96,471
Asian	8,628	8,897	9,085	9,270	9,472	9,687	9,915	10,192	10,325
Black	2,224	2,236	2,237	2,237	2,242	2,250	2,260	2,282	2,312
American Indian	1,240	1,261	1,277	1,294	1,311	1,331	1,353	1,380	1,412
Pacific Islander	317	324	328	332	335	339	343	348	355
Multi-race	5,056	5,321	5,538	5,652	5,766	5,877	5,987	6,122	6,155
<b>TOTAL</b>	<b>256,447</b>	<b>257,807</b>	<b>258,313</b>	<b>258,632</b>	<b>259,416</b>	<b>260,492</b>	<b>261,909</b>	<b>264,568</b>	<b>267,951</b>

Table 4 provides U.S. Census Bureau economic data, which shows that median income in the County of Santa Cruz and City of Scotts Valley is greater than median income in the U.S. as a whole, there are still individuals and families in the County that are living below the poverty level.

**Table 4. Economic Data for Santa Cruz County**

Economic Indicator	Santa Cruz County <sup>1</sup>	City of Scotts Valley <sup>2</sup>	U.S. <sup>1</sup>
Median household income	\$67,070	\$72,449	\$52,175
Median family income	\$83,217	\$88,573	\$63,211
Median per capita income	\$34,890	\$35,684	\$27,466
Families below poverty level	6.8%	0.9%	9.6%
Individuals below poverty level	12.0%	2.5%	13.2%

Notes:

1. U.S. Census Bureau, 2006-2008 American Community Survey 3-Year Estimates, Santa Cruz County California.

2. U.S. Census Bureau, Census 2000 Demographic Profile Highlights, Scotts Valley California.

### 3.7 Transportation

Regional access into the ten Project Units is provided via Highway 17 and Highway 9. Local access routes include Graham Hill Road, Sims Road, Mount Hermon Road, Scotts Valley Drive, Lockhart Gulch Road, East Zayante Road, Brookside Avenue, and Quail Hollow Road. Table 5 provides average daily traffic (ADT) on these roads.

**Table 5. Average Daily Traffic (ADT) on Vicinity Roadways**

Road	Direction	Cross Street	Most Recent ADT	ADT Date
Graham Hill Road	S/O	East Zayante Road	14,264	August 2001
Graham Hill Road	N/O	Lockwood Lane	17,521	August 2007
Graham Hill Road	S/O	Lockwood Lane	14,389	August 2007
Graham Hill Road	N/O	Mt. Hermon Road	30,106	January 2009
Graham Hill Road	SE/O	Mt. Hermon Road	15,108	June 2008
Graham Hill Road	S/O	Sims Road	11,517	September 2007

Road	Direction	Cross Street	Most Recent ADT	ADT Date
Sims Road	E/O	Graham Hill Road	4,140	April 1999
Sims Road	W/O	La Madrona Drive	5,887	October 2006
Mt. Hermon Road	N/O	Scotts Valley Drive	31,335	June 2008
Mt. Hermon Road	W/O	Lockwood Lane	20,802	September 2008
Mt. Hermon Road	W/O	Lockhart Gulch	19,330	March 2009
Scotts Valley Drive	E/O	Mt. Hermon Road	22,120	July 2007
East Zayante Road	N/O	Graham Hill Road	7,558	June 2009
Quail Hollow Road	N/O	East Zayante Road	2,208	July 2006
Lockwood Lane	S/O	Whispering Pines	3,982	April 2004
Lockhart Gulch	N/O	Mt. Hermon Road	3,074	July 1994

Source: Santa Cruz County Regional Transportation Commission, *Transportation Monitoring Report*, Appendix B, Table 1: Santa Cruz County Traffic Counts (Average Daily Traffic Bi-directional Volumes).

### **3.8 Public Services and Utilities**

#### **3.8.1 Sewage Disposal**

Public sewer service in the Project Units is provided by County Service Area 10, Scotts Valley Sewer, or Mt. Hermon Sewage System. In addition, private septic systems are relied on in many of the Project Units. The Scotts Valley wastewater treatment facility currently treats an average of 824,000 gallons per day (effluent and recycled water), with capacity to treat 1.5 million gallons per day (City of Scotts Valley, 2009b).

#### **3.8.2 Fire Protection**

Fire protection services in the Project Units are provided by Scotts Valley, Zayante, Felton, and Ben Lomond Fire Protection Districts. The California Department of Forestry and Fire Protection (CalFire) also provides wildland fire protection in the area.

#### **3.8.3 Police Protection**

Police protection services in the Project Units are provided by the County of Santa Cruz Sheriff's Department on lands within the County's jurisdiction and the City of Scotts Valley Police Department on lands within the City's jurisdiction.

#### **3.8.4 Schools**

Public schools in the Project Units are provided by the Scotts Valley School District and the San Lorenzo Valley School District.

#### **3.8.5 Parks and Recreation**

Parks and recreational facilities in the Project Units are provided by the Santa Cruz County Department of Parks, Open Space, and Cultural Services on lands within the County's jurisdiction and by the City of Scotts Valley Parks & Recreation Department on lands within the City's jurisdiction.

## 4.0 ENVIRONMENTAL CONSEQUENCES

### 4.1 Introduction to Analysis

This chapter will analyze the direct, indirect, and cumulative effects of each alternative relative to the following resource elements:

- Biological Resources,
- Geology and Soils,
- Water Resources and Water Quality,
- Air Quality,
- Cultural Resources,
- Socioeconomics and Environmental Justice,
- Transportation, and
- Public Services and Utilities.

Our analysis will compare the effects against baseline conditions described in Chapter 3 and the significance criteria for each resource element described in this chapter.

Our proposed action is issuance of ITPs to the City and County and does not entail the authorization or approval of development. However, our action may have indirect effects associated with development. The issuance of ITPs will allow for eligible development projects to comply with the Act; such development would not only result in the take of the Covered Species, but would also result in adverse effects to other environmental resources.

### 4.2 Biological Resources

#### 4.2.1 Significance Criteria

An alternative would result in a significant impact on biological resources if it would:

- Have a substantial adverse effect on the Covered Species or on any species identified as a candidate, sensitive, or special status species (including species listed as threatened or endangered) in local or regional plans, policies, or regulations, or by CDFG or USFWS.
- Have a substantial adverse effect on wetlands or other sensitive natural vegetation community identified in local or regional plans, policies, or regulations, or by CDFG or USFWS.

#### 4.2.2 Effects from the Preferred Alternative

##### COVERED SPECIES

The proposed IPHCP (Preferred Alternative) and ITPs are being prepared to address the potential incidental take of Covered Species that could result from qualified future residential projects (Covered Activities) in the Planning Units. Issuance of the ITPs under the proposed IPHCP would allow for the removal and/or disturbance of 139 acres of habitat for the Covered Species, which would cause direct and indirect effects on these species. As indicated in the proposed IPHCP, grading, land clearing, and construction activities associated with Covered Activities would likely injure or kill plants and seeds of the Ben Lomond spineflower, and adults, larvae, pupae and eggs of the Mount Hermon June beetle. Construction of new buildings and associated infrastructure including driveways and sidewalks would permanently remove habitat (i.e., Zayante soils) for both species. Mount Hermon June beetle and Ben Lomond spineflower individuals that persist on a project site after construction activities could be threatened by ongoing use of the property.

It is not possible to determine or accurately predict how many individuals of each species would be injured or killed as a result of the habitat removal and disturbance allowed under the proposed IPHCP and ITPs. Comprehensive data describing the distribution and abundance of the Mount Hermon June beetle and Ben Lomond spineflower within the Project Units is not available. In addition, population densities of these species fluctuate annually such that the number of individuals impacted would depend on the year in which a given project is conducted. For these reasons, it is more tangible and biologically defensible to evaluate the effects of habitat disturbance from Covered Activities under the proposed IPHCP in terms of degradation or destruction of habitat.

Take of the Mount Hermon June beetle authorized by the ITPs issued pursuant to the Preferred Alternative would be defined in terms of the areal extent of the species' habitat (Zayante soils), that is disturbed by the Covered Activities. Within the Sandhills communities that occur on Zayante soils, surveys have revealed that the Mount Hermon June beetle occurs within a broad array of microhabitats, including conditions associated with existing high density development. Ground disturbing activities covered by the ITPs would negatively impact populations of the Mount Hermon June beetle through a variety of direct and indirect mechanisms. Therefore, it is reasonable to assume that conducting these activities within Zayante soils in the Project Units would degrade or eliminate Mount Hermon June beetle habitat and injure or kill Mount Hermon June beetles.

The ITPs issued pursuant to the Preferred Alternative would authorize the take of Mount Hermon June beetles on no more than 139 acres of Sandhills habitat in the Project Units during the permit term of 5 years. This acreage figure would be the maximum area of habitat disturbance authorized by the ITPs. It represents 5 percent of the estimated total amount (2,800 acres) of Sandhills habitat with documented occurrences of the Mount Hermon June beetle, as of 2004.

Given that the proposed IPHCP would cover projects that are yet to be proposed it is not possible

to determine the exact locations of the habitat that would be lost. Based on locations of proposed projects to date, the City and County anticipate that some portion of habitat would be lost in each Project Unit. Habitat would be lost only on parcels that are equal to or less than 1.5 acres in size. A maximum of 15,000 square feet of additional habitat would be lost on any given parcel. However, the City and County anticipate that most projects covered under the IPHCP (e.g., swimming pools, garages, room additions, etc.) would be smaller and would each result in a loss of less than 15,000 square feet of habitat.

The degradation or loss of up to 139 acres of Sandhills habitat within the Project Units should not have a significant effect on the persistence of the Mount Hermon June beetle and Ben Lomond spineflower throughout the species' ranges. Existing populations of these species persist on and in exposed Zayante soils around existing structures and other infrastructure and in vacant parcels. No more than 15,000 square feet of additional habitat would be lost on any given parcel under the IPHCP. Additionally, these habitat losses would likely be distributed throughout the Project Units in rough proportion to the size of each unit. Given the amount and expected distribution of the habitat that may be lost, Mount Hermon June beetles and Ben Lomond spineflowers should continue to persist on and in exposed soils in each of the Project Units. Therefore, following implementation of the Covered Activities under the Preferred Alternative, each Project Unit would likely provide less habitat, but essentially a similar quality of habitat for the Mount Hermon June beetle and Ben Lomond spineflower, as currently exists in these neighborhoods

While both species would likely continue to inhabit the Project Units in the short term, it is not possible to definitively predict whether these areas would support long term persistent populations of the Mount Hermon June beetle and/or Ben Lomond spineflower. There are no historical data on populations of the species within the Project Units, precluding assessment of the effects of development on population density and trends. However, the proposed IPHCP ultimately concludes that it is unlikely that the additional habitat loss and other impacts from the projects covered under the IPHCP would be a substantial additional threat to the long-term persistence of the Mount Hermon June beetle and Ben Lomond spineflower, given that 90 percent of the parcels within the Project Units are already developed and most of these neighborhoods have been in existence for decades.

Other threats to the long-term persistence of the Covered Species result from past and pending cumulative development. As of 2004, there were approximately 2,800 acres<sup>3</sup> of Sandhills habitat with documented occurrences of the Mount Herman June beetle (McGraw, 2004 and 2011). Of this acreage, approximately 510 acres is protected from development given that it is located within various park properties, including Henry Cowell State Park, Quail Hollow Ranch County Park, and Gray Whale Ranch, or is expected to be deeded to the California Department of Parks and Recreation, as of 2004 (McGraw, 2004). Since 2004, development associated with incidental take permits has removed approximately 9 acres of Sandhills habitat, while permanently conserving 18 acres (Service, 2010). Further, populations of these species occur within a variety

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<sup>3</sup> The Quail Hollow Quarry (permitted in 1998) and Hanson Aggregates Felton Plant (permitted in 1999) HCPs are factored into our baseline acreage estimate of 2,800 acres of Sandhills habitat with documented occurrences of Mount Hermon June beetle.

of habitat areas that are protected from development, including Henry Cowell State Park, Quail Hollow Ranch County Park, the conservation areas of the Quail Hollow Quarry, the conservation areas of the Hanson Quarry, the preserves of the Zayante Sandhills Conservation Bank, and the Bonny Doon Ecological Reserve. Overall, the Preferred Alternative would not be a significant threat to the persistence of the Covered Species population.

Additionally, the proposed IPHCP Minimization and Mitigation Measures would minimize and mitigate the adverse effects on Covered Species associated with the loss or disturbance of habitat associated with the Preferred Alternative. The IPHCP minimization measures would reduce habitat removal and/or disturbance and associated effects on Covered Species on a parcel-by-parcel basis. Specifically, the minimization measures would require landowners to avoid habitat loss to the greatest extent feasible. For areas that would be disturbed, the minimization measures and local grading ordinances would reduce the adverse effects on the Covered Species by minimizing ground disturbance during the growing season of the Ben Lomond spineflower (from mid-October to early August) and the adult flight period of the Mount Hermon June beetle (May 15 – August 15). The minimization measures would also minimize landscape elements that degrade habitat and minimize use of exterior night lighting that attracts insects. Overall, these minimization measures would reduce the potential for direct and indirect effects on the Covered Species from habitat disturbance associated with the Covered Activities. The minimization measures are provided below (see the proposed IPHCP for additional details).

- Impacts to plants that are native to the Sandhills must be avoided to the greatest extent feasible, consistent with the purpose of the Covered Activity.
- Ground-disturbing activities associated with construction (e.g., vegetation clearance, grading, digging, etc.) must be minimized between May 15 and August 15 within the development envelope.
- If construction-related ground disturbance associated with Covered Activities can not be scheduled to avoid the May 15 to August 15 time frame, participating landowners must ensure that areas that have been disturbed by construction activities are covered each evening during this time frame with tarps, landscape fabric, or other similar material. Only the immediate areas that have been recently disturbed must be covered in this manner between May 15 and August 15.
- Landscaping elements that degrade habitat must be minimized to the greatest extent feasible, as determined by the City or County, and consistent with the purpose of the Covered Activity.
- Indirect impacts to the Mount Hermon June beetle from project lighting must be minimized to the greatest extent feasible.

Under the Preferred Alternative, the take of individuals of the Covered Species resulting from allowed habitat disturbance associated with Covered Activities must be mitigated for by permanently preserving and managing suitable habitat outside of the Project Units. Covered Activities would be limited to small “infill-type” residential projects in existing neighborhoods on parcels that are 1.5 acres or less that would disturb no more than an additional 15,000-square

foot area. Habitat for the Mount Hermon June beetle and/or Ben Lomond spineflower in the Project Units is fragmented and, in many cases, of reduced quality relative to larger contiguous, undisturbed parcels. Therefore, according to the Proposed IPHCP, protection in perpetuity of contiguous blocks of high quality habitat outside of the Project Units should compensate for the impacts of habitat disturbance from Covered Activities within the Project Units and should help ensure the long-term conservation of these species. The IPHCP minimization and mitigation measures include the following:

- To the maximum extent feasible, the City and County will require that any revegetation or landscaping activities associated with Covered Activities are conducted using locally-derived source material (i.e., seeds or cuttings) of plant species native to the Sandhills, with particular emphasis on the plant species identified in Appendix F of the IPHCP.
- Prior to beginning any ground-disturbing activities, the impacts of Covered Activities must be mitigated in one of the following ways:
  1. Secure conservation credits for the Mount Hermon June beetle at a ratio of 1:1<sup>4</sup> in terms of acres of disturbance to numbers of credits (e.g., a project with a 0.1-acre disturbance envelope will mitigate by securing 0.1 acre of conservation credits for the Mount Hermon June beetle) at the Zayante Sandhills Conservation Bank; or
  2. Secure conservation credits for the Mount Hermon June beetle at a ratio of 1:1 in terms of acres of disturbance to numbers of credits (e.g., a project with a 0.1-acre disturbance envelope will mitigate by securing 0.1 acre of conservation credits for the Mount Hermon June beetle) at another Service-approved conservation bank, which also has an Operating Agreement with the County if the parcel is within the County's jurisdiction.

According to the Service's *Guidance for the Establishment, Use, and Operation of Conservation Banks* (Service 2003), a conservation bank is "a site where habitat and/or other ecosystem resources are conserved and managed in perpetuity for listed species expressly for the purpose of offsetting impacts occurring elsewhere to the same resource values." According to this guidance, from the Service's perspective, conservation banking reduces the piecemeal approach to conservation efforts that can result from individual projects by establishing larger reserves and enhancing habitat connectivity. Larger reserves are more likely to ensure ecosystem functions, foster biodiversity, and provide opportunities for linking existing habitat. The above noted guidance is for use by Service personnel in evaluating and approving conservation banks. Implicit in the approval of a conservation bank, is the recognition that adverse effects to a species may be offset by the conservation benefits offered by the approved bank.

Currently, there are no other Service-approved Sandhills conservation banks, therefore, it is expected that credits would be obtained from the Service-approved Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank unless or until another Service-approved conservation bank is put in place. The purchase of such credits would compensate for or offset

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<sup>4</sup> Because contiguous areas of high-quality habitat will be used to mitigate for impacts to fragmented, lower-quality habitat, the mitigation ratio for Covered Activities would be 1 to 1 in terms of the area of disturbance envelope to the number of conservation credits of mitigation responsibility.

any adverse effects of Covered Activities on the Covered Species, as mitigation fees provided by the purchase of credits would support the on-going conservation and management activities at the Ben Lomond Sandhills Preserve or another Service-approved conservation bank and would contribute to the conservation and recovery of both of the Covered Species. Appendix B provides a summary of the Ben Lomond Sandhills Preserve based on the *Adaptive Management and Monitoring Plan for the Zayante Sandhills Conservation Bank* (McGraw, 2006).

The adverse effects on the Covered Species associated with the Preferred Alternative are expected to be minimized to below significance with the implementation of the above IPHCP minimization and mitigation measures.

#### NON-COVERED SPECIES

According to the proposed IPHCP, no take of, or adverse effects to, any other federally listed or proposed species is anticipated to occur as a result of the habitat disturbance allowed under the Preferred Alternative and associated ITPs. If the Zayante band-winged grasshopper, Ben Lomond wallflower, or any other federally listed species are discovered within any of the Project Units, the Service would evaluate this new information and determine what, if any, IPHCP Covered Activities may affect these species. In addition, if the Covered Activities would likely result in incidental take of any other federally listed animal species, the City and County would coordinate with the Service and either request a permit amendment, or implement activities that would avoid the take of such species. Any permit amendment would provide minimization and mitigation measures for the newly covered species, and would be subject to the environmental review requirements of CEQA and NEPA and such review would take place, if and when a permit amendment is considered.

Additionally, the County and the City would refer individual applicants to the Service when proposed projects may result in the take of federally-listed species not covered by the proposed IPHCP and ITPs. On lands under County jurisdiction, any proposed development in the Project Units would be evaluated by qualified staff, including a site visit to each parcel where development is proposed. In some cases, a biotic assessment may also be required and, if needed, a biotic report, per the County's Sensitive Habitat Protection Ordinance (County Code Chapter 16.32, Sensitive Habitat Protection). A similar process for evaluating proposed development projects in Sandhills habitat is required by the City, although not codified (Weston 2010). The presence or potential presence of other special-status species on the property being evaluated under the terms of the proposed IPHCP and ITPs could also be identified and addressed through these processes.

The Preferred Alternative would not result in substantial adverse effects on Non-Covered Species, as Covered Activities would be required to comply with the Act and the above City and County regulations and requirements.

#### SENSITIVE HABITAT - SANDHILLS

Sandhills habitat is identified as a sensitive biotic community by the County and is covered by the County's Sensitive Habitat Protection Ordinance (County Code Chapter 16.32, Sensitive Habitat Protection), which seeks to minimize the disturbance of biotic communities that are rare

or especially valuable. Under the Preferred Alternative, the degradation or loss of up to 139 acres of Sandhills habitat within the Project Units could occur as a result of the ITPs. This represents about 3.5 percent of the estimated total amount of Sandhills habitat across its range (3,960), as of 2004 (McGraw, 2004).

Degradation or loss of Sandhills habitat across its range could also result from past and pending cumulative development. As of 2004, there were approximately 3,960 acres<sup>5</sup> of Sandhills habitat across its range (McGraw, 2004). Since then, development requiring an exemption to section 9 prohibitions of the Act has removed approximately 9 acres of Sandhills habitat, while permanently conserving 18 acres (Service, 2010). Further, populations of these species occur within a variety of habitat areas that are protected from development, including Henry Cowell State Park, Quail Hollow Ranch County Park, the conservation areas of the Quail Hollow Quarry, the conservation areas of the Hanson Quarry, the preserves of the Zayante Sandhills Conservation Bank, and the Bonny Doon Ecological Reserve.

Additionally, the IPHCP Minimization and Mitigation Measures identified above would minimize and mitigate for any adverse effects on Sandhills habitat associated with the Preferred Alternative, as these measures would reduce the overall amount of ground disturbance and habitat degradation and would compensate for the habitat disturbance that does occur through the purchase of conservation credits. The purchase of these credits would support the on-going conservation and management activities of the Ben Lomond Sandhills Preserve or another Service-approved conservation bank.

The adverse effects on Sandhills habitat associated with the Preferred Alternative are expected to be minimized to below significance with the implementation of the minimization and mitigation measures identified in Section 4.2.2 (Covered Species).

#### SENSITIVE HABITAT-WETLANDS

Under the Preferred Alternative, the Project Units are mostly setback from the San Lorenzo River tributaries identified in Section 3.3. In a few cases, tributaries are located within the boundaries of the Project Units; however, it is unclear whether the boundaries of any eligible parcels are within these tributaries. If tributaries are located within eligible parcels, County Code Chapter 16.30 Riparian Corridor and Wetlands Protection provide for buffers and setbacks from streams and riparian corridors. Specifically, the County requires a 100-foot buffer from wetlands, a 50-foot buffer from the edge of riparian woodlands and up to a 50-foot buffer from other riparian areas, depending on topography and vegetation. Once the buffer is determined, a 10-foot setback from the edge of the buffer is required for all structures. The Scotts Valley Municipal Code Chapter 15.06, Excavation, Grading, Erosion, and Sediment Control Regulations also requires setbacks from streams and riparian corridors. Specific buffer distances are not stipulated by the City. However, the City requires that ground-disturbing activities be set back far enough to prevent encroachment upon streams, floodplains or channels, or bodies of water to provide an undisturbed protective area between ground-disturbing activities and riparian corridors. The setback distance is also to be sufficient to prevent degradation of water quality.

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<sup>5</sup>The Quail Hollow Quarry (permitted in 1998) and Hanson Aggregates Felton Plant (permitted in 1999) HCPs are factored into our baseline acreage estimate of 3,960 acres of total Sandhills habitat across its range.

Additionally, the IPHCP would address take for only development envelopes of 15,000 square feet per parcel and the IPHCP minimization measures would reduce the overall amount of ground disturbance, as compared to projects pursued under existing conditions. As a result, construction-phase erosion, siltation and associated water quality effects to adjacent streams would be further minimized.

The Preferred Alternative would not result in substantial adverse effects on wetland habitat, as Covered Activities would be required to comply with the above City and County regulations.

#### CONCLUSIONS

Considering the potential direct, indirect, and cumulative effects from the Covered Activities on biological resources, and the mitigation measures offered under the Preferred Alternative, we find that the effects are below significance.

#### 4.2.3 Effects from the Reduced Take Project Alternative

##### COVERED SPECIES

Issuance of the ITPs under the Reduced Take Project Alternative would allow for the removal and/or disturbance of 100 acres of habitat for the Covered Species, or 3.5 percent of the estimated total amount (2,800 acres) of Sandhills habitat with documented occurrences of the Mount Hermon June beetle, as of 2004 (McGraw, 2004). This habitat removal/disturbance would cause direct and indirect effects on these species, associated with construction-related disturbance of habitat (e.g., grading, land clearing), permanent removal of habitat from the development of new buildings and pavement, and on-going disturbance of habitat from the use of the property (see Section 4.2.2 for additional information about these effects). As the habitat removal/disturbance would be 39 acres less under this alternative, the associated effects on the Covered Species would also be reduced. Given that this alternative would result in a reduction in habitat removal, it would also not result in a significant threat to the persistence of the Covered Species, for the same reasons identified above for the Preferred Alternative.

Additionally, the minimization and mitigation measures of the proposed IPHCP operating conservation plan described above would also apply to this alternative; however, they would be implemented over less land area, as compared to the Preferred Alternative. In particular, the Reduced Take Project Alternative would require the purchase of fewer conservation credits and therefore would contribute less to the conservation and recovery of both of the Covered Species, as compared to the Preferred Alternative. However, as for the Preferred Alternative, these measures would also minimize and mitigate the adverse effects on Covered Species associated with the loss or disturbance of habitat resulting from the Reduced Take Project Alternative.

The adverse effects on the Covered Species associated with the Reduced Take Project Alternative are expected to be minimized to below significance with the implementation of the minimization and mitigation measures identified in Section 4.2.2 (Covered Species).

##### NON-COVERED SPECIES

Issuance of the ITPs under the Reduced Take Project Alternative would allow for the removal and/or disturbance of 100 acres of habitat. This constitutes a reduction of 39 acres in the amount

of habitat disturbance allowed under the Preferred Alternative. This reduced habitat disturbance could potentially reduce adverse effects to any non-covered species that could potentially be present. However, as for the Preferred Alternative, no take of, or adverse effects to, any other federally listed or proposed species is anticipated to occur as a result of the habitat disturbance allowed under the Reduced Take Project Alternative and associated ITPs. If the Zayante band-winged grasshopper, Ben Lomond wallflower, or any other federally listed species are discovered within any of the Project Units and an ITP permit amendment were required, the procedures identified in Section 4.2.2 (Non-Covered Species) would also be followed by the Service and the City and County. City and County regulations and requirements related to special-status species, as identified in Section 4.2.2 (Non-Covered Species), would also be followed under the Reduced Take Project Alternative.

The Reduced Take Project Alternative would not result in substantial adverse effects on Non-Covered Species, as Covered Activities would be required to comply with the Act and with City and County regulations and requirements.

#### SENSITIVE HABITAT - SANDHILLS

Under the Reduced Take Project Alternative, the degradation or loss of up to 100 acres of Sandhills habitat within the Project Units could occur as a result of the ITPs. This represents about 2.5 percent of the estimated total amount of Sandhills habitat across its range (3,960), as of 2004 (McGraw, 2004). Overall, this alternative would contribute less to the cumulative loss of habitat from past and pending development, as compared to the Preferred Alternative. However, it would also contribute less to the conservation of Sandhills habitat, as this alternative would require the purchase of fewer conservation credits and therefore would not support the on-going conservation and management activities at the Ben Lomond Sandhills Preserve or another Service-approved conservation bank, to the same extent as the Preferred Alternative. However, as for the Preferred Alternative, the mitigation measures identified in Section 4.2.2 (Covered Species) would also minimize and mitigate for any adverse effects on Sandhills habitat associated with the Reduced Take Project Alternative, as these measures would reduce the overall amount of ground disturbance and habitat degradation and would compensate for the habitat disturbance that does occur.

The adverse effects on Sandhills habitat associated with the Reduced Take Project Alternative are expected to be minimized to below significance with the implementation of the minimization and mitigation measures identified in Section 4.2.2 (Covered Species).

#### SENSITIVE HABITAT-WETLANDS

Under the Reduced Take Project Alternative, the Project Units would be the same as those identified for the Preferred Alternative. As for the Preferred Alternative, Project Units are mostly setback from the San Lorenzo River tributaries identified in Section 3.3. In a few cases, tributaries are located within the boundaries of the Project Units; however, it is unclear whether the boundaries of any eligible parcels are within these tributaries. If tributaries are located within eligible parcels, Covered Activities would be required to comply with the City and County regulations identified in Section 4.2.2 (Sensitive Habitat – Wetlands), which requires buffers and setbacks from streams and riparian corridors.

Additionally, the minimization and mitigation measures of the proposed IPHCP operating conservation plan described above would also apply to this alternative; however, they would be implemented over less land area, as compared to the Preferred Alternative. These measures would reduce the overall amount of ground disturbance, as compared to projects pursued under existing conditions. As a result, construction-phase erosion, siltation and associated water quality effects to adjacent streams would be further minimized.

The Reduced Take Project Alternative would not result in substantial adverse effects on wetland habitat, as Covered Activities would be required to comply with the City and County regulations identified in Section 4.2.2 (Sensitive Habitat – Wetlands).

#### CONCLUSIONS

Considering the potential direct, indirect, and cumulative effects from the Covered Activities on biological resources, and the mitigation measures offered under the Reduced Take Project Alternative, we find that the effects are below significance.

#### 4.2.4 Effects from the No Action Alternative

##### BIOLOGICAL RESOURCES

Under the No Action Alternative, the Service would not issue ITPs to the City and County and the proposed IPHCP and its operating conservation plan would not be implemented. Therefore, the No Action Alternative would not result in Covered Activities under City and County ITPs and existing biological resource conditions would theoretically continue.

However, development could go forward in compliance with the Act via individual permits pursued by individual property owners. It is expected that over the permit term of the proposed ITPs, less development would be likely to occur if the No Action Alternative is pursued, given that the processing time and costs associated with individual permits is greater than it would be if development were covered under the City and County ITPs. To the extent that less development occurs under the No Action Alternative, associated effects to biological resources could be reduced. However, the No Action Alternative would also contribute less to the conservation and recovery of both of the Covered Species and to the conservation of Sandhills habitat overall, as this alternative would result in the purchase of fewer conservation credits, which support the ongoing conservation and management activities of the Ben Lomond Sandhills Preserve or another Service-approved conservation bank. Any development action that does occur must adhere to Federal, state, and local policies and regulations identified in Section 4.2.2 above, which would minimize biological resource effects.

#### CONCLUSIONS

The No Action Alternative is not expected to result in adverse effects on biological resources because the service would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Within a 5-year timeframe, we do not anticipate a large number of projects receiving individual take authorizations and being implemented. Further, any development that does occur under individual permit must adhere to Federal, state, and local policies and regulations identified in Section 4.2.2 above, and therefore we find that the effects

are below significance.

### **4.3 Geology and Soils**

#### **4.3.1 Significance Criteria**

An alternative would result in a significant impact related to geology and soils if it would:

- Expose people or structures to substantial adverse effects due to rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, liquefaction, subsidence or landslides.
- Result in substantial soil erosion, siltation, or the loss of topsoil.

#### **4.3.2 Effects from the Preferred Alternative**

##### **GEOLOGICAL AND SEISMIC HAZARDS**

The Project Units under the Preferred Alternative are not located within or adjacent to a mapped fault zone and therefore seismic hazards related to fault rupture would not occur. Covered Activities under the Preferred Alternative along with other past and pending cumulative development could be exposed to indirect effects associated with geologic hazards and hazards caused by seismic-related ground shaking. However, in accordance with County and City general plans, covered projects and other cumulative development would be designed using the latest version of the California Building Code published in the California Code of Regulations, Title 24, currently known as the 2007 California Building Standards Code. Design and construction to these standards would minimize the hazards of seismic shaking and liquefaction. Further, County General Plan Policies 6.1.4 and 6.1.5 and County Code Chapter 16.10, Geologic Hazards, identify the need for geologic hazards assessments and/or reports for new development, if warranted, to assure that appropriate safeguards are incorporated into project plans. City General Plan Policies SP-489 and SA-490 also identify the need for geotechnical and/or geologic investigations for projects in known or suspected geologic hazard areas. Per Policy SP-487, the City also uses the County's liquefaction and landslide maps to assess geotechnical hazards within their planning area.

Implementation of the proposed IPHCP minimization and compensatory mitigation measures under the Preferred Alternative would not result in any potentially significant seismic-related effects, as these measures would not change or exacerbate exposure to seismic or other geological hazards in the Project Units.

The Preferred Alternative would not result in substantial adverse effects related to geologic and seismic hazards, as Covered Activities would be required to comply with the above City and County policies and regulations.

## EROSION AND SILTATION

Some potential for erosion and associated siltation exists during the construction phase of future Covered Activities located in the Project Units, under the Preferred Alternative. Such indirect effects could also result from past and pending cumulative development in and adjacent to the Project Units. However, soil erosion would be minimized by applying best management practices and standard erosion controls required locally as a condition of future project approvals made by the City or County. In accordance with County General Plan Policy 6.3.4 and County Code Chapter 16.22, Erosion Control, a project must have an approved Erosion Control Plan prior to approval of a grading or building permit, which would specify detailed erosion and sedimentation control measures. The plan would include provisions for disturbed areas to be planted with ground cover and to be maintained to minimize surface erosion. City General Plan Policy OSA-353 and Chapter 15.06, Excavation, Grading, Erosion and Sediment Control Regulations of the Scotts Valley Municipal Code also specify requirements for erosion control. In particular, this Chapter sets forth rules, regulations, and minimum standards to control excavation, grading, erosion, and sediment, and it requires control of all existing and potential conditions of accelerated erosion as part of the issuance of grading permits.

Erosion and siltation can also occur with Covered Activities and other cumulative development as a result of modifications to natural drainages or constructed drainage systems. County General Plan policies 7.23.1 through 7.23.4 and County Code Chapter 16.22, Erosion Control, stipulate that developments requiring a building permit or discretionary approval maintain runoff at predevelopment rates to prevent erosion and siltation. This requirement would also minimize the potential that downstream flooding could increase or that runoff would exceed the capacity of existing or planned storm water drainage systems, as a result of Covered Activities. Likewise, Chapter 15.06, Excavation, Grading, Erosion and Sediment Control Regulations of the Scotts Valley Municipal Code identify design standards and other requirements for drainage facilities as part of the issuance of grading permits. Requirements include specifications for maintaining peak storm water runoff and sediment rates at predevelopment rates, requirements for mitigation if runoff exceeds predevelopment levels, and mechanisms for protecting natural drainage ways.

Additionally, the proposed IPHCP minimization and mitigation measures under this alternative would not result in substantial soil erosion or siltation. The IPHCP would limit the development envelopes of Covered Activities to 15,000 square feet per parcel and within that area ground-related disturbance would be minimized, which would reduce the potential for soil erosion and siltation. The proposed IPHCP also stipulates that ground-disturbing activities would be minimized between May 15 and August 15, which constitutes the majority of the dry season. The City and County grading ordinances generally do not allow ground disturbance activities between October 15<sup>th</sup> and April 15<sup>th</sup>. Therefore, it is not expected that the alternative would increase the potential for winter grading.

If winter grading is allowed by the County or the City in the Project Units, it would be for a limited area and time period. Additional erosion-control measures would also be required during winter grading per County and City erosion control regulations cited above. Both the City and County regulations have special provisions for winter operations that include, but are not limited to: (1) protection of existing ground cover and/or areas not involved in the immediate

operations, (2) specifications regarding the type of erosion control measures that will be used and how and when they will be installed, (3) requirements that erosion control measures be in place at the end of each day's work, and (4) provisions regarding monitoring and enforcement actions. As a result, soil erosion and associated siltation during winter construction activities should not increase with the implementation of the IPHCP minimization and mitigation measures.

The Preferred Alternative would not result in substantial adverse effects related to soil erosion and siltation, as Covered Activities would be required to comply with the above City and County policies and regulations.

#### CONCLUSION

Considering the potential indirect and cumulative effects from the Covered Activities related to geology and soils, and the existing requirements of the City and County, we find that the effects of the Preferred Alternative are below significance.

#### 4.3.3 Effects from the Reduced Take Project Alternative

##### GEOLOGICAL AND SEISMIC HAZARDS

Covered Activities under the Reduced Take Project Alternative along with other past and pending cumulative development in the Project Units also would not be subject seismic hazards related to fault rupture, but could be exposed to indirect effects associated with geologic hazards and hazards caused by seismic-related ground shaking. As the area of development/disturbance covered under the Reduced Take Project Alternative would be reduced to 100 acres, the exposure to these hazards would be reduced accordingly. However, the Covered Activities under this alternative would also be required to adhere to state and local policies and regulations identified in Section 4.3.2 (Geological and Seismic Hazards), which would minimize effects.

As for the Preferred Alternative, implementation of the proposed minimization and mitigation measures under the Preferred Alternative would not result in any potentially significant seismic-related effects, as these measures would not change or exacerbate exposure to seismic or other geological hazards in the Project Units.

The Reduced Take Project Alternative would not result in substantial adverse effects related to geologic and seismic hazards, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.3.2 (Geological and Seismic Hazards).

##### EROSION AND SILTATION

Some potential for erosion and associated siltation also exists during the construction phase of future Covered Activities under the Reduced Take Project Alternative and from other past and pending cumulative development. As the area of development/disturbance covered under the Reduced Take Project Alternative would be reduced to 100 acres, the potential for soil erosion and siltation would be reduced accordingly. However, Covered Activities under this alternative would also be required to adhere to local policies and regulations identified in Section 4.3.2 (Erosion and Siltation), and therefore soil erosion and siltation would be minimized.

The proposed IPHCP minimization and mitigation measures would also be implemented under the Reduced Take Project Alternative; however, they would be implemented over less land area, as compared to the Preferred Alternative. Therefore, the beneficial effects of the measures requiring limited development envelope and disturbance, which would limit soil erosion and siltation, would be reduced. As for the Preferred Alternative, this alternative would not increase the potential for winter grading. Any winter grading that is allowed by the County or the City would be for a limited area and time period and would be required to adhere to special provisions for winter operations as stipulated in Section 4.3.2 (Erosion and Siltation).

The Reduced Take Project Alternative would not result in substantial adverse effects related to soil erosion and siltation, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.3.2 (Erosion and Siltation).

#### CONCLUSION

Considering the potential indirect and cumulative effects from the Covered Activities related to geology and soils, and the existing requirements of the City and County, we find that the effects of the Reduced Take Project Alternative are below significance.

#### 4.3.4 Effects from the No Action Alternative

##### GEOLOGY AND SOILS

Under the No Action Alternative, the Service would not issue ITPs to the City and County and the proposed IPHCP and its operating conservation plan would not be implemented. Therefore, the No Action Alternative would not result in Covered Activities under City and County ITPs and existing geologic and soil conditions would theoretically continue.

However, development could go forward in compliance with the Act via individual permits pursued by individual property owners. It is expected that over the permit term of the proposed ITPs, less development would be likely to occur if the No Action Alternative is pursued, given that the processing time and costs associated with individual permits is greater than it would be if development were covered under the City and County ITPs. To the extent that less development occurs under the No Action Alternative, associated effects related to geology and soils could be reduced. Any development action that does occur must adhere to the City and County policies and regulations identified in Section 4.3.2 above, which would minimize effects related to geology and soils.

#### CONCLUSION

The No Action Alternative is not expected to result in adverse effects related to geology and soils because the service would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Within a 5-year timeframe, we do not anticipate a large number of projects receiving individual take authorizations and being implemented. Further, any development that does occur under individual permits must adhere to the Federal, state, and local policies and regulations identified in Section 4.3.2 above, and therefore we find that the effects are below significance.

## 4.4 Water Resources and Water Quality

### 4.4.1 Significance Criteria

An alternative would result in a significant impact related to water resources if it would:

- Expose people or structures to a significant risk of loss, injury, or death involving flooding.
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems and/or cause downstream flooding.
- Substantially degrade the water quality in the project area.
- Substantially deplete groundwater or surface water supplies, or interfere substantially with groundwater recharge.

### 4.4.2 Effects from the Preferred Alternative

#### FLOODING

As indicated in Section 3.3, the Project Units lie mostly outside of the FEMA 100- and 500-year floodplains of the identified San Lorenzo River tributaries, but in some cases floodplains occur within portions of a Project Unit. EO 11988, *Floodplain Management*, requires Federal agencies conducting, supporting, or allowing actions to first avoid development below the base flood elevation, or one percent-chance flood event, then to consider practicable alternatives and, if necessary, identify and reduce effects to floodplain values. Local floodplain protection standards and Flood Insurance Rate Maps (FIRMs) should be consulted in this analysis. The FIRM maps are the basis for the Counties GIS mapping of flood hazard areas.

While floodplains do occur within portions of the Project Units, it is unclear whether any eligible parcels lie within floodplains, such that new development could be exposed to flood hazards or otherwise could affect flood conditions. If such development was proposed in the future under the Preferred Alternative, County General Plan policies 6.4.1 and 6.4.2 and County Code Chapter 16.10, Geologic Hazards, identify the need for hazards assessments for all development within 100-year floodplains or floodways, to ensure that development is protected from flood hazards and does not contribute to flood-damage potential. Likewise, City General Plan policies SP-482, SA-483, SP-484, and SA-485 and Chapter 15.16, Flood Damage Prevention, of the Scotts Valley Municipal Code also specify similar requirements for development within flood hazard areas. With the implementation of the above regulations and policies, flood-related hazards associated with Covered Activities of the Preferred Alternative and with other past and pending cumulative development, would be minimized.

Further, as indicated in Section 4.3.2 (Erosion and Siltation), County and City policies and regulations require that runoff be maintained at predevelopment rates to minimize the potential that downstream flooding could increase or that runoff would exceed the capacity of existing or planned storm water drainage systems. With the implementation of the above regulations and policies, Covered Activities of the Preferred Alternative and other past and pending cumulative development, would not result in runoff that would exceed the capacity of drainage systems

and/or cause downstream flooding.

Implementation of the IPHCP minimization and mitigation measures under the Preferred Alternative would not result in any potentially significant impacts related to flooding, as these measures would not change or otherwise affect flood conditions on parcels in the Project Units.

The Preferred Alternative would not result in substantial adverse effects related to flooding, as Covered Activities would be required to comply with the above City and County policies and regulations.

#### WATER QUALITY

As indicated in Section 3.3, Carbonera Creek, Zayante Creek, Newell Creek, and the San Lorenzo River, which run through the Project Units, are identified by the CCRWQCB as Impaired Waterbodies in that they do not meet water quality objectives and are not supporting their beneficial uses. TMDLs have not been formally established for these water bodies to date, but are expected for Carbonera Creek and San Lorenzo River in 2011, as described in Section 3.3.

Covered Activities under the Preferred Alternative would not require National Pollutant Discharge Elimination System (NPDES) General Permits under the Federal Clean Water Act for discharges of storm water from construction projects, as development envelopes would be limited to 15,000 square feet (0.34 acre). NPDES Permits are required to address stormwater discharges from construction sites that are one acre or more in size (SWRCB, 2010). Construction activities associated with Covered Activities and other past and pending cumulative development could contribute sediment and pollutants to these water bodies. However, as indicated in Section 4.3.2 (Erosion and Siltation), best management practices and standard erosion controls would be required under existing County and City policies and regulations, which would minimize the potential for construction-phase erosion and siltation and associated water quality degradation to these and other water bodies. Further, if any management actions having implications for residential development are required as a result of pending TMDLs, these would be implemented through the local permitting process. Therefore, Covered Activities under the Preferred Alternative would conform with such requirements.

The IPHCP minimization and mitigation measures under the Preferred Alternative also would not result in potentially significant impacts related to water quality. The IPHCP would limit the development envelopes of Covered Activities to 15,000 square feet per parcel and the IPHCP minimization measures would reduce the overall amount of ground disturbance, as compared to existing conditions. As a result, construction-phase erosion, siltation and associated water quality effects would be minimized.

The Preferred Alternative would not substantially degrade water quality, as Covered Activities would be required to comply with the above City and County policies and regulations.

#### WATER SUPPLY

Covered Activities would obtain water from the City of Santa Cruz, the San Lorenzo Valley Water District, the Scotts Valley Water District, the Mt. Hermon Water System, or from private

wells. While future Covered Activities may incrementally increase water demand, this increase is not expected to be substantial given the nature and extent of the residential projects and the interim time frame of the ITPs. As 90 percent of eligible parcels in the Project Units are already developed, the number of new water connections that could result from Covered Activities would be limited.<sup>6</sup> Additionally, it is expected that the various water agencies have accounted for the water use of Covered Activities and other past and pending cumulative development that are consistent with the City and County general plans.

While that is the case, the SCWD, SLVWD, and the SVWD all have identified existing and/or future water supply issues, as described in Section 3.3. These agencies are each pursuing additional water supplies and/or other improvements to ensure the adequacy of existing and/or future supplies. County General Plan policies 7.18.2 and 7.18.3 require that written commitments be provided from water service providers indicating adequate water availability and assessment of impacts on municipal water systems prior to project approval. County Code Chapters 7.69 and 7.74 also require that all existing residential buildings be retrofitted at the time of sale with exclusively low consumption plumbing fixtures. Chapter 7.74 also identifies prohibited and unlawful water uses for residences or other uses within the City of Santa Cruz water service area to prevent wasteful use of water.

City General Plan policies PSP-559, PSA-560 through PSA-567, and PSP-568 seek to promote the provision of adequate water service for residents through cooperation with water districts that serve the area and by requiring new service connections for discretionary projects in order to minimize the effects of private well development on basin-wide groundwater resources. Further, City General Plan policies OS0-336 through OSP-346 require protection of watersheds and recharge areas through various programs, mitigation for loss of recharge associated with development, and minimizing new impervious surfaces associated with new development. The City Municipal Code (Chapter 17.51.025) also requires that all new construction and remodels over 500 square feet will install only high efficiency water fixtures.

As a result of the implementation of the above City and County regulations and policies, combined with the fact that a limited number of new connections would tax the resource, the effects on water supply and groundwater recharge associated with Covered Activities of the Preferred Alternative would not be significant.

The proposed IPHCP minimization and mitigation measures under the Preferred Alternative also would not result in potentially significant impacts related to water supply. The IPHCP would limit the development envelopes of Covered Activities to 15,000 square feet per parcel. As a result, building coverage and other impervious surfaces could potentially be limited by the implementation of the Preferred Alternative, which would minimize interference with groundwater recharge and associated effects on water supply.

The Preferred Alternative would not substantially affect water supply, as Covered Activities

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<sup>6</sup> Of the 3,606 eligible parcels in the Project Units (see IPHCP Table 1), only about 9 percent or about 320 parcels are undeveloped. Given that the Project Units are located in residential neighborhoods that have been in existence for decades, it is likely that some or all of these undeveloped parcels would not be developable due to their size, topography, or other limiting conditions.

would be required to comply with the above City and County policies and regulations.

## CONCLUSIONS

Considering the potential indirect and cumulative effects from the Covered Activities related to water supply, and the existing requirements of the City and County, we find that the effects of the Preferred Alternative are below significance.

### 4.4.3 Effects from the Reduced Take Project Alternative

#### FLOODING

The Reduced Take Project Alternative Project Units also lie mostly outside of the FEMA 100- and 500-year floodplains of the identified San Lorenzo River tributaries, but in some cases floodplains occur within portions of a Project Unit. While floodplains do occur within portions of the Project Units, it is unclear whether any eligible parcels lie within floodplains, such that new development could be exposed to flood hazards or otherwise could affect flood conditions. As the area of development covered under the Reduced Take Project Alternative would be reduced to 100 acres, the potential increase in flood-related impacts from the Covered Activities would be reduced accordingly. The Reduced Take Project Alternative would not result in substantial adverse effects related to flooding, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.4.2 (Flooding).

#### WATER QUALITY

Construction activities associated with Covered Activities of the Reduced Take Project Alternative and other past and pending cumulative development could contribute sediment and pollutants to these water bodies. As the area of development covered under the Reduced Take Project Alternative would be reduced to 100 acres, the potential water quality effects from the Covered Activities would be reduced accordingly. However, as indicated in Section 4.3.2 (Erosion and Siltation), best management practices and standard erosion controls would be required under existing County and City policies and regulations, which would minimize the potential for construction-phase erosion and siltation and associated water quality degradation to these and other water bodies.

The IPHCP minimization and mitigation measures under the Reduced Take Project Alternative also would not result in potentially significant impacts related to water quality. This alternative would limit the development envelopes of Covered Activities to 15,000 square feet per parcel and the IPHCP minimization measures would reduce the overall amount of ground disturbance, as compared to existing conditions. As a result, construction-phase erosion, siltation and associated water quality effects would be minimized.

The Reduced Take Project Alternative would not substantially degrade water quality, as Covered Activities would be required to comply with the above City and County policies and regulations.

#### WATER SUPPLY

The number of new water connections that could result from Covered Activities under the Reduced Take Project Alternative would also be limited. However, as the area of development

covered under the Reduced Take Project Alternative would be reduced to 100 acres, the potential increase in water demand from the Covered Activities would be reduced accordingly. As a result of the implementation of the City and County regulations and policies identified in Section 4.4.2 (Water Supply), combined with the fact that a limited number of new connections would tax the resource, the effects on water supply and groundwater recharge associated with Covered Activities of the Reduced Take Project Alternative would not be significant.

#### CONCLUSIONS

Considering the potential indirect and cumulative effects from the Covered Activities related to water supply, and the existing requirements of the City and County, we find that the effects of the Reduced Take Project Alternative are below significance.

#### 4.4.4 Effects from the No Action Alternative

##### WATER RESOURCES AND WATER QUALITY

Under the No Action Alternative, the Service would not issue ITPs to the City and County and the proposed IPHCP and its operating conservation plan would not be implemented. Therefore, the No Action Alternative would not result in Covered Activities under City and County ITPs and existing water resource conditions would theoretically continue.

However, development could go forward in compliance with the Act via individual permits pursued by individual property owners. It is expected that over the permit term of the proposed ITPs, less development would be likely to occur if the No Action Alternative is pursued, given that the processing time and costs associated with individual permits is greater than it would be if development were covered under the City and County ITPs. To the extent that less development occurs under the No Action Alternative, associated effects related to water resources could be reduced, as compared to the Preferred Alternative. Therefore, as for the Preferred Alternative, the No Action Alternative also would not result in significant water resource effects. Any development action that does occur must adhere to the City and County policies and regulations identified in Section 4.4.2 above, which would minimize water resource-related effects.

#### CONCLUSIONS

The No Action Alternative is not expected to result in adverse effects related to water resources because the Service would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Within a 5-year time frame, we do not anticipate a large number of projects receiving individual take authorizations and being implemented. Further, any development that does occur under individual permit must adhere to the City and County policies and regulations identified in Section 4.4.2, and therefore we find that the effects are below significance.

## 4.5 **Air Quality**

### 4.5.1 Significance Criteria

An alternative would result in a significant impact related to air quality if it would:

- Conflicts with or obstruct implementation of the applicable air quality plan.
- Violates any air quality standard or contribute substantially to an existing or projected air quality violation.
- Emit pollutants that would exceed MBUAPCD's thresholds of significance relevant to the proposed action.
- Exposes sensitive receptors to substantial pollutant concentrations.

Section 176(c) of the Clean Air Act requires Federal agencies to ensure that their proposed actions are consistent with the Clean Air Act and with federally enforceable state implementation plans (SIPs) (air quality management plans). However, a general conformity analysis in accordance with 40 CFR 93 is not required for this Federal action because it is not located in a nonattainment or maintenance area. As indicated in Section 3.4, the NCCAB is an unclassified or attainment area for all of the NAAQSs.

#### 4.5.2 Effects from the Preferred Alternative

##### OPERATIONAL EMISSIONS

Regional pollutants of concern to the MBAPCD that would be emitted by Covered Activities under the Preferred Alternative and by other past and pending cumulative development are ozone precursors (VOCs and NO<sub>x</sub>) and PM<sub>10</sub>. The proposed ITPs pertain to qualified residential projects located within the Project Units over an interim period. Covered Activities involving new bedrooms (e.g., a new single family residence) could result in an incremental increase in traffic on nearby roads and intersections. Given the limited amount of new traffic expected to be generated from these activities, new emissions of VOCs or NO<sub>x</sub> are not expected to exceed MBUAPCD thresholds for these pollutants. For example, the MBUAPCD provides a range of different land use types and sizes that could result in potentially significant ozone impacts (MBUAPCD, 2008). These indicate that for new single-family development, 810 new dwelling units could potentially generate indirect sources of ozone precursors sufficient to result in significant impacts on ozone. Given that 90 percent of the qualifying parcels in the Project Units are already developed, only about 320 new single-family residences could result if all of the undeveloped parcels were developed under the ITPs (see IPHCP Table 1). Therefore, implementation and operation of Covered Activities under the Preferred Alternative would not have a significant air quality effect related to operational emissions, as it would not exceed the MBUAPCD's thresholds of significance.

## CONSTRUCTION EMISSIONS

Construction and grading activities related to Covered Activities under the Preferred Alternative may result in a short-term, localized decrease in air quality due to the generation of PM<sub>10</sub> emissions. However, the Preferred Alternative would limit the development envelopes of Covered Activities to 15,000 square feet or 0.3 acre per parcel. Proposed IPHCP minimization measures would further reduce the overall amount of ground disturbance and associated generation of PM<sub>10</sub> emissions during construction. Therefore, grading and excavation on individual parcels would not exceed the MBUAPCD's PM<sub>10</sub> threshold of 2.2 acres per day, or expose sensitive receptors to substantial pollutant concentrations. Additionally, dust from grading operations must be controlled per County Code Chapter 16.20, Grading Regulations and per City Municipal Code Chapter 15.06, Excavation, Grading, Erosion, and Sediment Control Regulations. Standard dust control best management practices would likely be implemented during construction to control dust per these regulations.

Construction activities associated with Covered Activities under the Preferred Alternative would not exceed the MBUAPCD's thresholds of significance or expose sensitive receptors to substantial pollutant concentrations. Additionally, Covered Activities would be required to comply with the above City and County policies and regulations, which would further minimize effects.

## CONCLUSIONS

Considering the potential indirect and cumulative effects from the Covered Activities related to air quality, and the existing requirements of the City and County, we find that the effects of the Preferred Alternative are below significance.

### 4.5.3 Effects from the Reduced Take Project Alternative

#### OPERATIONAL EMISSIONS

Regional pollutants of concern to the MBAPCD that would be emitted by Covered Activities under the Reduced Take Project Alternative and by other past and pending cumulative development are also ozone precursors (VOCs and NO<sub>x</sub>) and PM<sub>10</sub>. As the area of development covered under Reduced Take Project Alternative would be reduced to 100 acres, the Covered Activities involving new bedrooms (e.g., a new single family residence) would likely be reduced and therefore the incremental increase in traffic on nearby roads and intersections would be reduced accordingly. Therefore, implementation and operation of Covered Activities under the Reduced Take Project Alternative would also not have a significant air quality effect related to operational emissions, as it would not exceed the MBUAPCD's thresholds of significance.

#### CONSTRUCTION EMISSIONS

Construction and grading activities related to Covered Activities under the Reduced Take Project Alternative may also result in a short-term, localized decrease in air quality due to the generation of PM<sub>10</sub> emissions. As the area of development covered under Reduced Take Project Alternative would be reduced to 100 acres, the generation of PM<sub>10</sub> emissions associated with the Covered Activities would be reduced accordingly. As the Reduced Take Project Alternative would also limit the development envelopes of Covered Activities to 15,000 square feet or 0.3 acre per

parcel, the generation of PM<sub>10</sub> emissions during construction would also not exceed the MBUAPCD's thresholds of significance, or expose sensitive receptors to substantial pollutant concentrations. Additionally, Covered Activities would be required to comply with the City and County regulations identified in Section 4.5.2 (Construction Emissions), which would further minimize effects.

#### CONCLUSIONS

Considering the potential indirect and cumulative effects from the Covered Activities related to air quality, and the existing requirements of the City and County, we find that the effects of the Reduced Take Project Alternative are below significance.

#### 4.5.4 Effects from the No Action Alternative

##### AIR QUALITY

Under the No Action Alternative, the Service would not issue ITPs to the City and County and the proposed IPHCP and its operating conservation plan would not be implemented. Therefore, the No Action Alternative would not result in Covered Activities under City and County ITPs and existing air quality conditions would theoretically continue.

However, development could go forward in compliance with the Act via individual permits pursued by individual property owners. It is expected that over the permit term of the proposed ITPs, less development would be likely to occur if the No Action Alternative is pursued, given that the processing time and costs associated with individual permits is greater than it would be if development were covered under the City and County ITPs. To the extent that less development occurs under the No Action Alternative, associated effects related to air quality could be reduced, as compared to the Preferred Alternative. Therefore, as for the Preferred Alternative, the No Action Alternative also would not result in significant air quality effects. Any development action that does occur must adhere to the City and County policies and regulations identified in Section 4.5.2 (Construction Emissions) above, which would minimize construction-phase air quality-related effects.

#### CONCLUSIONS

The No Action Alternative is not expected to result in adverse effects related to air quality because the Service would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Within a 5-year time frame, we do not anticipate a large number of projects receiving individual take authorizations and being implemented. Further, any development that does occur under individual permit must adhere to the City and County policies and regulations identified in Section 4.5.2 (Construction Emissions), and therefore we find that the effects are below significance.

## **4.6 Cultural Resources**

### **4.6.1 Significance Criteria**

The National Historic Preservation Act (NHPA) requires that Federal agencies take into account the effects of their actions on any district, site, building, structure or object that is included in, or eligible for, inclusion in the National Registry of Historic Places (NRHP). The identification and investigation of properties listed in, or eligible for, listing in the NRHP is part of the review process under Section 106 of the NHPA. Significant impacts on cultural resources would require mitigation under Section 106 of the NHPA. A significant impact may occur to cultural resources if it would result in any of the following.

- A substantial adverse change in a property that is listed in the NRHP.
- Alteration of characteristics of a property that may qualify it for listing in the NRHP.
- Effects that would diminish the integrity of an NRHP-listed or eligible property.
- A substantial adverse change in a property otherwise determined to be a significant cultural or historic resource.

### **4.6.2 Effects from the Preferred Alternative**

#### **HISTORICAL RESOURCES**

As indicated in Section 3.5, there are no historic resources within the Preferred Alternative Project Units that have been determined to be eligible for the NRHP. There are, however, two known historical buildings in the Project Units that have been determined to have local historical significance and there are other recorded cultural resources within the Project Units. As Covered Activities have not yet been proposed, it is unclear whether any potential effects to these resources could occur. However, any proposed addition or modification of locally-significant historical buildings associated with Covered Activities or other pending cumulative development would have to be conducted in accordance with County Code Chapter 16.42, Historic Preservation, which requires a valid Historic Resource Preservation Plan approved by the County's Historic Resources Commission to make any such modifications. If a Covered Activity of the Preferred Alternative involves demolition of either of these structures, the following additional reports would be required: (1) a Special Inspections Report on the condition of the structure and (2) a Historical Documentation Report that documents the claim that preservation is not feasible and provides for the preservation of the historic values of the structure. If historic resources are discovered in the Scotts Valley Project Units and could be subject to damage or destruction from a Covered Activity, the City has similar regulations in place that would have to be complied with (Scotts Valley Municipal Code Chapter 17.44.140, Historic Landmark Preservation).

Implementation of the proposed IPHCP minimization and compensatory mitigation measures under the Preferred Alternative would not result in a substantial adverse change to historic resources. The IPHCP would limit the development envelopes of Covered Activities to 15,000 square feet per parcel and the proposed IPHCP minimization measures would further reduce the overall amount of ground disturbance. As a result, the potential for inadvertent discovery of historic resources could potentially be reduced with the implementation of the proposed IPHCP

minimization and mitigation measures.

The Preferred Alternative would not result in a substantial adverse change to historic resources, as Covered Activities would be required to comply with the City and County policies and regulations identified above.

#### ARCHAEOLOGICAL RESOURCES

The potential for archaeological resources to occur exists throughout the Project Units, as indicated in Section 3.5. As Covered Activities have not yet been proposed, it is unclear whether any potential effects to these resources could occur. If Covered Activities or other pending cumulative development could potentially affect archaeological resources, County Code Chapter 16.40, Native American Cultural Sites, requires that archeological surveys be conducted for all discretionary projects located in areas with mapped archeological sensitivity and for which ground disturbance would occur. Such surveys are also required for any project, which would result in ground disturbance within 500 feet of a recorded Native American cultural site.

Archaeological reports are required prior to the issuance of any project permits when a project site contains a culturally significant site and when development of the project would result in the disturbance of the site. Permit conditions for such a project would be based on the archeological report and consultation with local Native California Indian groups. Conditions will include, but not be limited to, those stated in Chapter 16.40.035 of the County Code:

- a. All appropriate preservation or mitigation measures. Preservation could occur through project design or restriction on use and/or grading to avoid the site. Preservation could also occur by having the site excavated by a professional archaeologist to preserve a sample of the remains, artifacts, etc., only as authorized by an Archaeological Excavation Permit.
- b. A provision that if previously undiscovered human remains are encountered during the course of excavation or development, the responsible persons shall immediately cease and desist from all further site excavation and notify the sheriff-coroner and the Planning Director per County Code Chapter 16.40.040. If the remains are not of recent origin, a full archeological report shall be prepared and representatives of the local Native California Indian group shall be contacted. Disturbance shall not resume until the significance of the archeological resource is determined and appropriate mitigations to preserve the resource on the site are established.
- c. A provision that the applicant pay (landowner covered by a certificate of inclusion) the full costs of any preservation or mitigation measures.

Likewise, Chapter 17.44, Cultural Resource Preservation, of the Scotts Valley Municipal Code identifies similar requirements for cultural resource reports, permits when significant resources are present, and discovery of previously unidentified resources or human remains during construction. Compliance with these County and City code standards, as part of the issuance of building and discretionary permits, would help to ensure that all growth and development in the IPHCP Project Units, including that associated with the Covered Activities of the Preferred Alternative, would not cause a substantial adverse change in the significance of an archaeological resource.

Implementation of the proposed IPHCP minimization and compensatory mitigation measures under the Preferred Alternative would not result in a substantial adverse change to archaeological resources. The IPHCP would limit the development envelopes of Covered Activities to 15,000 square feet per parcel and the proposed IPHCP minimization measures would further reduce the overall amount of ground disturbance. As a result, the potential for inadvertent discovery of archaeological resources could potentially be reduced with the implementation of the proposed IPHCP minimization and mitigation measures.

The Preferred Alternative would not result in a substantial adverse change to archaeological resources, as Covered Activities would be required to comply with the City and County policies and regulations identified above.

#### CONCLUSION

Considering the potential indirect and cumulative effects from the Covered Activities related to cultural resources, and the existing requirements of the City and County, we find that the effects of the Preferred Alternative are below significance.

#### 4.6.3 Effects from the Reduced Take Project Alternative

##### HISTORICAL RESOURCES

As for the Preferred Alternative, there are no historic resources within the Reduced Take Project Alternative Project Units that have been determined to be eligible for the NRHP. There are, however, two known historical buildings in the Project Units that have been determined to have local historical significance and there are other recorded cultural resources within the Project Units. As the area of development/disturbance covered under the Reduced Take Project Alternative would be reduced to 100 acres, the potential for disturbance to known or unidentified historical resources would be reduced accordingly. However, any proposed addition or modification of locally-significant historical buildings associated with Covered Activities or other pending cumulative development would have to be conducted in accordance with the City and County regulations identified in Section 4.6.2 (Historical Resources) above, which would minimize effects.

The proposed IPHCP minimization and mitigation measures would also be implemented under the Reduced Take Project Alternative; however, they would be implemented over less land area, as compared to the Preferred Alternative. Therefore, the beneficial effects of the measures requiring limited development envelope and disturbance, which could potentially reduce effects related to the inadvertent discovery of historic resources, would be reduced.

The Reduced Take Project Alternative would not result in a substantial adverse change to historic resources, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.6.2 (Historic Resources).

## ARCHAEOLOGICAL RESOURCES

The potential for archaeological resources to occur exists throughout the Project Units. As the area of development/disturbance covered under the Reduced Take Project Alternative would be reduced to 100 acres, the potential for disturbance to known or unidentified archaeological resources would be reduced accordingly. However, if Covered Activities or other pending cumulative development could potentially affect archaeological resources, development would have to comply with City or County regulations identified in Section 4.6.2 (Archaeological Resources) above, which would minimize effects.

The proposed IPHCP minimization and mitigation measures would also be implemented under the Reduced Take Project Alternative; however, they would be implemented over less land area, as compared to the Preferred Alternative. Therefore, the beneficial effects of the measures requiring limited development envelope and disturbance, which could potentially reduce effects related to the inadvertent discovery of archaeological resources, would be reduced.

The Reduced Take Project Alternative would not result in a substantial adverse change to archaeological resources, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.6.2 (Archaeological Resources).

## CONCLUSION

Considering the potential indirect and cumulative effects from the Covered Activities related to cultural resources, and the existing requirements of the City and County, we find that the effects of the Reduced Take Project Alternative are below significance.

### 4.6.4 Effects from the No Action Alternative

#### CULTURAL RESOURCES

Under the No Action Alternative, the Service would not issue ITPs to the City and County and the proposed IPHCP and its operating conservation plan would not be implemented. Therefore, the No Action Alternative would not result in Covered Activities under City and County ITPs and existing cultural resource conditions would theoretically continue.

However, development could go forward in compliance with the Act via individual permits pursued by individual property owners. It is expected that over the permit term of the proposed ITPs, less development would be likely to occur if the No Action Alternative is pursued, given that the processing time and costs associated with individual permits is greater than it would be if development were covered under the City and County ITPs. To the extent that less development occurs under the No Action Alternative, associated effects related to cultural resources could be reduced, as compared to the Preferred Alternative. Therefore, as for the Preferred Alternative, the No Action Alternative also would not result in significant cultural resource effects. Any development action that does occur must adhere to the City and County policies and regulations identified in Section 4.6.2, which would minimize cultural resource effects.

## CONCLUSIONS

The No Action Alternative is not expected to result in adverse effects related to cultural resources because the Service would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Within a 5-year time frame, we do not anticipate a large number of projects receiving individual take authorizations and being implemented. Further, any development that does occur under individual permit must adhere to the City and County policies and regulations identified in Section 4.6.2, and therefore we find that the effects are below significance.

### **4.7 Socioeconomics and Environmental Justice**

#### **4.7.1 Significance Criteria**

An alternative would result in a significant impact related to socioeconomics and environmental justice if it would:

- Create land uses substantially incompatible with existing land uses within or adjacent to the Project Units.
- Result in substantial conflicts with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to general plans or zoning ordinances) adopted for the purpose of avoiding or mitigating an environmental effect.
- Substantially affect employment, industry, or commerce, including requiring the displacement of businesses or farms.
- Substantially affect property values or the local tax base.
- Have a substantially disproportionate affect on minority, low-income, elderly, disabled, transit-dependent, or other specific interest group(s).
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

#### **4.7.2 Effects from the Preferred Alternative**

##### **SOCIOECONOMICS**

The Preferred Alternative would not result in land uses incompatible with existing land uses within or adjacent to the Project Units, given that Covered Activities constitute residential development on land already designated for residential uses. Further, the Preferred Alternative does not contemplate land use designation or zoning changes.

The Preferred Alternative conforms to applicable land use plans, policies, or regulations of agencies with jurisdiction over the project. It is assumed that Covered Activities within the Project Units would occur consistent with relevant general plan policies and local regulations, which are described throughout this EA.

The Preferred Alternative is not expected to affect employment, industry, or commerce, or cause

the displacement of businesses or farms, given that it does not involve land acquisition for preserve lands, as is typical in many regional HCPs. Further, the Preferred Alternative would not rezone any parcels, introduce any new or substantially different uses, or alter or expand any support infrastructure to these areas such that the value of land in the Project Units or in surrounding lands would be affected.

Implementation of the proposed IPHCP minimization and mitigation measures under the Preferred Alternative would not result in any socioeconomic effects because compensatory mitigation will mainly occur in a Service-approved conservation bank via the purchase of conservation credits and minimization measures would occur within each landowner's property. As such, these measures would not change or otherwise affect socioeconomic conditions in the Project Units.

It is expected that the Preferred Alternative would have negligible indirect or cumulative effects to socioeconomic conditions.

#### ENVIRONMENTAL JUSTICE

Minority and low-income populations are found throughout the City and County, as described in Section 3.6. The Preferred Alternative would not result in a substantial disproportionate affect on minority, low-income, elderly, disabled, transit-dependent, or other specific interest group(s), as it would not result in a reduction in land designated and zoned for residential purposes and it would not otherwise affect existing low-income housing that may be utilized by economically disadvantaged residents in the Project Units. Further, the Preferred Alternative would not displace existing housing, necessitating the construction of replacement housing elsewhere.

Implementation of the proposed IPHCP minimization and mitigation measures under the Preferred Alternative would not result in any environmental justice effects because compensatory mitigation will mainly occur in a Service-approved conservation bank via the purchase of conservation credits and minimization measures would occur within each landowner's property. As such, these measures would not change or otherwise affect environmental justice or housing conditions in the Project Units.

The Preferred Alternative is not expected to have any effects related to environmental justice.

#### CONCLUSIONS

The Covered Activities under the Preferred Alternative would have negligible effects related to socioeconomics or environmental justice.

#### 4.7.3 Effects from the Reduced Take Project Alternative

The area of development/disturbance covered under the Reduced Take Project Alternative would be reduced to 100 acres. While that is the case, the Preferred Alternative would not result in adverse socioeconomic or environmental justice effects. Consequently, the Reduced Take Project Alternative would not relieve or otherwise reduce such effects.

Covered Activities under the Reduced Take Project Alternative would result in negligible socioeconomic or environmental justice effects for the same reasons stated for the Preferred Alternative described in Section 4.7.2.

#### 4.7.4 Effects from the No Action Alternative

Under the No Action Alternative, the Service would not issue ITPs to the City and County and the proposed IPHCP and its operating conservation plan would not be implemented. Therefore, the No Action Alternative would not result in Covered Activities under City and County ITPs.

The No Action Alternative would not result in socioeconomic or environmental justice effects.

### **4.8 Transportation**

#### 4.8.1 Significance Criteria

An alternative would result in a significant impact related to transportation if it would cause a substantial increase in traffic compared to existing traffic volumes and the capacity of the roadway system.

#### 4.8.2 Effects from the Preferred Alternative

##### TRANSPORTATION

The Preferred Alternative and associated ITPs would cover qualified residential projects located within the Project Units over an interim period. Covered Activities involving new bedrooms and residents (e.g., a new single family residence) could result in an incremental increase in traffic on nearby roads and intersections. Given that 90 percent of the qualifying parcels in the Project Units are already developed, only about 320 new single-family residences could result if all of the undeveloped parcels were developed under the ITPs (see IPHCP Table 1). As the Project Units are located in residential neighborhoods that have been in existence for decades, it is likely that some or all of these undeveloped parcels would not be developable due to their size, topography, or other limiting conditions. Given the above, it is expected that a limited number of new trips would be generated by the Covered Activities. Additionally, any new trips would be distributed throughout the ten Project Units. Therefore, it is expected that this increase would not cause the Level of Service at any nearby intersection to drop below Level of Service D. Level of Service D is the County's level of service standard under County General Plan Policy 3.12.1.

The Covered Activities in conjunction with other pending cumulative development could potentially result in a substantial increase in traffic. However, the Circulation Element of the County General Plan and the Local Coastal Program Land Use Plan includes policies and programs to establish a transportation system which would: (1) accommodate the travel demands of cumulative development projected by the County General Plan (including projects covered by the ITP), (2) reduce traffic congestion, and (3) be within the County's ability to finance and operate. In particular, County Code Chapter 15.12, Transportation and Roadside Improvement Fees, requires that new developments mitigate their impacts on transportation and roadside facilities through assessment of fees on new development, which fund identified system improvements. Covered Activities that result in new bedrooms would be subject to this fee

assessment. The fees have been established and are regularly updated such that they reflect the reasonable cost of mitigating the impacts of new development on transportation-related facilities.

The City of Scotts Valley General Plan also has policies and programs that seek to establish an integrated transportation system capable of accommodating existing and projected needs of the planning area. A similar impact fee program is in place in the Scotts Valley Municipal Code Chapter 16.58, Impact Mitigation Fees, to ensure that a given project that entails one or more new residential units pays its fair share of the cost of traffic improvements necessary to accommodate cumulative growth in the planning area.

Implementation of the IPHCP minimization and compensatory mitigation measures under the Preferred Alternative would not result in a significant impact related to transportation, as these measures would not change or otherwise affect traffic conditions in the Project Units.

#### CONCLUSIONS

Considering the potential indirect and cumulative effects from the Covered Activities related to transportation, and the existing requirements of the City and County, we find that the effects of the Preferred Alternative are below significance.

#### 4.8.3 Effects from the Reduced Take Project Alternative

##### TRANSPORTATION

Covered Activities under the Reduced Take Project Alternative involving new bedrooms and residents (e.g., a new single family residence) could result in an incremental increase in traffic on nearby roads and intersections. As the area of development covered under the Reduced Take Project Alternative would be reduced to 100 acres, the Covered Activities involving new bedrooms (e.g., a new single family residence) would likely be reduced and therefore the incremental increase in traffic on nearby roads and intersections would be reduced accordingly. Additionally, Covered Activities would need to conform with the City and County regulations identified in Section 4.8.2, which would ensure that such activities contribute to the cost of needed transportation improvements.

Implementation of the IPHCP minimization and mitigation measures under the Reduced Take Project Alternative would not result in a significant impact related to transportation, as these measures would not change or otherwise affect traffic conditions in the Project Units.

#### CONCLUSIONS

Considering the potential indirect and cumulative effects from the Covered Activities related to transportation, and the existing requirements of the City and County, we find that the effects of the Reduced Take Project Alternative are below significance.

#### 4.8.4 Effects from the No Action Alternative

##### TRANSPORTATION

Under the No Action Alternative, the Service would not issue ITPs to the City and County and the proposed IPHCP and its operating conservation plan would not be implemented. Therefore, the No Action Alternative would not result in Covered Activities under City and County ITPs and existing transportation conditions would theoretically continue.

However, development could go forward in compliance with the Act via individual permits pursued by individual property owners. It is expected that over the permit term of the proposed ITPs, less development would be likely to occur if the No Action Alternative is pursued, given that the processing time and costs associated with individual permits is greater than it would be if development were covered under the City and County ITPs. To the extent that less development occurs under the No Action Alternative, associated effects related to transportation could be reduced, as compared to the Preferred Alternative. Therefore, as for the Preferred Alternative, the No Action Alternative also would not result in significant transportation effects. Any development action that does occur must adhere to the City and County policies and regulations identified in Section 4.8.2 above, which would minimize transportation-related effects.

##### CONCLUSIONS

The No Action Alternative is not expected to result in adverse effects related to transportation because the Service would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Within a 5-year time frame, we do not anticipate a large number of projects receiving individual take authorizations and being implemented. Further, any development that does occur under individual permit must adhere to the City and County policies and regulations identified in Section 4.8.2, and therefore we find that the effects are below significance.

### **4.9 Public Services and Utilities**

#### 4.9.1 Significance Criteria

An alternative would result in a significant impact related to public services and utilities if it would result in substantial adverse physical impacts associated with the provision of new or physically altered sewer, police protection, fire protection, school, or park facilities, the construction of which could cause significant environmental impacts, in order to maintain services.

#### 4.9.2 Effects from the Preferred Alternative

##### PUBLIC SERVICES AND UTILITIES

While Covered Activities of the Preferred Alternative would incrementally contribute to the need for services, the increase would be limited given the nature, extent, and location of residential projects and the interim time frame of the ITPs. Additionally, the future residential projects would be constructed in existing densely developed residential areas within existing service areas that already receive services and have existing infrastructure.

Given that Covered Activities of the Preferred Alternative have already been contemplated in the City and County general plans, it is expected that the various sewer agencies have accounted for this and other cumulative growth in their sewer system planning. While that is the case, County General Plan Policy 7.19.1 requires written commitments from sewer service providers of adequate system capacity prior to project approval and County Policy 7.19.2 requires that new development pay its fair share of downstream sewer system improvements, if needed. Provision of adequate sewer services in the City of Scotts Valley is provided for through the City's Wastewater Plan, which is monitored and updated annually per City General Plan Policy PSA-571 to meet the demands of the service area. Improvements are planned and funding proposed to ensure that adequate levels of service are available to meet the demands of the service area per City General Plan Policy PSA-572.

Covered Activities would incorporate all applicable fire safety code requirements and would include fire protection devices as required by the local fire agencies or California Department of Forestry, as applicable. The local fire agencies or California Department of Forestry, as appropriate, would review and approve project plans for future residential projects covered by the ITPs, to assure conformity with fire protection standards, which include minimum requirements for water supply for fire protection, fire service access, etc.

Further, applicants seeking coverage under the ITPs would be required by the County or City to pay school, park, and transportation fees in conformance with Santa Cruz County Code and the Scotts Valley Municipal Code. Fees collected from Covered Activities, in conjunction with other fees collected, would be used to offset the incremental increase in demand for school and recreational facilities and public roads. If new or expanded public service facilities are required as a result of planned growth in the service areas, including that related to the Covered Activities, the environmental effects of such facilities would be evaluated at the time that they are proposed.

Implementation of the proposed IPHCP minimization and mitigation measures under the Preferred Alternative would not result in a significant impact related to public services and utilities, as these measures would not change or otherwise affect these services in the Project Units.

#### CONCLUSION

Considering the potential indirect and cumulative effects from the Covered Activities related to public services, and the existing requirements of the City and County, we find that the effects of the Preferred Alternative are below significance.

#### 4.9.3 Effects from the Reduced Take Project Alternative

##### PUBLIC SERVICES AND UTILITIES

While Covered Activities of the Reduced Take Project Alternative would also incrementally contribute to the need for services, the increase would be limited given the nature, extent, and location of residential projects and the interim time frame of the ITPs. As the area of

development covered under the Reduced Take Project Alternative would be reduced to 100 acres, the demand for services would be reduced accordingly. Additionally, Covered Activities would need to conform with the City and County regulations identified in Section 4.9.2, which would ensure that such activities contribute to the cost of needed public service improvements.

Implementation of the proposed IPHCP minimization and mitigation measures under the Reduced Take Project Alternative would not result in a significant impact related to public services and utilities, as these measures would not change or otherwise affect these services in the Project Units.

#### CONCLUSION

Considering the potential indirect and cumulative effects from the Covered Activities related to public services, and the existing requirements of the City and County, we find that the effects of the Reduced Take Project Alternative are below significance.

#### 4.9.4 Effects from the No Action Alternative

##### PUBLIC SERVICES AND UTILITIES

Under the No Action Alternative, the Service would not issue ITPs to the City and County and the proposed IPHCP and its operating conservation plan would not be implemented. Therefore, the No Action Alternative would not result in Covered Activities under City and County ITPs and existing public service conditions would theoretically continue.

However, development could go forward in compliance with the Act via individual permits pursued by individual property owners. It is expected that over the permit term of the proposed ITPs, less development would be likely to occur if the No Action Alternative is pursued, given that the processing time and costs associated with individual permits is greater than it would be if development were covered under the City and County ITPs. To the extent that less development occurs under the No Action Alternative, associated effects related to public services could be reduced, as compared to the Preferred Alternative. Therefore, as for the Preferred Alternative, the No Action Alternative also would not result in significant public service effects. Any development action that does occur must adhere to the City and County policies and regulations identified in Section 4.9.2 above, which would minimize public service related effects.

#### CONCLUSION

The No Action Alternative is not expected to result in adverse effects related to public services because the Service would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Within a 5-year time frame, we do not anticipate a large number of projects receiving individual take authorizations and being implemented. Further, any development that does occur under individual permit must adhere to the City and County policies and regulations identified in Section 4.9.2, and therefore we find that the effects are below significance.

## 5.0 COMPARISON OF ALTERNATIVES AND CONCLUSIONS

Table 6 below provides a comparison of the environmental effects of the Preferred Alternative, the Reduced Take Project Alternative, and the No Action Alternative.

**Table 6. Comparison of Environmental Effects by Alternative**

Environmental Resources	Preferred Alternative	Reduced Take Project Alternative	No Action Alternative
<b>BIOLOGICAL RESOURCES</b>			
Covered Species	The adverse effects on the Covered Species associated with the Preferred Alternative are expected to be minimized to below significance with the implementation of IPHCP minimization and mitigation measures identified in Section 4.2.2.	The adverse effects on the Covered Species associated with the Reduced Take Project Alternative are expected to be minimized to below significance with the implementation of the minimization and mitigation measures identified in Section 4.2.2.	The No Action Alternative is not expected to result in adverse effects on biological resources because the service would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Further, any development that does occur under individual permit must adhere to Federal, state, and local policies and regulations identified in Section 4.2.2, and therefore we find that the effects are below significance.
Non-Covered Species	The Preferred Alternative would not result in substantial adverse effects on Non-Covered Species, as Covered Activities would be required to comply with the Act and with City and County regulations and requirements identified in Section 4.2.2.	The Reduced Take Project Alternative would not result in substantial adverse effects on Non-Covered Species, as Covered Activities would be required to comply with the Act and with City and County regulations and requirements identified in Section 4.2.2.	
Sensitive Habitat - Sandhills	The adverse effects on Sandhills habitat associated with the Preferred Alternative are expected to be minimized to below significance with the implementation of minimization and mitigation measures identified in Section 4.2.2.	The adverse effects on Sandhills habitat associated with the Reduced Take Project Alternative are expected to be minimized to below significance with the implementation of the minimization and mitigation measures identified in Section 4.2.2.	
Sensitive Habitat – Wetlands	The Preferred Alternative would not result in substantial adverse effects on wetland habitat, as Covered Activities would be required to comply with the City and County regulations identified in Section 4.2.2.	The Reduced Take Project Alternative would not result in substantial adverse effects on wetland habitat, as Covered Activities would be required to comply with the City and County regulations identified in Section 4.2.2.	

Environmental Resources	Preferred Alternative	Reduced Take Project Alternative	No Action Alternative
<b>GEOLOGY AND SOILS</b>			
Geological and Seismic Hazards	The Preferred Alternative would not result in substantial adverse effects related to geologic and seismic hazards, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.3.2.	The Reduced Take Project Alternative would not result in substantial adverse effects related to geologic and seismic hazards, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.3.2.	The No Action Alternative would not result in adverse effects related to geology and soils associated with issuing ITPs to the City and County, as individual property owners would not be able to seek coverage under those permits. Given that any development that does occur under individual permit must adhere to the City and County policies and regulations identified in Section 4.3.2, we find that the effects are below significance.
Erosion and Siltation	The Preferred Alternative would not result in substantial adverse effects related to soil erosion and siltation, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.3.2.	The Reduced Take Project Alternative would not result in substantial adverse effects related to soil erosion and siltation, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.3.2.	
<b>Water Resources and Water Quality</b>			
Flooding	The Preferred Alternative would not result in substantial adverse effects related to flooding, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.4.2.	The Reduced Take Project Alternative would not result in substantial adverse effects related to flooding, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.4.2.	The No Action Alternative is not expected to result in adverse effects related to water resources because the Service would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Further, any development that does occur under individual permit must adhere to the City and County policies and regulations identified in Section 4.4.2, and therefore we find that the effects are below significance.
Water Quality	The Preferred Alternative would not substantially degrade water quality, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.4.2.	The Reduced Take Project Alternative would not substantially degrade water quality, as Covered Activities would be required to comply with City and County policies and regulations identified in Section 4.4.2.	
Water Supply	As a result of the implementation of the City and County regulations and policies identified in Section 4.4.2 (Water Supply), combined with the fact that a limited number of new connections	As a result of the implementation of the City and County regulations and policies identified in Section 4.4.2 (Water Supply), combined with the fact that a limited number of new connections would	

Environmental Resources	Preferred Alternative	Reduced Take Project Alternative	No Action Alternative
	would tax the resource, the effects on water supply and groundwater recharge associated with Covered Activities of the Preferred Alternative would not be significant.	tax the resource, the effects on water supply and groundwater recharge associated with Covered Activities of the Reduced Take Project Alternative would not be significant.	
<b>AIR QUALITY</b>			
Operational Emissions	Implementation and operation of Covered Activities under the Preferred Alternative would not have a significant air quality effect related to operational emissions, as it would not exceed the MBUAPCD's thresholds of significance.	Implementation and operation of Covered Activities under the Reduced Take Project Alternative would not have a significant air quality effect related to operational emissions, as it would not exceed the MBUAPCD's thresholds of significance.	The No Action Alternative is not expected to result in adverse effects related to air quality because the Service would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Further, any development that does occur under individual permit must adhere to the City and County policies and regulations identified in Section 4.5.2, and therefore we find that the effects are below significance.
Construction Emissions	Construction activities associated with Covered Activities under the Preferred Alternative would not exceed the MBUAPCD's thresholds of significance or expose sensitive receptors to substantial pollutant concentrations. Additionally, Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.5.2, which would further minimize effects.	The Reduced Take Project Alternative would not exceed the MBUAPCD's thresholds of significance, or expose sensitive receptors to substantial pollutant concentrations. Additionally, Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.5.2, which would further minimize effects.	
<b>CULTURAL RESOURCES</b>			
Historical Resources	The Preferred Alternative would not result in a substantial adverse change to historic resources, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.6.2.	The Reduced Take Project Alternative would not result in a substantial adverse change to historic resources, as Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.6.2.	The No Action Alternative is not expected to result in adverse effects related to cultural resources because the Service would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Further, any development that does occur
Archaeological Resources	The Preferred Alternative would not result in a substantial adverse change to archaeological resources, as	The Reduced Take Project Alternative would not result in a substantial adverse change to archaeological resources, as	

<b>Environmental Resources</b>	<b>Preferred Alternative</b>	<b>Reduced Take Project Alternative</b>	<b>No Action Alternative</b>
	Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.6.2.	Covered Activities would be required to comply with the City and County policies and regulations identified in Section 4.6.2.	under individual permit must adhere to the City and County policies and regulations identified in Section 4.6.2, and therefore we find that the effects are below significance.
<b>SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE</b>			
Socioeconomics	It is expected that the Preferred Alternative would have negligible effects to socioeconomic conditions.	Covered Activities under the Reduced Take Project Alternative would result in negligible socioeconomic or environmental justice effects for the same reasons stated for the Preferred Alternative.	The No Action Alternative would not result in socioeconomic or environmental justice effects.
Environmental Justice	The Preferred Alternative is not expected to have any effects related to environmental justice.		
<b>TRANSPORTATION</b>			
Transportation Effects	Considering the potential effects from the Covered Activities related to transportation, and the existing requirements of the City and County identified in Section 4.8.2, we find that the effects of the Preferred Alternative are below significance.	Considering the potential effects from the Covered Activities related to transportation, and the existing requirements of the City and County identified in Section 4.8.2, we find that the effects of the Reduced Take Project Alternative are below significance.	The No Action Alternative is not expected to result in adverse effects related to transportation because the Service would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Further, any development that does occur under individual permit must adhere to the City and County policies and regulations identified in Section 4.8.2, and therefore we find that the effects are below significance.
<b>PUBLIC SERVICES AND UTILITIES</b>			
Public Service Effects	Considering the potential effects from the Covered Activities related to public services, and the existing requirements of the City and County identified in	Considering the potential effects from the Covered Activities related to public services, and the existing requirements of the City and County identified in	The No Action Alternative is not expected to result in adverse effects related to public services because the Service

Environmental Resources	Preferred Alternative	Reduced Take Project Alternative	No Action Alternative
	Section 4.9.2, we find that the effects of the Preferred Alternative are below significance.	Section 4.9.2, we find that the effects of the Reduced Take Project Alternative are below significance.	would not issue ITPs to the City and County. Individual property owners would need to seek their own ITPs. Further, any development that does occur under individual permit must adhere to the City and County policies and regulations identified in Section 4.9.2, and therefore we find that the effects are below significance.

## 6.0 CONSULTATIONS AND COORDINATION

The following individuals, listed in alphabetical order below, were contacted during the preparation of the EA.

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Matthew Johnston, County of Santa Cruz Planning Department  
Leigh Jordan, Northwest Information Center, Sonoma State University  
Owen Lawler, Zayante Sandhills Conservation Bank  
Jodi M. McGraw, Ph.D., Jodi McGraw Consulting (JMc)  
Debbie Pilas-Treadway, Native American Heritage Commission  
Claudia Slater, County of Santa Cruz Planning Department  
Susan Westman, City of Scotts Valley  
Various Native American contacts

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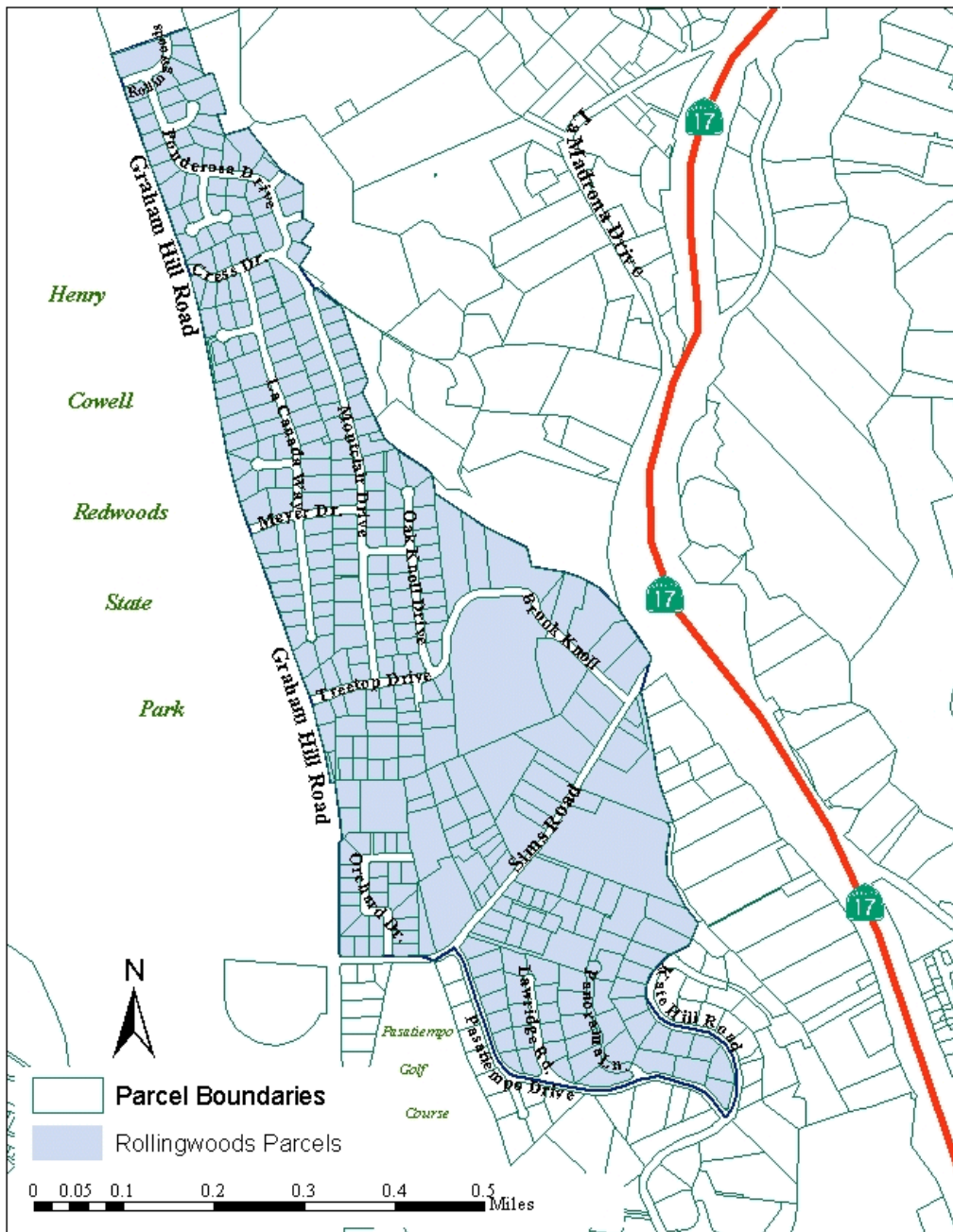
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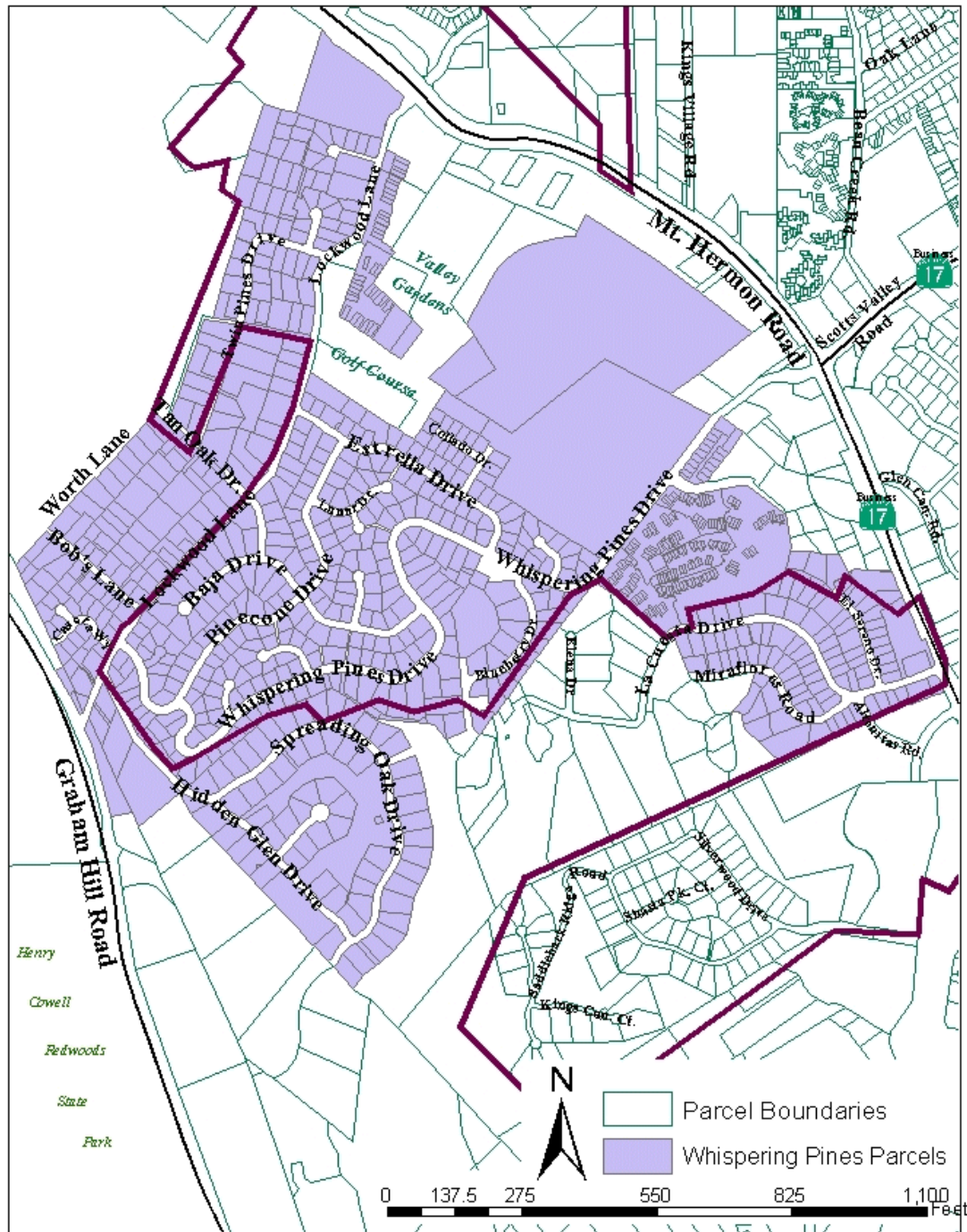
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# APPENDIX A IPHCP Project Units

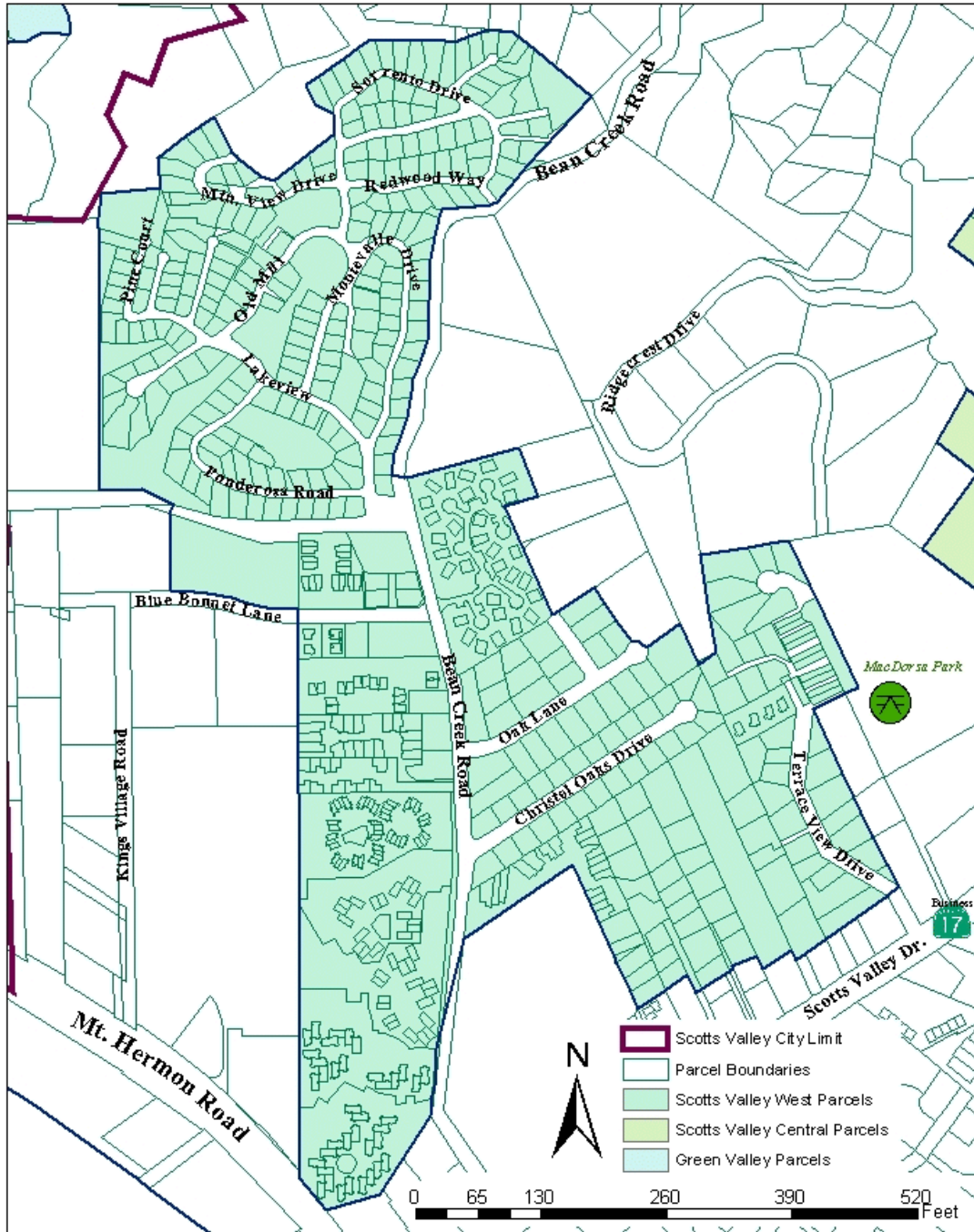
## Figure B-1. Rollingwoods Unit, IPHCP, Santa Cruz County, California



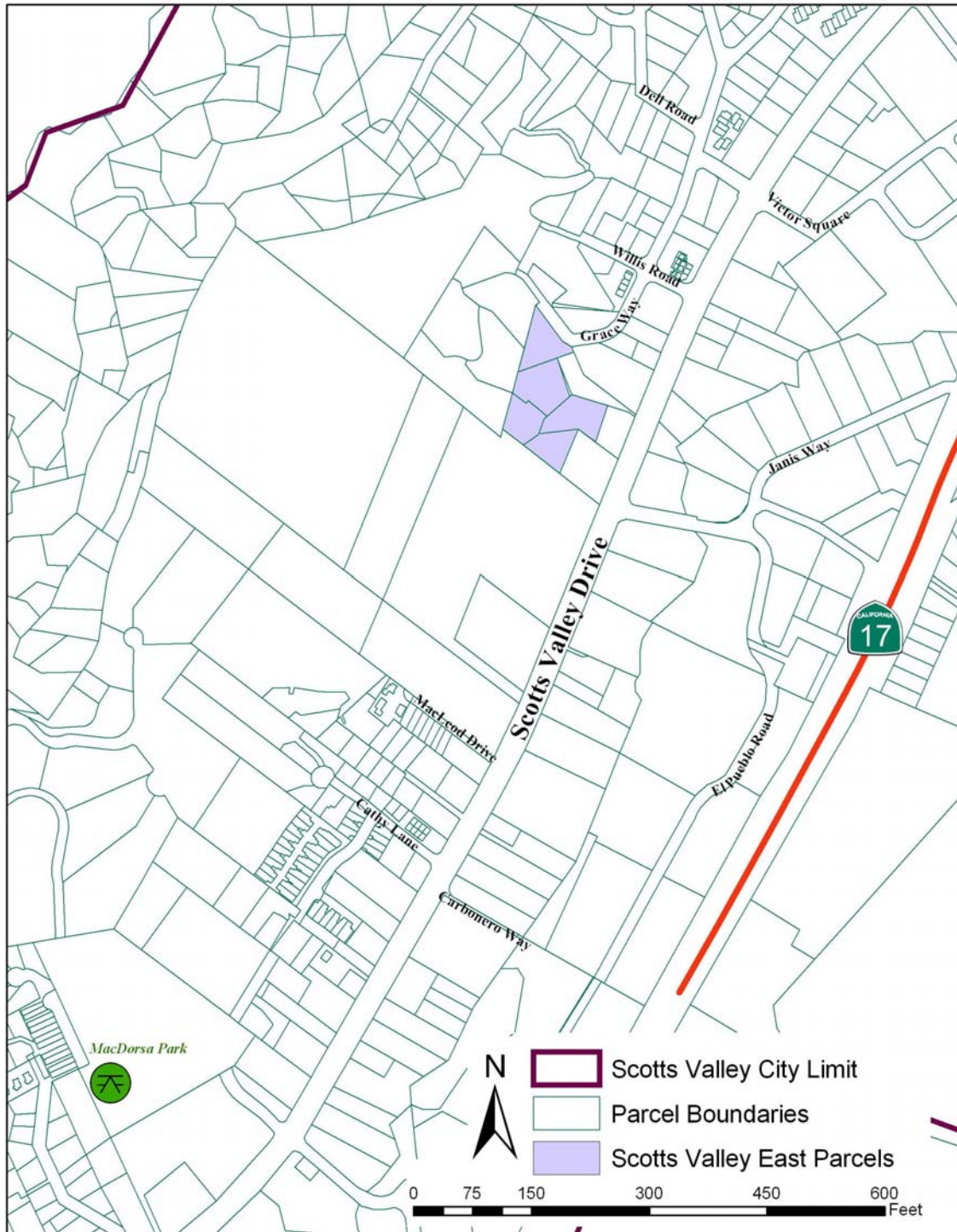
**Figure B-2. Whispering Pines Unit, IPHCP, Santa Cruz County, California**



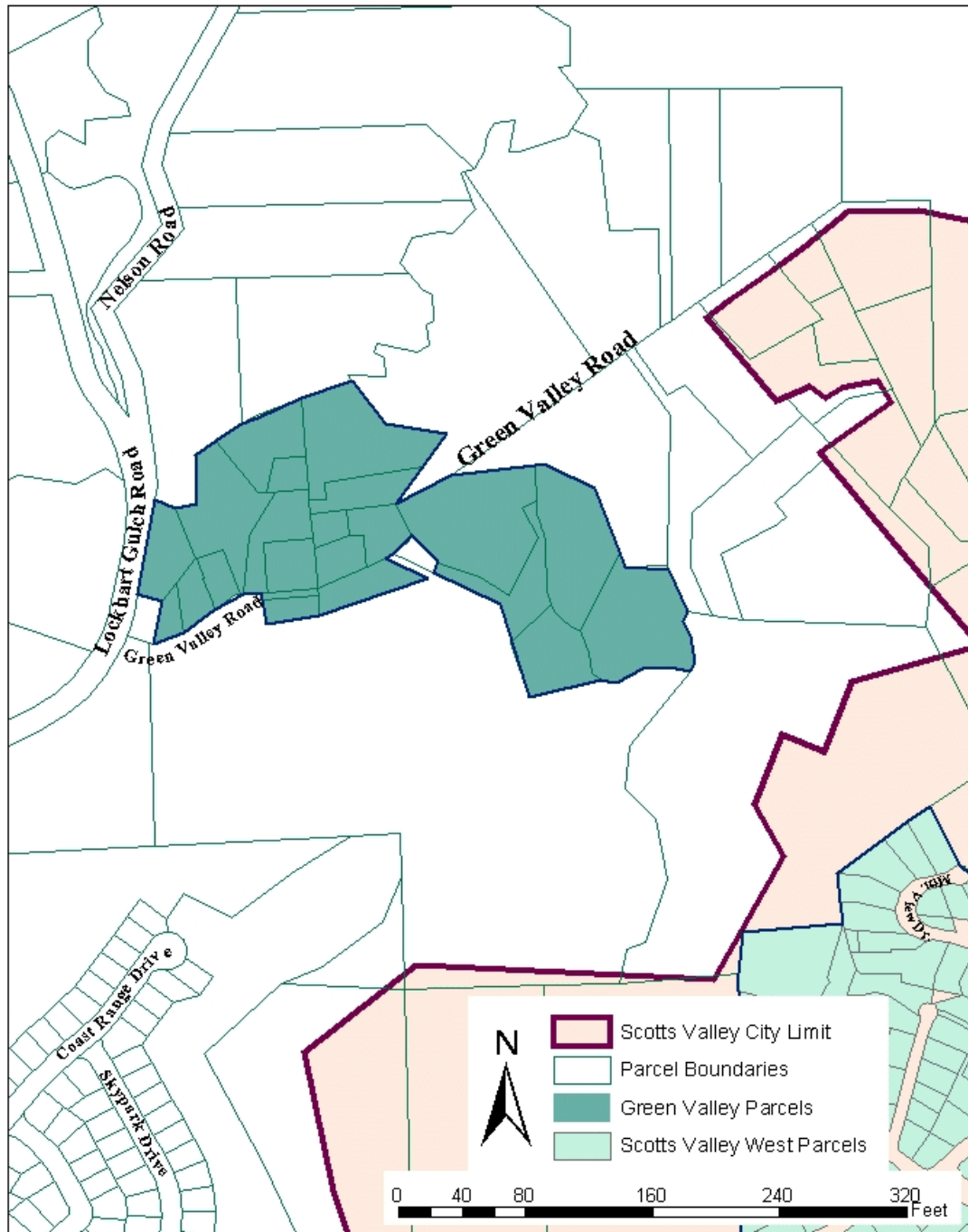
**Figure B-3. Scotts Valley West Unit, IPHCP, Santa Cruz County, California**



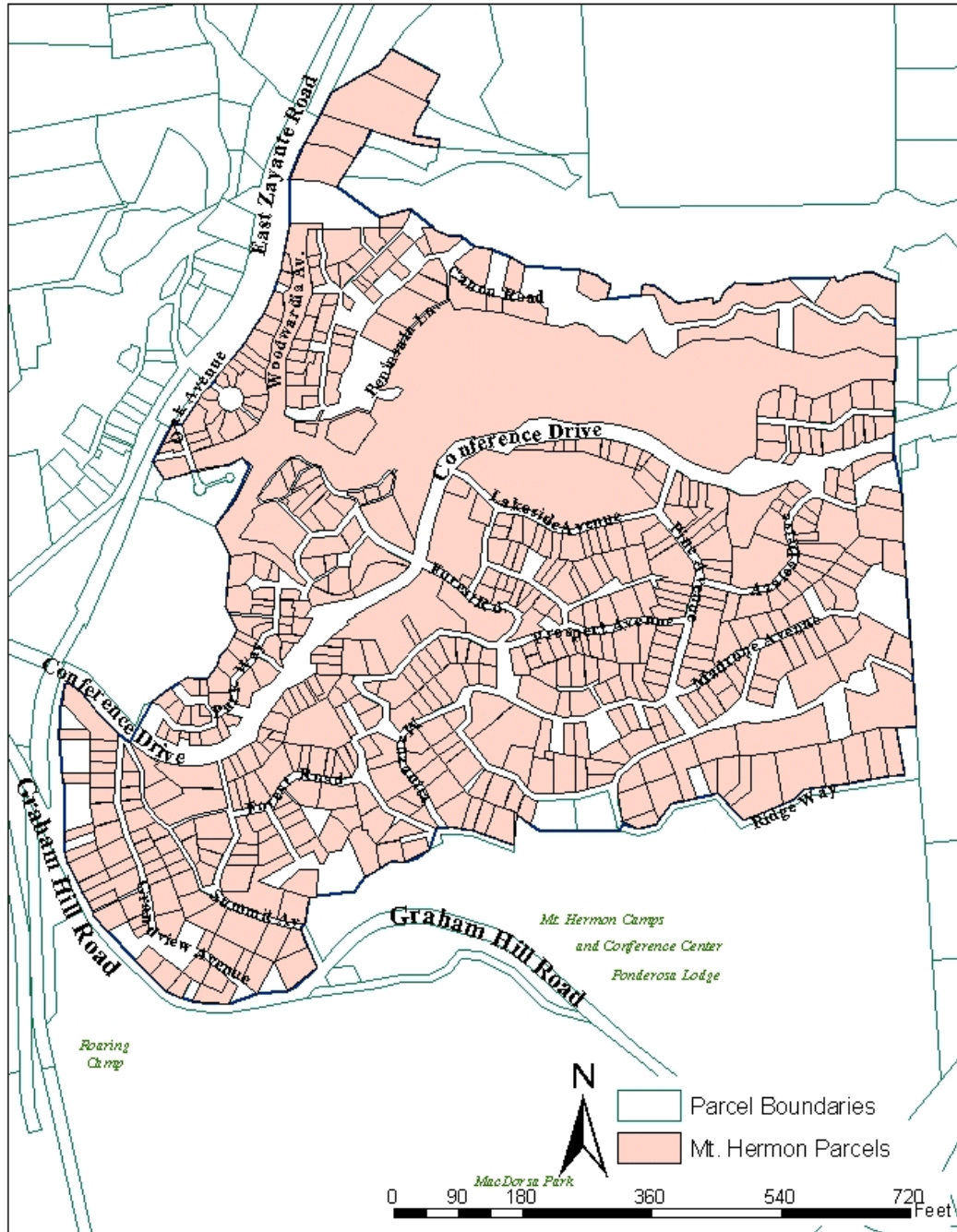
**Figure B-4. Scotts Valley East Unit, IPHCP, Santa Cruz County, California**



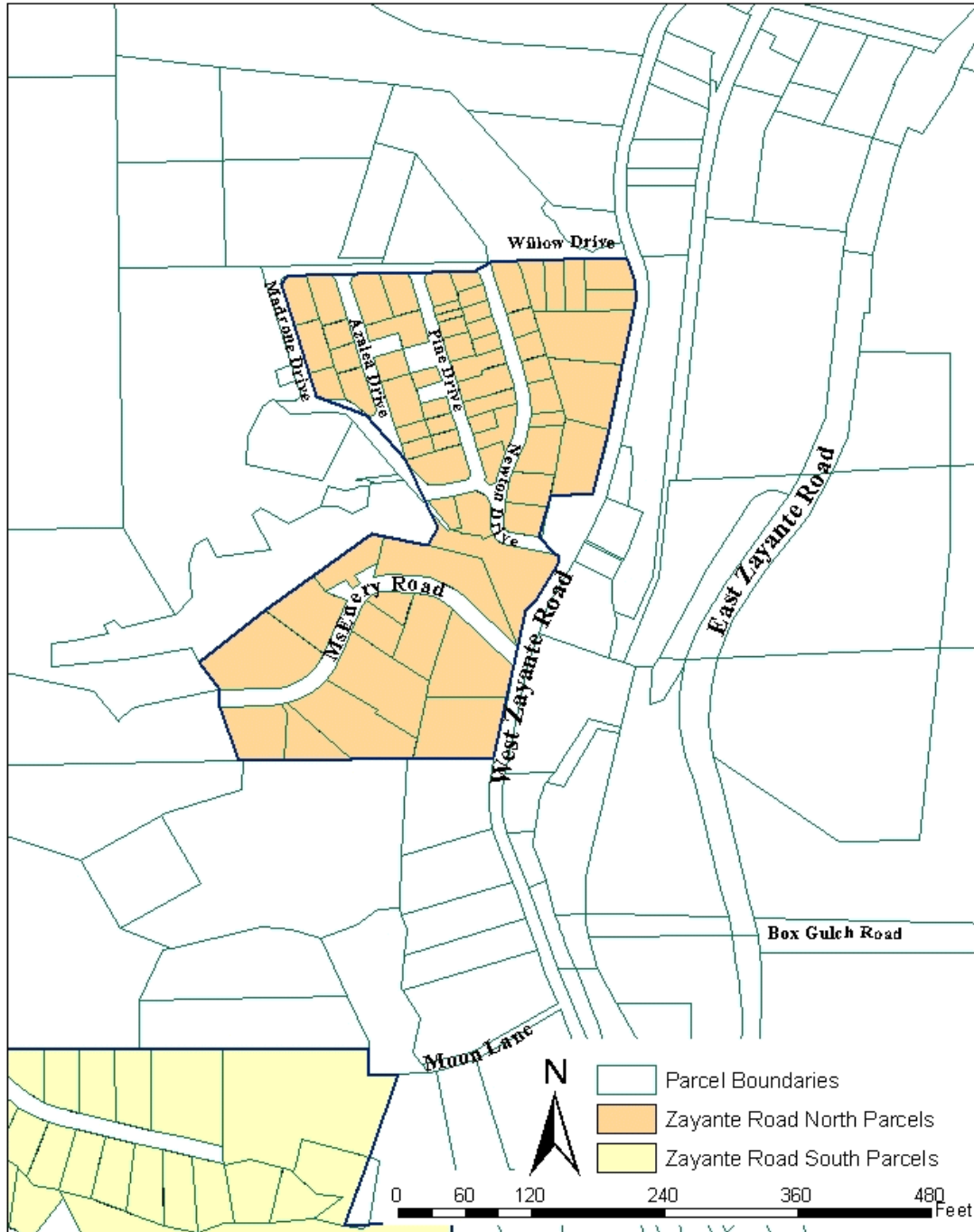
**Figure B-5. Green Valley Unit,  
IPHCP, Santa Cruz County, California**



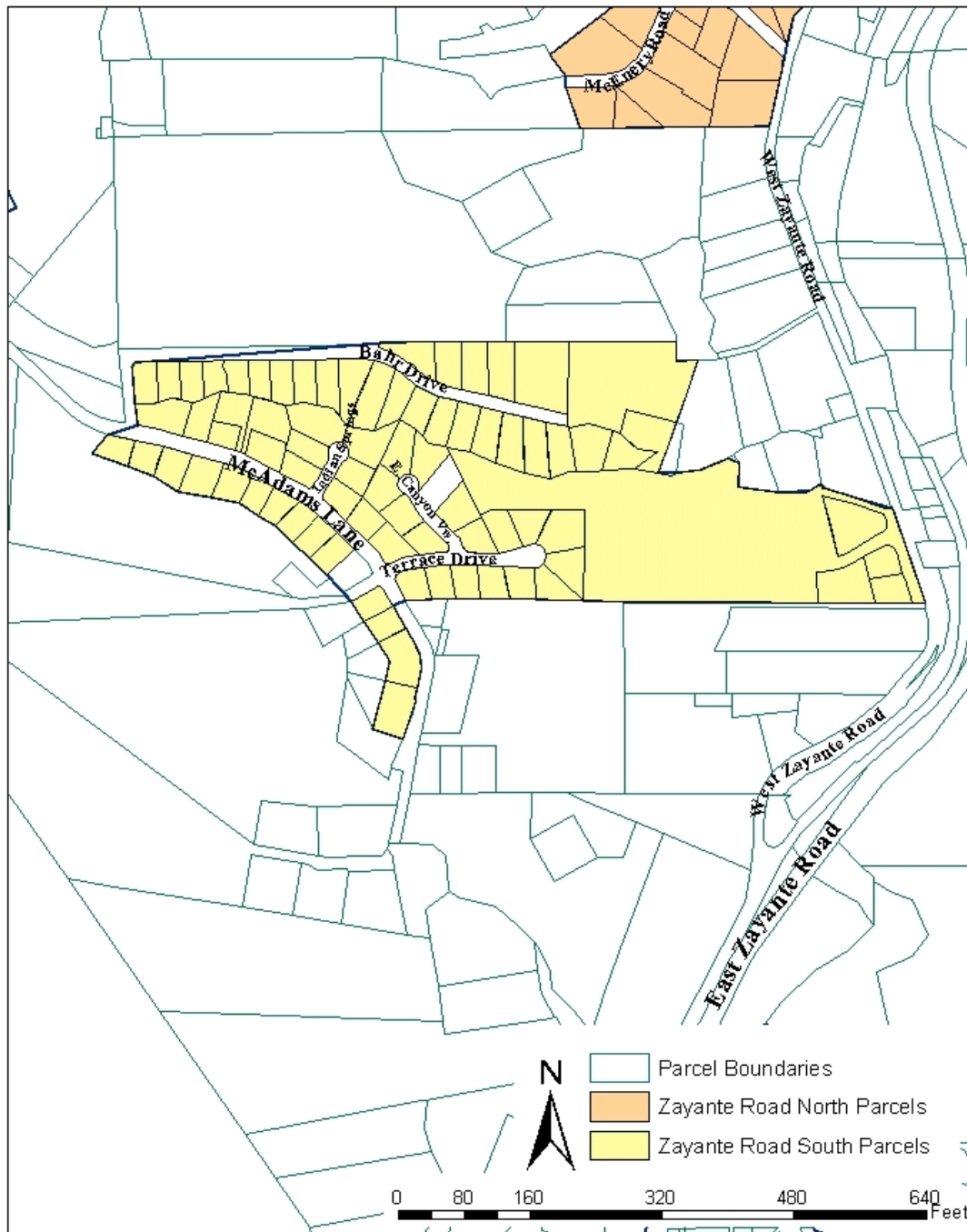
**Figure B-6. Mount Hermon Unit,  
IPHCP, Santa Cruz County, California**



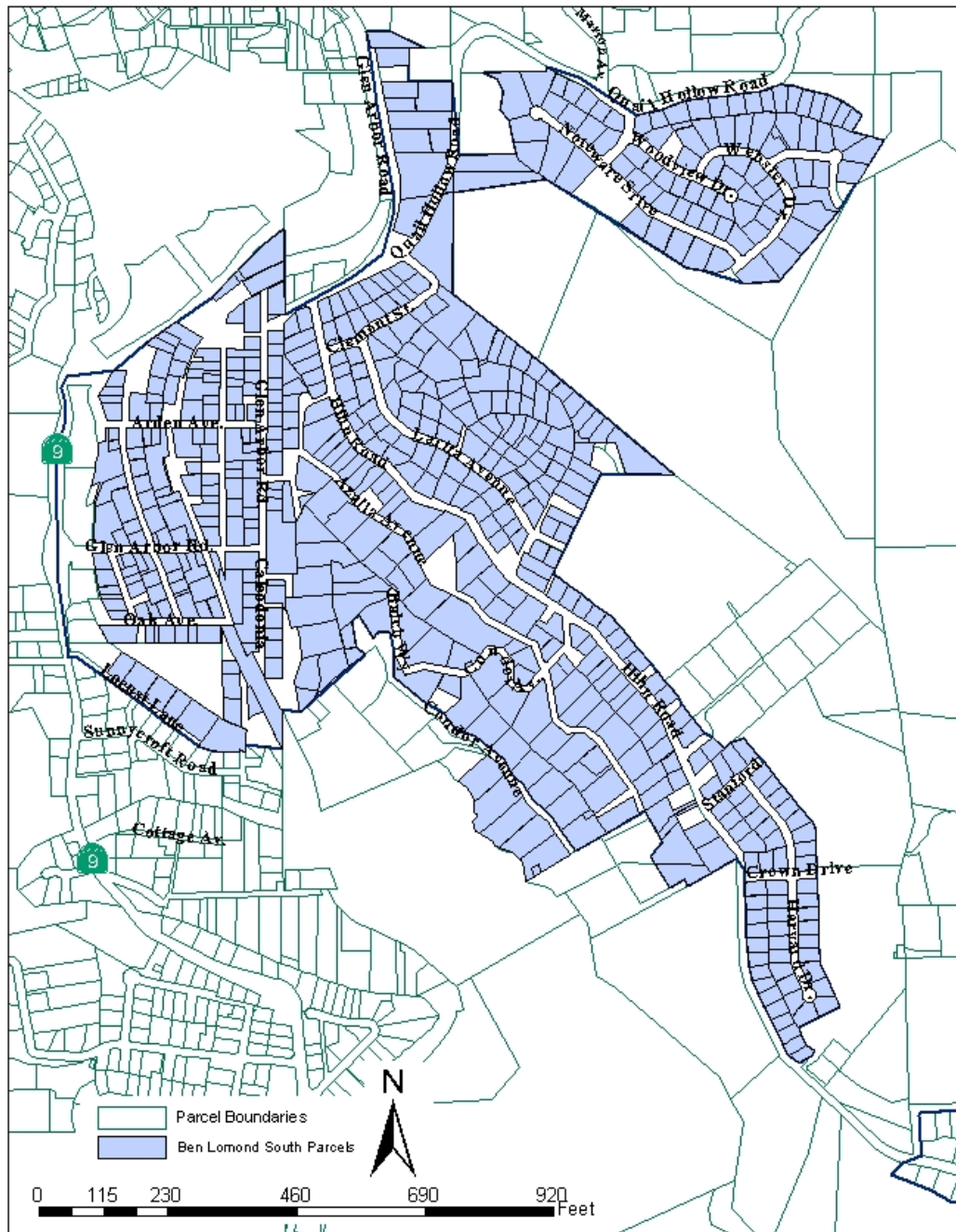
**Figure B-7. Zayante Road North Unit, IPHCP, Santa Cruz County, California**



**Figure B-8. Zayante Road South Unit, IPHCP, Santa Cruz County, California**



**Figure B-9. Ben Lomond South Unit, IPHCP, Santa Cruz County, California**





## **APPENDIX B**

### **Summary of the Ben Lomond Sandhills Preserve**

Appendix B provides a summary of the Ben Lomond Sandhills Preserve based on the *Adaptive Management and Monitoring Plan for the Zayante Sandhills Conservation Bank* (McGraw 2006). The Ben Lomond Sandhills Preserve, comprised of 22.8 acres of high quality Sandhills habitat and prime habitat for the Mount Hermon June beetle, is the first phase of the Zayante Sandhills Conservation Bank. Previously private property, this land will be preserved in perpetuity through conservation easements with the Center for Natural Lands Management, Inc. The biological goals and objectives for the Preserve focus on:

- Preserving and enhancing the six endangered or special-status species populations present in the Preserve (Mount Hermon June beetle, Zayante band-winged grasshopper, Ben Lomond spineflower, Santa Cruz wallflower, Ben Lomond buckwheat, and silverleaf manzanita).
- Increasing the understanding of the ecological factors influencing the distribution, abundance, and population persistence of these species.
- Maintaining or enhancing the structure and species composition of the native plant communities.
- Facilitating the ecological processes required to sustain the endemic sandhills populations and communities.

Approximately 90 percent of the Preserve, consisting of high quality habitat that supports a high diversity and abundance of native species, will be managed and maintained. Enhancement and restoration will occur on approximately 10 percent of the Preserve, which consists of habitat areas that have moderate or reduced diversity and abundance of native Sandhills species, as a result of habitat degradation. Key management strategies that are used throughout the Preserve include:

- Research to increase knowledge of the system's ecology to inform management.
- Exotic plant removal and management to facilitate endangered species and communities.
- Prohibition on recreational use of the Preserve to enhance and maintain available habitat.
- Fire management to maintain a patch mosaic of communities and reduce the probability of wildfire.

The adaptive management program for the Preserve also involves monitoring to facilitate progress toward the stated biological goals and objectives. The monitoring provides feedback information for subsequent management changes and adaptations, including remedial actions, if necessary. The habitat management and monitoring of the Preserve is funded by an endowment established and managed by a private enterprise which contributes a portion of each credit sale from the Preserve to the endowment.

Based on the existing characteristics of the habitat and the approvals received to date from the

Service, the conservation value of the Preserve has been quantified and converted into a credit system that may be bought, sold, or traded for the purposes of offsetting the impacts of development on endangered species and their habitats within the service area of the conservation bank. The number of available conservation credits for the Preserve has been determined in the *Zayante Sandhills Conservation Bank: Evaluation of Conservation Credits for the Ben Lomond Sandhills Preserve* (Arnold 2006). According to this document, the Preserve plays an important role in local and regional conservation efforts in the Zayante Sandhills because it is contiguous with much of the habitat set aside at Quail Hollow Quarry, as well as several smaller properties surrounding the quarry and along Hihn Road.

Available conservation credits at the Preserve have been identified for Mount Hermon June beetle, Ben Lomond spineflower, and a number of other native Sandhills species, based on the existing habitats and native species that the Preserve supports. These credits can be purchased by landowners (or applicants on behalf of landowners) that have been extended coverage by the County or City under the IPHCP and their respective ITPs. While the conservation credits are for particular species, the mitigation fees obtained through the purchase of credits associated with Covered Activities would support the long-term preservation of Preserve lands and the various management and monitoring activities of the Preserve. Therefore, the purchase of conservation credits for Mount Hermon June beetle, as required by the IPHCP, would provide mitigation fees that would benefit all six endangered species that are present in the Preserve, including the Ben Lomond spineflower.