

Habitat Conservation Plan
for the Endangered Mount Hermon June Beetle
for 587 Twin Pines Drive (APN 067-041-24), a 3-unit
residential development site located in Santa Cruz County
(near the City of Scotts Valley), California

Prepared for:
Mr. Larry Busch
587 Twin Pines Drive
Scotts Valley, CA 95066
(831) 212-8531
lb9460@aol.com

Prepared by:
Richard A. Arnold, Ph.D.
Entomological Consulting Services, Ltd.
104 Mountain View Court
Pleasant Hill, CA 94523-2188
(925) 825-3784
bugdctr@comcast.net

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EXECUTIVE SUMMARY

Mr. and Mrs. Larry Busch, a married couple (hereafter referred to as "Mr. Busch") have applied for a permit pursuant to section 10(a)(1)(B) of the Endangered Species Act of 1973 as amended (16 U.S.C. 153101544, 87 Stat. 884), from the U.S. Fish & Wildlife Service (USFWS) for the incidental take of the endangered Mount Hermon June beetle (MHJB) (*Polyphylla barbata*: Coleoptera: Scarabaeidae). The potential taking would occur incidental to a minor land division to subdivide a 0.999 acre existing residential lot into three lots. The project site is currently a single parcel (APN 067-041-24) that is located at 587 Twin Pines Drive in the Whispering Pines neighborhood of Santa Cruz County (near the City of Scotts Valley), CA. At this time the project site has an existing single-family residence and garage, which would be moved to subdivide this lot into three parcels. The existing home and garage will be relocated to one of the new lots and two new single-family residences will be built on the other two new lots that are created by the minor land division. This residential development project is known as the Twin Pines Drive Development.

Although the project site is situated in a portion of the Zayante Sandhills that historically supported endemic plant communities, extensive residential and commercial development during the past 50 years throughout this portion of the Santa Cruz County has substantially degraded the original native habitat values. Prior to residential development of the Whispering Pines neighborhood, this neighborhood supported Ponderosa Pine forest with sand parkland vegetation. Today the primary native plants at the property are two Coast Live Oak (*Quercus agrifolia*) and 22 Ponderosa Pine (*Pinus ponderosa*) trees. Other native sandhill plants, especially those that would normally grow in the understories of these trees, have been largely replaced by ornamentals and landscaping.

During a presence-absence survey conducted in 2001 at nearby 701 Sugar Pine Lane (ca. one-half block from the Twin Pine Drive property), 45 adults of the MHJB were observed at the 701 Sugar Pine Road property. For this reason, a presence-absence survey was not conducted at the 587 Twin Pines Drive project site. Rather, due to the known nearby occurrences of MHJB in the surrounding neighborhood, Mr. Busch assumes that the endangered beetle occurs at his property. Therefore, Mr. Busch has applied for a section 10(a)(1)(B) permit and proposes to implement the habitat conservation plan (HCP) described herein, which provides for measures for mitigating adverse effects on the MHJB for activities associated with the relocation of the existing single-family home, as well as the site grading and construction of the two new single-family residences. Mr. Busch is requesting issuance of the section 10(a)(1)(B) permit for a period of five (5) years after permit issuance.

This HCP summarizes information about the project and identifies the responsibilities of the USFWS and Mr. Busch for implementing the actions described herein to benefit the MHJB. The biological goal of the HCP is to replace the MHJB habitat impacted by the construction project at a secure site in perpetuity. For mitigation, Mr. Busch will purchase prior to permit issuance 0.870 conservation credit for the endangered MHJB from the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank, which is operated by PCO, LLC and is located in Ben Lomond, CA. This HCP also describes measures that ensure the elements of the HCP are implemented in a timely manner. Funding sources for implementation of the HCP,

actions to be taken for unforeseen events, alternatives to the proposed permit action, and other measures required by the USFWS are also discussed.

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2. Estimated costs for minimization and mitigations measures for the Twin Pines Drive project site.

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1. Portion of Felton 7.5' USGS topographic map illustrating the location of the Twin Pines Drive project site.
2. Street-level location map illustrating the location of the Twin Pines Drive project site.
3. Existing conditions site plan for the Twin Pines Drive project site.
4. Proposed project site plan for the Twin Pines Drive project, illustrating impacted and maintained trees.
5. Location map for the Ben Lomond Sandhills Preserve and its service area.

1.0 INTRODUCTION

This Habitat Conservation Plan (HCP) is for the proposed construction of two new, single-family residences and relocation of an existing single-family residence at a 0.999 acre residential lot that will be subdivided to accommodate a total of three homes. The project site is located at 587 Twin Pines Drive (APN 067-041-24) in the Whispering Pines residential neighborhood of Santa Cruz County near the City of Scotts Valley, California.

This HCP has been prepared pursuant to the requirements of section 10(a) of the Federal Endangered Species Act (ESA). The HCP is intended to provide the basis for issuance of a section 10(a)(1)(B) permit to Mr. & Mrs. Larry Busch (hereafter “Mr. Busch”), the permit applicants, to authorize incidental take (see section 6.0) of the Mount Hermon June beetle (MHJB) (*Polyphylla barbata*: Coleoptera: Scarabaeidae), a federally-listed endangered species, that could potentially result from the relocation, grading, and construction activities at the aforementioned project site. The U.S. Fish & Wildlife Service (USFWS) has concluded that the project site provides potential habitat for this beetle. Mr. Busch requests a permit for a period of five (5) years commencing on the date of permit issuance.

This HCP provides an assessment of the existing habitat at the Twin Pines Drive project site for the MHJB, evaluates the effects of the proposed project on this beetle, and presents a mitigation plan to offset habitat losses and/or direct harm to this beetle that could result from relocation, grading, and construction activities at the project site. The biological goal of this HCP is to replace the MHJB habitat impacted by the development of the Twin Pines Drive property at a secure site in perpetuity. Specifically, 0.870 MHJB conservation credit will be purchased prior to permit issuance from the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank. Because habitat quality at the Ben Lomond Sandhills Preserve is superior to that at the project site, and habitat at the conservation bank is protected in perpetuity via a conservation easement, this mitigation solution will provide greater long term conservation value to the MHJB and its habitat than would on-site mitigation.

1.1 PROJECT LOCATIONS

The project site is located in the County of Santa Cruz in the Whispering Pines residential neighborhood near the City of Scotts Valley, CA. The site address is 587 Twin Pines Drive, which is located on the northeastern corner of the intersection of Twin Pines Drive and Tan Oak Drive. The site measures 0.999 acre and is located within the boundaries of the Felton 7.5' U.S. Geological Survey (USGS) topographic quadrangle, specifically in Township 10S. and Range 2W. of the Mt. Diablo Meridian. No section numbers are identified in this portion of the topographic quadrangle (Figure 1). Because of the extensive development that has occurred in and near the City of Scotts Valley since the Felton quadrangle was printed in 1980, Figure 2 is a street-level location map that illustrates the property.

1.2 PROJECT SITE

The project site is located in a residential neighborhood known as Whispering Pines. Surrounding properties are developed as single-family homes. Due to prior land uses, native habitat values at the project site have been degraded. Two Coast Live Oak and 22 Ponderosa Pine trees still grow at the property, but most of the resident understory vegetation consists of

non-natives used for landscaping.

The project site currently has a single-family residence, garage, asphalt driveway, three sheds, plus concrete patios and walkways. These improvements cover approximately 15,800 ft.² (0.363 acre).

1.3 HISTORY OF THE HCP PROCESS

In March 2006 Mr. Busch hired Dr. Richard Arnold of Entomological Consulting Services, Ltd. to prepare this HCP. Dr. Arnold spoke with Roger Root, biologist with the Ventura Fish and Wildlife office of the USFWS about the proposed project and need for an HCP in May 2006. USFWS advised Dr. Arnold that an incidental take permit would be necessary for the proposed projects to comply with the Endangered Species Act. Thus a draft HCP was prepared and submitted to the Ventura Fish and Wildlife office of the USFWS in January 2007. Revised drafts were resubmitted to USFWS in November 2007 and April 2008. Although this document has been presented as a low-effect HCP, the USFWS still needs to complete a Low-Effect Habitat Conservation Plan Screening Form. After completing this form, the USFWS will determine whether the HCP for the proposed project qualifies for the low-effect category, thereby qualifying for a categorical exclusion under the National Environmental Policy Act.

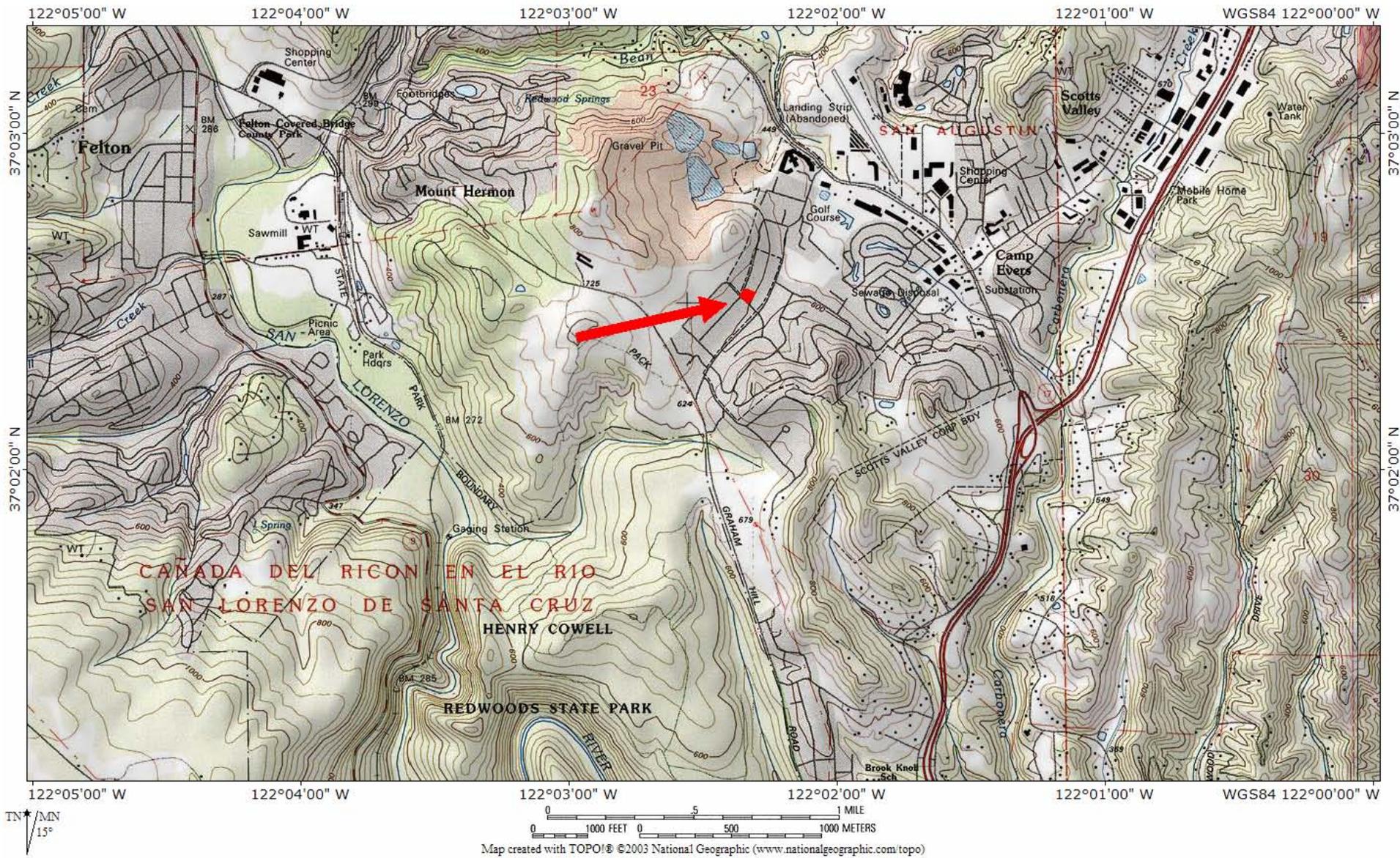


Figure 1.
Location of 587 Twin Pines Drive (APN 067-041-24) project site in Scotts Valley, CA on the Felton 7.5' USGS topo map.

2.0 PROJECT DESCRIPTION AND AREA

2.1 PROJECT SITE AND PROJECT DESCRIPTION

The project site is located at 587 Twin Pines Drive, measures 0.999 acre, and is a trapezoid in shape. It is situated in the Whispering Pines residential neighborhood of the County of Santa Cruz, near the City of Scotts Valley, CA.

The property is characterized by Zayante sandy soils as mapped by Bowman and Estrada (1980). Topography is generally flat with elevations ranging from 598 to 616 feet, and a gentle slope from west to east across the property. Although Coast Live Oak and Ponderosa Pine trees still grow on the property, the understory vegetation has largely been converted to ornamental plants and landscaping.

It was previously developed and currently has a single-family residence, garage, asphalt driveway, plus concrete patios and walkways which collectively cover about 0.333 acre. Three wooden sheds cover an additional estimated 0.030 acre, but appear to be sitting on the ground rather than concrete slabs or other permanent foundations. A four foot wide drainage ditch runs parallel to the southern property border along Tan Oak Drive.

The project site will be subdivided into three separate lots to accommodate construction of two new single-family homes, plus the relocation of the existing residence. Figure 3 illustrates the existing site conditions and tentative subdivision map. The three new lots will range in size from 12,380 to 18,149 ft.². The two new homes will have new driveways that access Tan Oak Drive. Although the existing residence will be relocated, it will continue to use the existing driveway to access Twin Pines Drive. Locations of the three proposed, single-family homes and other associated site improvements are illustrated in Figure 4, which along with Figure 3 was prepared by Ifland Engineers, Inc. Demolition of the sheds, patios, and walkways, site grading, home relocation, and construction activities are expected to occur throughout all portions of the parcel except the existing asphalt driveway. The retained driveway covers an estimated 5,600 ft.² (0.129 acre). Thus the entire property, excluding the driveway is referred to as the “impact area” in this HCP.

The three homes will be plumbed with domestic water and sanitary sewer. Since the sanitary sewer lines drain to a public sewer line, no septic or cesspool systems will be required. Electrical power is fed from overhead power lines. Likewise natural gas is also provided by the local utility provider via underground connection at the property line. All trenching for the connection of underground utilities will occur within the impact area.

To the extent practical, native Coast Live Oak and Ponderosa Pine trees will be protected during grading and construction activities and incorporated into future landscaping. Ten pines will be removed, but 12 pines will be retained. Neither of the two oaks will be removed. Locations of the impacted (X's through circles) and maintained trees (circles) are illustrated in Figure 3. The maintained trees will not be disturbed except as needed to conform to any fire clearance regulations of the Scotts Valley Fire District.

Altogether, these activities will disturb 0.870 acre of the entire 0.999-acre property, which includes all portions of the property except for the retained existing driveway. As a minimization measure, the two Coast Live Oaks and 12 Ponderosa Pines, indigenous to the Zayante sandhills will be protected during construction and maintained at this project site. Additional minimization measures will be employed before, during, and after construction activities to minimize any adverse impacts to the MHJB and its habitat at this project site, including:

- 1) A construction monitor knowledgeable about the MHJB and its habitat and approved by USFWS, will be present during initial grading and excavation activities, as well as during relocation of the existing residence and garage;
- 2) The construction monitor will oversee the placement of temporary fencing and signs that will be erected before any grading or other construction-related activities occur to delineate the maintained trees;
- 3) Appropriate dust control measures, such as periodically wetting down the graded areas, will be used as necessary during grading of the impact area or any other activities that generate dust; and
- 4) All workers at the project site will participate in a tailgate session to learn about the endangered beetle, its habitat, protective measures, and procedures to follow if any individuals of the MHJB are actually observed at the project site during the course of all construction-related activities.

2.2 PERMIT HOLDER/PERMIT BOUNDARIES

Mr. Busch will be the holder of the section 10(a) permit. Mr. Larry Busch can be contacted via mail at 587 Twin Pines Drive, Scotts Valley, CA 95066, or via telephone at (831) 212-8531, or via email at lb9460@aol.com.

In the event of sale of the property prior to completion of the proposed development, or during the life of the permit, the new owner(s) will submit to the USFWS the following: a new permit application, permit fee, and written documentation providing assurances pursuant to 50 CFR 13.25 (b)(s) that the new owner(s) will provide sufficient funding for the HCP and will implement the relevant terms and conditions of the permit, including any outstanding minimization and mitigation. The new owner(s) will commit to all requirements regarding the take, authorization, and mitigation obligations of this HCP unless otherwise specified in writing and agreed to in advance by the USFWS.

The requested permit boundaries are the same as the property boundaries of the 0.999-acre project site located at 587 Twin Pines Drive (APN 067-041-14). These boundaries are illustrated in Figure 3.

2.3 SURROUNDING LAND USES

The Twin Pines Drive project site is located in a residential neighborhood of the County of Santa Cruz known as Whispering Pines. Surrounding properties support single-family homes. Zoning for the project site is R-1-10, which means that one single-family residence is allowed on a minimum lot size of 10,000 ft.².

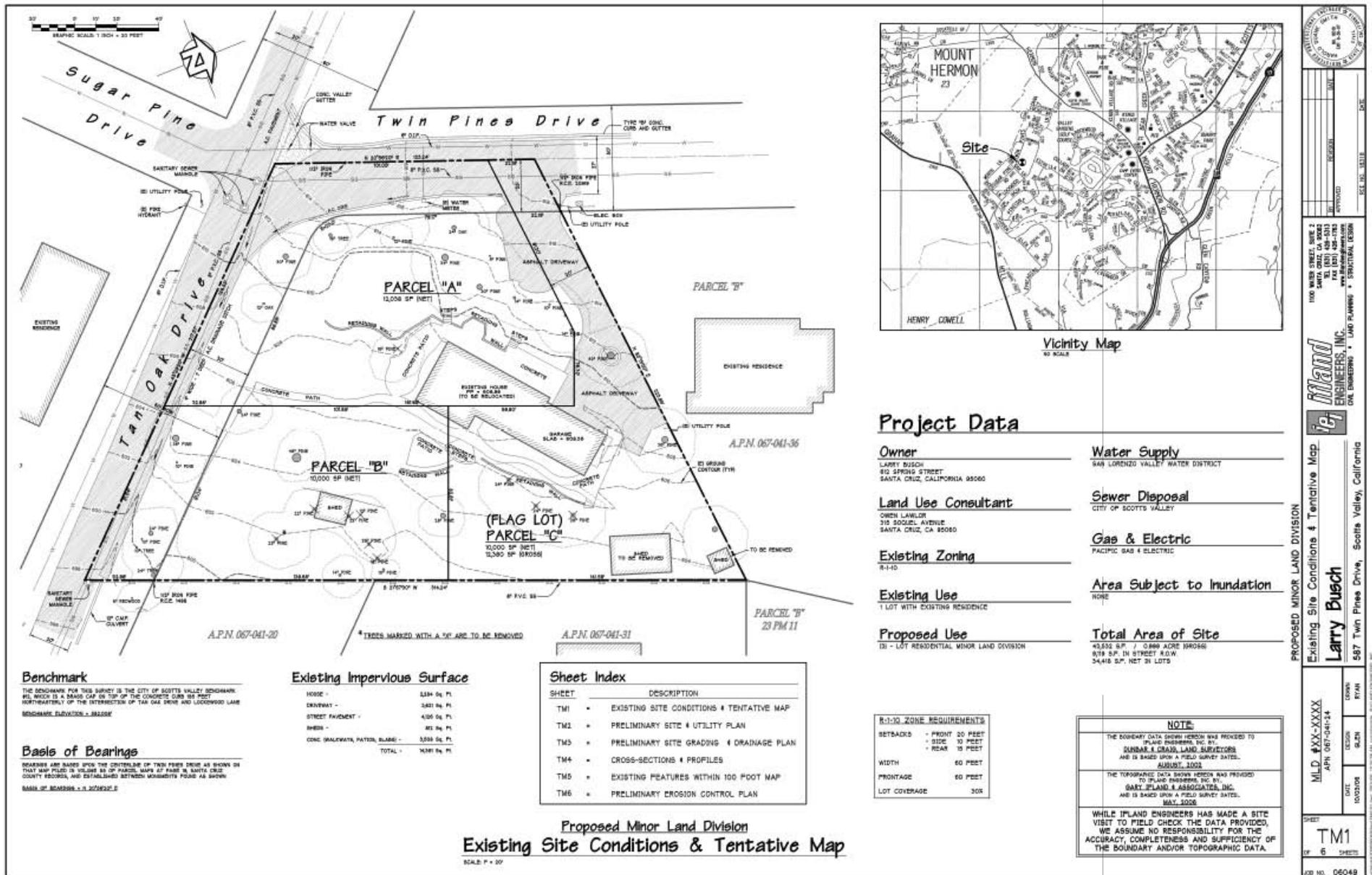


Figure 3. Existing site conditions and tentative subdivision map for minor land division at 587 Twin Pines Drive in Scotts Valley, CA.

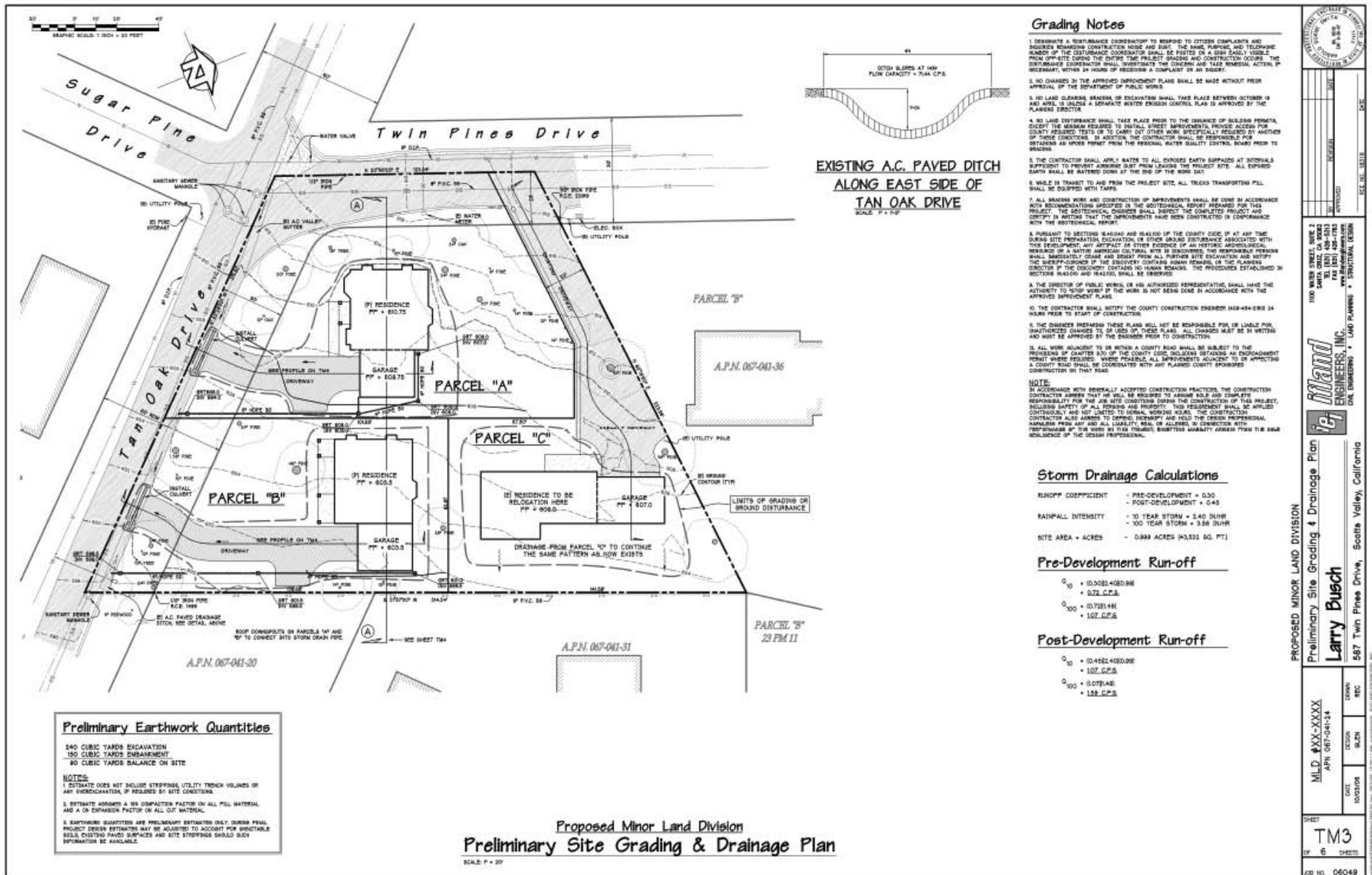


Figure 4. Preliminary site plan, plus grading and drainage plans for 587 Twin Pines Drive in Scotts Valley, CA.

3.0 REGULATORY FRAMEWORK

3.1 FEDERAL ENDANGERED SPECIES ACT OF 1973

Section 9 of the ESA and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. “Take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Harm is further defined by the USFWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. Harass is defined by the USFWS as intentional or negligent actions that create the likelihood of injury to listed species by annoying them to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of the carrying out of an otherwise lawful activity.

Pursuant to section 11(a) and (b) of the ESA, any person who knowingly violates section 9 of the ESA or any permit, certificate, or regulation related to section 9, may be subject to civil penalties of up to \$25,000 for each violation or criminal penalties up to \$50,000 and/or imprisonment of up to one year.

Individuals and state and local agencies proposing an action that is expected to result in the take of federally listed species are encouraged to apply for an incidental take permit under section 10 (a)(1)(B) of the ESA to be in compliance with the law. Such permits are issued by the USFWS when take is not the intention of and is incidental to otherwise legal activities. An application for an incidental take permit must be accompanied by a habitat conservation plan, commonly referred to as an HCP. The regulatory standard under section 10 (a)(1)(B) of the ESA is that the effects of authorized incidental take must be minimized and mitigated to the maximum extent practicable. Under section 10 (a)(1)(B) of the ESA, a proposed project also must not appreciably reduce the likelihood of the survival and recovery of the species in the wild, and adequate funding for a plan to minimize and mitigate impacts must be ensured.

Section 7 of the ESA requires Federal agencies to ensure that their actions, including issuing permits, do not jeopardize the continued existence of listed species or destroy or adversely modify listed species’ critical habitat. “Jeopardize the continued existence of...,” pursuant to 50 CFR 402.2, means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. Issuance of an incidental take permit under section 10 (a)(1)(B) of the ESA by the USFWS is a Federal action subject to section 7 of the ESA. As a Federal agency issuing a discretionary permit, the USFWS is required to consult with itself (i.e., conduct an internal consultation). Delivery of the HCP and a section 10 (a)(1)(B) permit application initiates the section 7 consultation process within the USFWS.

The requirements of section 7 and section 10 substantially overlap. Elements unique to section 7 include analyses of impacts on designated critical habitat, analyses of impacts on listed plant species, if any, and analyses of indirect and cumulative impacts on listed species.

Cumulative effects are effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area, pursuant to section 7 (a)(2) of the ESA. The action area is defined by the influence of direct and indirect impacts of covered activities. The action area may or may not be solely contained within the HCP boundary. These additional analyses are included in this HCP to meet the requirements of section 7 and to assist the USFWS with its internal consultation.

3.1.1. Section 10 Permit Process and HCP Requirements.

The section 10(a)(1)(B) process for obtaining an incidental take permit has three primary phases:

- 1) the HCP development phase;
- 2) the formal permit processing phase; and
- 3) the post-issuance phase.

During the HCP development phase, the project applicant prepares a plan that integrates the proposed project or activity with the protection of listed species. An HCP submitted in support of an incidental take permit application must include the following information:

- impacts likely to result from the proposed taking of the species for which permit coverage is requested;
- measures that will be implemented to monitor, mitigate for, and minimize impacts;
- funding that will be made available to undertake such measures;
- procedures to deal with unforeseen circumstances;
- alternative actions considered that would not result in take; and
- additional measures the USFWS may require as necessary or appropriate for purposes of the plan.

The USFWS has established a special category of HCP, called a low-effect HCP, for projects with relatively minor or negligible impacts. Based on criteria for determining whether a HCP qualifies as “low-effect,” as described below and in the USFWS’s (1996) Habitat Conservation Planning Handbook, the applicant for the proposed Twin Pines Drive project believes this is a low-effect HCP.

A low-effect HCP is defined as having:

- minor or negligible effects on federally listed, proposed, or candidate species and their habitats that are covered under the HCP; and
- minor or negligible effects on other environmental resources.

The impacts are assessed on both a project and cumulative basis. Implementation of low-effect HCPs and their associated incidental take permits, despite authorization of some small level of incidental take, individually and cumulatively have a minor or negligible effect on the species covered in the HCP. The determination of whether an HCP qualifies for the low-effect category is based on the anticipated impacts of the project prior to implementation of the minimization and mitigation plan. The purpose of the low-effect HCP is to expedite handling of HCPs for activities with inherently low impacts; it is not intended for projects with significant potential impacts that are subsequently reduced through mitigation programs. Environmental compliance under the National Environmental Protection Act (NEPA) for low-effect HCPs is achieved via a categorical exclusion because the incidental take permit issued involves no individual or cumulative significant effects on the environment.

The HCP development phase concludes and the permit-processing phase begins when a complete application package is submitted to the appropriate permit-issuing office of USFWS. The complete application package for a low-effect HCP consists of:

- 1) an HCP;
- 2) a completed permit application; and
- 3) a \$100 permit fee from the applicant.

The USFWS must publish a Notice of Receipt of a Permit Application in the Federal Register; prepare a section 7 Biological Opinion; prepare a Set of Findings that evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria (see below); and prepare an Environmental Action Statement, a brief document that serves as the USFWS's record of compliance with NEPA for categorically excluded actions (see below). An implementing agreement is not required for a low-effect HCP. A section 10 (a)(1)(B) incidental take permit is granted upon determination by USFWS that all requirements for permit issuance have been met. Statutory and regulatory criteria for issuance of an incidental take the permit (16 U.S.C. 15.39(a)(2)(B) and 50 CFR 17.22(b)(2)) are as follows:

- the taking will be incidental;
- the impacts of incidental take will be minimized and mitigated to the maximum extent practicable;
- adequate funding for the HCP and procedures to handle unforeseen circumstances will be provided;
- the taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild;
- the applicant will provide additional measures that USFWS requires as being necessary or appropriate; and
- the USFWS has received assurances, as may be required, that the HCP will be

implemented.

After receipt of a complete application, a low-effect HCP and permit application is typically processed within approximately 12 months. This schedule includes the Federal Register notification and a 30-day public comment period.

During the post-issuance phase, the permittee and other responsible entities implement the HCP and the USFWS monitors the permittee's compliance with the HCP and the long-term progress and success of the HCP. The public is notified of permit issuance through publication in the Federal Register.

3.2 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

The National Environmental Policy Act of 1969, as amended (NEPA), requires that Federal agencies analyze and disclose the environmental impacts of their proposed actions (e.g., issuance of an incidental take permit) and include public participation in the planning and implementation of their actions. Issuance of an incidental take permit by the USFWS is a Federal action subject to NEPA compliance. Although section 10 and NEPA requirements overlap considerably, the scope of NEPA also considers the impacts of the action on non-biological resources such as water quality, air quality, and cultural resources. Depending on the scope and impact of the HCP, NEPA requirements can be satisfied by one of the following documents or actions:

- 1) preparation of an environmental impact statement (generally prepared for HCPs with known significant impacts to the human environment);
- 2) preparation of an Environmental Assessment (generally prepared for HCPs with moderate, but not significant effects, or when the significance of the impacts is unknown); or
- 3) a categorical exclusion (allowed for low-effect HCPs).

The NEPA process helps Federal agencies make informed decisions with respect to the environmental consequences of their actions and ensures that measures to protect, restore, and enhance the environment are included, as necessary, as a component of their actions. Low-effect HCPs, as defined in the USFWS' (1996) Habitat Conservation Planning Handbook, are categorically excluded under NEPA, as defined by the Department of Interior Manual 516DM2, Appendix 1, and Manual 516DM6, Appendix 1.

3.3 NATIONAL HISTORIC PRESERVATION ACT

All Federal agencies are required to examine the cultural impacts of their actions (e.g., issuance of a permit). This may require consultation with the State Historic Preservation Office (SHPO) and appropriate American Indian tribes. All incidental take permit applicants are requested to submit a Request for Cultural Resources Compliance form to the USFWS. To complete the compliance, in certain cases the applicants may need to complete cultural resource surveys and possibly mitigation.

3.4 CALIFORNIA ENVIRONMENTAL QUALITY ACT

In many ways the California Environmental Quality Act, commonly known as CEQA (Public Resources Code Section 21000 *et seq.*), is analogous at the State level as NEPA is to the Federal level. CEQA applies to projects that require approval by State and local public agencies. It requires that such agencies disclose a project's significant environmental effects and provide mitigation whenever feasible. This environmental law covers a broad range of resources. With regard to wildlife and plants, those that are already listed by any State or Federal governmental agency are presumed to be endangered for the purposes of CEQA and impacts to such species and their habitats may be considered significant.

The project presented in this HCP may be subject to CEQA review, with the County of Santa Cruz as the lead agency. However, due to the small size of the proposed development, and because of the existing residential development in the surrounding neighborhood, as well as the mitigation proposed in this HCP for the MHJB, the proposed project is unlikely to reach a level of significance that would require a formal or more extensive CEQA review.

3.5 CALIFORNIA PUBLIC RESOURCES CODE

Public Resources Code 4291 requires homeowners living in or adjacent to forest or brush-covered lands to maintain a firebreak of not less than 30 feet on all sides around all structures, or to the property line, whichever is nearer. The Scotts Valley Fire District enforces this code in the City of Scotts Valley and surrounding areas. See Section 7.1.6 of this HCP for a discussion of how this code affects the management of habitat at the project sites.

3.6 SANTA CRUZ COUNTY REGULATIONS

Santa Cruz County's General Plan (1988) and its County Codes (16.32) identify protective measures for sensitive habitats and species. The County's on-line geographic information system (GIS) recognizes the Twin Pines Drive project site as occurring within a sensitive biotic habitat area, presumably Ponderosa Pine forest. This plant community is one of the special habitats protected by the County's General Plan (Chapter 5, Conservation and Open Space) and codes, specifically 16.32 for Sensitive Habitat Protection.

As was described in Section 2.1 of this HCP, Ponderosa Pines and Coast Live Oaks currently grow at the project site and a total of 10 pines will be removed to accommodate the proposed new and relocated single-family homes. The majority of Ponderosa Pines and both Coast Live Oaks will be protected by temporary construction fencing throughout the grading and construction periods and maintained as part of future landscaping for the new homes. The proposed project will mitigate for the anticipated impacts to these trees as described in Section 7.2 of this HCP.

4.0 BIOLOGY

This chapter describes the existing biotic resource conditions at the Twin Pines Drive project site. In addition, it discusses the one species addressed in this HCP, namely the MHJB (hereafter referred to as the covered species), which would be covered by the requested section 10(a) (1) (B) permit. The MHJB is federally-listed as endangered. Based on historical and recent observations, the MHJB is expected to occur at the project site and will be directly or indirectly affected by the planned residential development. This section summarizes available information about the taxonomy, identification, distribution, habitat, biology, and conservation of the covered species.

4.1 HABITATS

Originally this property supported a Ponderosa Pine forest, but a single-family home was built there about 50 years ago. Other than two Coast Live Oak and 22 Ponderosa Pine trees, virtually all other vegetation at the property consists of non-native plants used for landscaping. Table 1 lists the acreage for each habitat type, including existing, impacted, and protected acreages.

Table 1. Habitat types of the Twin Pines Drive project site and estimated acreages for existing, impacted, and maintained trees areas for each habitat type.		
Habitat Types	Habitat Acreages	
	Existing	Impacted
Degraded Ponderosa Pine Forest	0.666	0.666
Developed	0.333	0.204
Project Site Totals	0.999	0.870

4.2 COVERED SPECIES: MOUNT HERMON JUNE BEETLE

The species addressed in this HCP and covered by its associated section 10(a)(1)(B) permit (hereinafter referred to as the “covered species”) includes one federally-listed species, the MHJB. This endangered species is assumed to occur at the Twin Pines Drive project site due to its known occurrence at several nearby properties in the surrounding neighborhood. It will be directly or indirectly affected by the proposed residential development project. A brief discussion of the biology of this species and its occurrence at the project site follows.

4.2.1 Conservation Status

The MHJB is a federally-listed endangered species. Throughout most of its range, the primary threats to the beetle are sand mining and urbanization. In a few instances, other types of land uses, such as agricultural conversion, recreation activities, plus pesticide use, alteration of fire cycles, and possibly even collectors, have also threatened the beetle. For these reasons, the beetle was recognized as an endangered species by the USFWS (1997) in 1997 and a recovery plan was published by the USFWS (1998) in 1998. Critical habitat has not yet been proposed by the USFWS for the MHJB.

The State of California does not recognize insects as endangered or threatened species pursuant to the State’s Fish & Game Code. However, the MHJB does receive consideration

under the California Environmental Quality Act (CEQA) since it satisfies the definition of a rare species under this statute.

4.2.2 Description and Taxonomy

The MHJB is a member of the family Scarabaeidae (Insecta: Coleoptera). Adult males measure about 0.75 inch in length and females are slightly longer. The adult male has a black head and dark brown elytra (leathery forewings) that are covered with brown hairs. The elytra also have stripes that are broken and irregular rather than continuous and well-defined as in related species of June beetles. Larvae are grub-shaped (scarabaeiform) and vary in color from cream to pale yellow for the body segments and darker brown for the head.

Cazier (1938) described the beetle from specimens collected at Mount Hermon, Santa Cruz County, California. The genus *Polyphylla*, which contains 28 species, was recently revised by Young (1988). Although the scientific name *Polyphylla barbata* has been used since its original description, the beetle has commonly been referred to as the Mount Hermon June beetle or the Barbate June beetle.

4.2.3 Distribution and Habitats

Of the 28 North American species of *Polyphylla*, 20 have restricted ranges, with 15 being endemic to isolated sand deposits (Young 1988). The MHJB is restricted to the Zayante sandy soils that are found in the Scotts Valley-Mount Hermon-Felton-Ben Lomond-Santa Cruz area of the Santa Cruz Mountains. Historically, MHJB localities were referred to as sandhills (Cazier 1938; Young 1988), but more recently this area has been called the Zayante Sandhills (USFWS 1998). Arnold (2004) reviewed museum specimens and other reported records for the beetle and determined that it had been observed at about 70 locations within this area.

Habitats in the Zayante sandhills where MHJB has been found include Northern Maritime Chaparral, Ponderosa Pine Forest, Sand Parkland (which is a mixture of the aforementioned habitats with a shrub/subshrub and grass/forb understory), and mixed Deciduous-Evergreen Forest. In addition, adults have been found in disturbed sandy areas where remnants of these habitats still occur. Ponderosa Pine occurs at all known MHJB locations and for this reason has been a presumed larval food plant of the beetle. However, recent analyses of partially-digested plant fragments in fecal pellets of MHJB larvae by Kirsten Hill (2005) indicate that larvae feed on other plant species. Even if Ponderosa Pine is not a food plant, it is a useful indicator of suitable habitat for the MHJB.

4.2.4 Natural History

The MHJB is univoltine, i.e., it has only one generation per year. As its common name suggests, adult emergence and seasonal activity normally starts in May or June and continues through about mid-August; although, seasonal activity may vary from year to year depending on weather conditions. Adults are nocturnal, being active between about 8:45 and 9:30 pm. Adult males actively fly low to the ground in search of females, which are flightless. Presumably the female emits a pheromone for the males to find her.

Lifespan data from a brief capture-recapture study suggest that adult males live no longer than one week (Arnold 2004). Dispersal data from the same capture-recapture study indicate

that most adult males are quite sedentary, with home ranges of no more than a few acres. Similar data on lifespan and dispersal of females is lacking at this time since they are so infrequently observed.

Specific life history information for the MHJB is unknown, but can be inferred from related species. Presumably the entire life cycle (egg, larva, pupa, and adult) takes two to three years to complete. The majority of the life cycle is spent as a subterranean larval stage that feeds on plant roots (Furniss and Carolin 1977).

4.2.5 Occurrence at the Project Site and Vicinity

Arnold (2001) conducted a presence-absence survey at a vacant lot on Sugar Pine Road, approximately one-half block from the project site and identified 45 adults of the MHJB there. For this reason, the MHJB is presumed to occur at the Twin Pines Drive project site because it has also been found at several other nearby properties in the surrounding Whispering Pines neighborhood (BUGGY Data Base 2007; California Natural Diversity Data Base 2007).

5.0 IMPACTS AND ENVIRONMENTAL COMPLIANCE

5.1 IMPACT ASSESSMENT

Both temporary and permanent impacts are anticipated to occur due to project-related activities at the project site. The remainder of this section identifies the specific activities that could result in impacts to the MHJB as well as its habitat.

Permanent impacts will primarily be confined to portions of the project site where the new residences, driveways, and other hardscape are constructed. In addition, a 0.204-acre portion of the impact area supports an existing home and garage that will be relocated in another portion of the project site onto a new foundation, as well as other hardscape (i.e., patios, and walkways) that will be demolished. These impacts will occur during relocation of the existing structures as well as grading, excavation, and construction activities for the two new homes. The existing asphalt driveway will be retained to service the relocated home. Because of the degraded site condition and small size of the impact area, incidental take of the MHJB as a result of these activities is expected to be limited, but will occur throughout 0.870 acre of the 0.999-acre project site.

Lesser, temporary impacts to the endangered beetle are expected to occur throughout the 0.870 acre impact area at the project site during construction, during residential occupation of the new homes, and during revegetation and landscaping of the new yards upon completion of the construction activities. Temporary impacts may also occur when fencing to demarcate the maintained trees is installed, repaired, or ultimately removed.

The Scotts Valley Fire District will ultimately determine the fire clearance requirements, if any, for the new properties. According to the Fire District, fire clearance requirements depend on the type of construction materials used to build the structure, the location of the proposed structure within the building envelope, and the presence of sensitive habitat on site. At this time, it is anticipated that no additional fire clearance will be necessary within the impact area; however, it is possible that at a later date the Fire District may require clearing or pruning of vegetation between the new homes and the property boundaries.

To summarize, impacts to the MHJB and its habitat will occur during relocation of the existing home and garage, demolition of existing patios and walkways, and during grading of the site, and during the installation of various improvements to the site associated with the construction of two new single-family residences. These impacts will be restricted to the 0.870-acre portion of the impact area where the new structures and hardscape will be constructed. Additional permanent or temporary impacts may occur in other portions of the project site after construction has been completed. As discussed in greater detail in Section 7.0 of this HCP, these anticipated impacts at the project site will be offset by the purchase of 0.870 acre of MHJB conservation credit in prime sandhills habitat at the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank.

5.2 DIRECT AND INDIRECT EFFECTS

Although, direct and indirect impacts to the MHJB as well as its preferred habitat at the project site is expected to be minimal, incidental take of this endangered species will occur throughout the 0.870 acre impact area of the 0.999 acre project site. As previously discussed in

this HCP, the project site is situated in a region where nearby parcels support stands of suitable habitat and populations of the MHJB. However, immediately surrounding properties have been developed for residential uses, so habitat values have been degraded. The only native vegetation remaining at the project site is Ponderosa Pine and Coast Live Oak trees, but Zayante sands occur throughout the site. Although the loss of degraded habitat at the project site will be permanent, the applicant will mitigate for impacts to the MHJB by the purchase 0.870 conservation credit at the Ben Lomond Sandhills Preserve that is known to support prime habitat for the MHJB.

5.3 CUMULATIVE EFFECTS

Development of the two new homes and relocation of the existing home will result in minor cumulative impacts to the MHJB. Even though as much as 0.870 acre of landscaping and degraded Ponderosa Pine forest habitat may be permanently removed along with small numbers of MHJB, these losses are not expected to negatively affect the range-wide survival of the beetle due to the occurrence and abundance of this species and its habitat at nearby locations, as well as elsewhere throughout its entire geographic range. Indeed, the impacted acreage as well as acreage supporting the maintained trees at both project sites will be compensated through the permanent protection of prime habitat at a conservation bank that is known to support the endangered beetle.

Because the MHJB has been observed inhabiting soils in residential yards that occur in close proximity to the project site (Arnold 2004), it can presumably co-exist in such habitat once soil disturbance has ceased. Thus, some MHJBs may recolonize portions of the project site, such as the yards, in areas where loose, sandy soils remain after all construction activities have been completed.

5.4 EFFECTS ON CRITICAL HABITAT

Critical habitat has not been designated for the MHJB. The project site and the conservation bank are located within the zones of critical habitat (USFWS 2001) for the federally-listed endangered Zayante Band Winged Grasshopper (*Trimerotropis infantilis*). The Zayante band-winged grasshopper was not covered in this HCP because suitable habitat for this species does not exist at the project site (Richard Arnold, pers. obs.).

6.0 TAKE OF THE COVERED SPECIES

Since there are no accurate estimates of the numbers of MHJB that reside at the project site, it is not possible to quantify the exact number of individual animals that could be taken by the removal of its degraded habitat there. In addition, beetle eggs, larvae, pupae, or adults may be taken, injured, or killed during initial grading activities or by construction equipment and vehicles. Similarly, an undetermined number of MHJBs could be injured or killed during relocation of the existing home at the Twin Pines Drive project site. An undetermined, but limited number of life stages of the MHJB may be injured or killed during tree protection and maintenance activities at the project site.

For these reasons, the level of incidental take of the MHJB is expressed as the total number of MHJB that may occur within the affected acreage at the project site. Incidental take of MHJB could result from removal of a total of 0.870 acre of degraded habitat at the project site.

The level of incidental take requested is the total number of MHJB that may occur within the 0.870 acre impact area, which is the entire parcel except for the existing 0.129 acre asphalt driveway that will be retained to service the relocated home. This request covers all activities at the project site that may result in potential take of the MHJB, including the relocation of the existing home and associated site improvements and construction of the two new homes. This incidental take request also includes not only the areas where new structures and other hardscape that would be constructed, but also the maintained tree areas because the applicant cannot guarantee that these trees will remain at the site in perpetuity.

The level of take of the MHJB, as described above, is expected to have negligible effects on the species' overall survival. This is because the actual number of animals incidentally taken will be very low, the percentage of the species' habitat affected relative to the species' entire geographic range is very small, and its relative importance to the species, both regionally and throughout its range, is thought to be minor. For these reasons, the amount of take of the MHJB at the project site is considered negligible.

The maximum levels of take of the MHJB anticipated to occur under this HCP, and hereby requested for authorization are as follows:

any MHJB that may be taken (killed, injured, harmed, harassed or captured) that may be adversely affected as a result of the following activities occurring within the boundaries of the 0.870 acre impact area at the 0.999 acre project site at 587 Twin Pines Drive during the following covered activities:

- a) any activities to relocate the existing home and garage;
- b) demolition of the existing concrete patios, walkways, and other hardscape;
- c) any grading and construction operations including, but not limited to, use of any equipment, vegetation removal, trampling of vegetation, compaction of soils, ground disturbance, grading, installation of drainage and irrigation systems, or

creation of dust;

- d) any permanent loss of habitat as a result of development of infrastructure including, but not limited to buildings, roads, sidewalks, patios, swimming pools, or installation of utilities, drainage and irrigation systems;
- e) any activities to manage or enhance habitat including, but not limited to leveling ground, creating bare ground, planting vegetation, watering vegetation, or removal of exotic plant species;
- f) any activities associated with habitat management and enhancement of the maintained tree areas, including but not limited to removal of exotic plant species, installation and repair of fences or signs, or other activities required in the HCP; and
- g) any activities associated with future occupancy of the new homes, such as night lighting which may be attractive to MHJBs.

These incidental take limits are subject to full implementation of all minimization and mitigation measures described in Section 7.0 of this HCP.

7.0 MINIMIZATION AND MITIGATION MEASURES

The following measures have been incorporated into the proposed project to minimize and mitigate potential incidental take of the MHJB. Successful implementation of these measures conducted prior to, concurrent with, and following subdivision development, will enable the project to achieve its biological goals.

7.1 MINIMIZATION MEASURES DURING CONSTRUCTION

The following minimization measures will be implemented during the relocation, grading, and construction-related activities at the project site.

7.1.1 Construction Monitor

A person knowledgeable about the MHJB and its habitats, and approved by the USFWS, will be present during initial grading and excavation activities (i.e., clearing of vegetation and stripping of the surface soil layer), and during relocation of the existing residence. The monitor will be present on site beginning with the installation of temporary fencing around the protected tree areas prior to clearing of vegetation elsewhere at the project site and relocation of the existing home, and will conduct inspections of the project site on an as-needed basis during the initial grading period to ensure compliance with the minimization measures provided in this HCP. The monitor will also periodically visit the project site throughout the entire construction period to insure that no impacts occur to the protected trees. The monitor shall have authority to immediately stop any activity that does not comply with this HCP, and to order any reasonable measures to avoid the MHJB.

7.1.2 Delineation and Protection During Construction of the Maintained Trees

Prior to the initiation of any demolition, grading or other work at the project site, the permittee, in conjunction with the construction monitor, will install a temporary fence along the boundaries of the maintained tree areas to minimize any disturbance to these portions of the project site by demolition, grading, excavation, or other construction-related activities during construction of the new homes and relocation of the existing home. Warning signs will be posted on the temporary fencing to alert grader and excavator operators, plus other construction workers not to proceed beyond the fence. All protective fencing will remain in place until all construction and other site improvements have been completed. Signs will include the following language:

"NOTICE: SENSITIVE HABITAT AREA. GRADING PROHIBITED."

All equipment operators and field supervisors will attend a pre-construction conference to be conducted by the construction monitor. The purpose of the conference will be to inform all relocation, demolition, grading and construction workers of the presence of endangered species on and adjacent to the project site, conduct a site visit to show participants where project-related activities can and cannot occur, identify appropriate dust control measures, inform operators of appropriate protocol should they encounter the MHJB during demolition, relocation, grading and construction activities, and to advise operators of the penalties they may incur if harm to either endangered species or the protected tree areas occurs.

The construction monitor will routinely inspect the project site and oversee activities on a regular basis during the relocation and grading. Should any violation occur, a "stop work" order will be immediately issued. The Ventura Fish & Wildlife Office of the USFWS will be contacted and the "stop work" order will remain in effect until the issue is resolved.

7.1.3 Construction and Operational Requirements

All project-related parking and equipment storage shall be confined to the impact area, the retained driveway or existing paved roads in the adjacent neighborhood. Project-related vehicle traffic shall be restricted to established roads that service the impact area.

7.1.4 Contractor and Employee Orientation

The construction monitor shall conduct an orientation program for all persons who will work on-site during construction. The program will include a brief presentation from a person knowledgeable about the biology of the MHJB, its habitats, and the terms of the HCP. The purpose of the orientation will be to inform equipment operators and field supervisors of the work limits for relocation and demolition activities, grading limits, and construction activity restrictions, and to identify other habitat protection and work procedures.

If any life stages of the MHJB are observed within the impact area at the project site during construction-related activities, the construction monitor will advise all construction personnel to immediately halt work. The construction monitor will contact the Ventura Field Office of the USFWS for guidance before any work at the project site resumes.

7.1.5 Access to Project Site

The permit holder shall allow representatives from the USFWS access to the project site to monitor compliance with the terms and conditions of this HCP

7.1.6 Vegetation Management of the Maintained Tree Areas

To the extent practical, the permittee intends to maintain selected native trees at the project site and revegetate the understories of the maintained tree areas with plants indigenous to the sandhills. Figure 3 illustrates the maintained trees at the project site. However, because of the uncertainty about future vegetation pruning or clearing activities that may be required by the Scotts Valley Fire District, the permanent protection of these portions of the project site cannot be assured. Also, they are too small and too scattered across the property for a land trust to accept a conservation easement for their protection. Finally, no post-construction monitoring will occur in the maintained tree areas. It is for these reasons that off-site mitigation is being utilized to compensate for all of the anticipated and potential project-related impacts.

7.1.7 Dust Control

Appropriate dust control measures, such as periodically wetting down the graded areas, will be used as necessary during grading of the impact area or other activities that generate dust.

7.2 MITIGATION PLAN

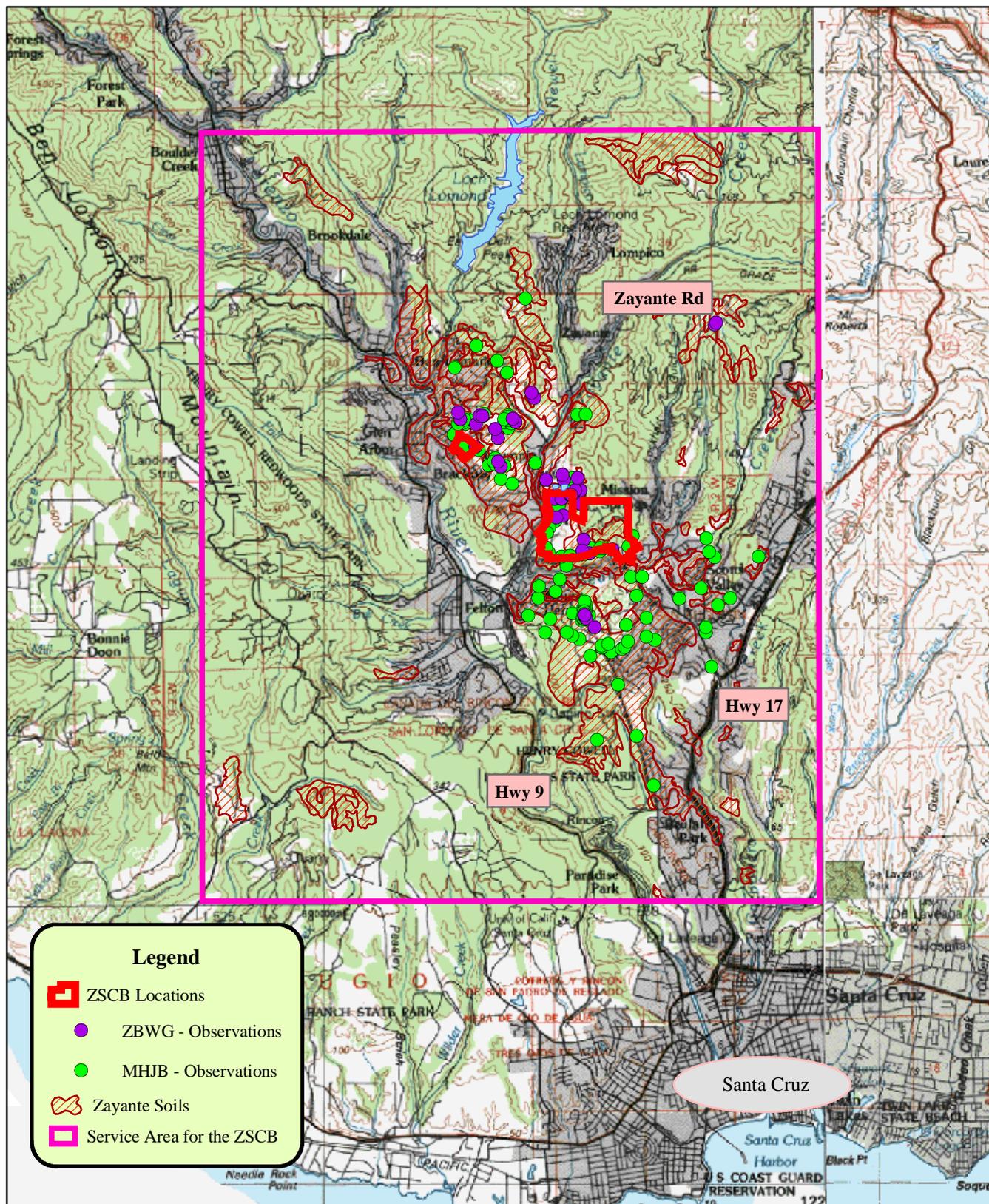
Mr. Busch will compensate for MHJB habitat that will be eliminated or altered due to development of the Twin Pines Drive project by purchasing 0.870 MHJB conservation credit from the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank, a

USFWS-approved MHJB conservation bank. This level of mitigation (i.e., conservation credits) is clearly commensurate with the level of impacts to MHJB habitat at the project site, because the conservation value of the bank habitat is much greater than that at the project site.

Figure 5 is a map that illustrates the location of the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank operated by PCO, LLC and its service area. A copy of the sales agreement between Mr. Busch and PCO, LLC will be attached to this HCP as Appendix A when the credits are purchased prior to permit issuance.

The operator of the conservation bank, PCO, LLC, will be responsible for all species monitoring, habitat management, and other conservation related activities that occur at the Ben Lomond Sandhills Preserve. An annual monitoring report will be prepared for submission to the USFWS and the County of Santa Cruz. The responsibility for preparing the annual monitoring report and the information that will be included in the report are described in Section 8.7.2 of this HCP.

Figure 5. Service Area for the ZSCB:
 Insect Observations, Zayante Soils and ZSCB Bank Preserves
 Palo Alto, San Jose & Monterey (USGS 1:100,000 scale) maps = base map



0 1 2 3 4 Miles



Prepared March 30, 2006
 by Entomological Consulting Services, Ltd.

8.0 PLAN IMPLEMENTATION

8.1 BIOLOGICAL GOALS AND OBJECTIVES

The biological goals and objectives of this HCP include measures that will minimize take of the MHJB at the project site and off-site measures that will protect habitat with high conservation value for the beetle in perpetuity. Specific goals and objectives are as follows:

Goal 1: Minimize, to the extent practical, take of the MHJB within the project site.

Objective 1.1: Minimize removal of plant taxa indigenous to the Zayante Sandhills that grow at the project site.

Objective 1.2: Revegetate temporarily disturbed portions of the project site with plant taxa indigenous to the Zayante Sandhills and minimize landscaping with turf grass, weed matting, aggregate, and mulch.

Objective 1.3: Minimize outdoor night lighting during the flight season of the MHJB or use light bulbs that are certified to not attract nocturnal insects.

Goal 2: Protect habitat for the MHJB at an off-site location with high conservation value for the beetle.

Objective 2.1: Provide funds, through the purchase of conservation credits at the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank, to protect, manage, and monitor habitat of the MHJB in perpetuity.

Objective 2.2: Maintain and, if feasible, increase the distribution of the MHJB with the Ben Lomond Sandhills Preserve.

Objective 2.3: Maintain and increase the abundance of the MHJB at the conservation bank property.

The degraded MHJB habitat on the 0.870 acre that would be impacted by the proposed construction and use of two new residences and relocation of the existing residence at the project site will be compensated by purchasing 0.870 acre of MHJB conservation credits from the USFWS-approved Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank. This action also contributes to a regional preserve design to benefit the MHJB.

8.2 IDENTIFICATION OF PROJECT REPRESENTATIVE

The designated representative is Mr. Larry Busch, 587 Twin Pines Drive, Scotts Valley, CA 95066, (831) 212-8531. Mr. Busch's email address is lb9460@aol.com. The Ventura Fish & Wildlife Office of the USFWS shall be notified in writing if a substitute representative is designated.

8.3 IDENTIFICATION OF CONSTRUCTION AND BIOLOGICAL MONITORS

Subject to approval by the USFWS, William Davilla will be the construction monitor on the project site. Duties of the construction monitor are provided in Section 7.1 of this HCP. He can be contacted at the EcoSystems West Consulting Group, 819 ½ Pacific Avenue, Suite #4, Santa Cruz, CA 95060, phone (831) 429-6730, fax (831) 429-8742, cell phone (831) 818-4502, and via email at davilla@email.msn.com.

The Zayante Sandhills Conservation Bank will be responsible for biological monitoring

of the conservation bank site only. Mr. Paul Burrowes is the Managing Member of the ZSCB and can be contacted at: 24650 Glenwood Drive, Los Gatos, CA 95033, (408) 497-3989 voice and (408) 353-4336 (fax), or by email at paul@zayantesandhills.com

8.4 SCOPE

This HCP covers the Twin Pines Drive project site in the County of Santa Cruz. The project site measures 0.999 acre and is located at 587 Twin Pines Drive in Scotts Valley (mailing address), as described in Section 2.0 of this HCP. The mitigation site is the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank. It is located off of Hihn Road in Ben Lomond. This HCP covers activities only within the Twin Pines Drive project site.

8.5 RESPONSIBILITIES

As specified in the USFWS' (1996) Habitat Conservation Planning Handbook, an Implementing Agreement (IA) is not required for low-effect HCPs unless requested by the permit applicant. Mr. Busch understands that he is responsible for implementing this HCP in accordance with the specifications for mitigation and funding.

Mr. Busch will satisfy his mitigation responsibilities by the purchase of 0.870 acre of MHJB conservation credits from PCO,LLC, operator of the Zayante Sandhills Conservation Bank. The mitigation site is the Ben Lomond Sandhills Preserve of the aforementioned bank.

Habitat at the Ben Lomond Sandhills Preserve is protected in perpetuity via a conservation easement held by the Center for Natural Lands Management. PCO, LLC is responsible for annual monitoring and reporting, as described herein, and in the management agreement for the bank site and has already committed to completing the obligations assigned to it within this HCP. Mr. Busch's responsibilities for the mitigation will be completed upon the purchase of the conservation credits. A copy of the completed sales agreement will be in Appendix B once the conservation credits are purchased prior to permit issuance. However, Mr. Busch will still be responsible for ensuring that all minimization measures are completed, reports are submitted on time, as well as any other terms and conditions that may be included in the incidental take permit.

8.6 PLAN DURATION

Mr. Busch seeks a five-year permit from the USFWS to cover those activities that may result in incidental take of MHJB at the Twin Pines Drive project site. The five-year period is necessary to allow adequate time for construction of the two new residences and relocation of the existing residence. Because MHJB conservation credits will have been purchased from PCO, LLC, the operator of the conservation bank will assume all responsibilities for implementation of the required mitigation described in this HCP. In the event that all the covered development activities described in this HCP are completed prior to the term of the permit, it will expire once Mr. Busch has fulfilled all of his responsibilities.

8.7 REPORTING

8.7.1 Post-Construction Compliance Report

A post-construction compliance report prepared by the construction monitor shall be

forwarded to the Ventura Office of the USFWS and the County of Santa Cruz (Planning Department) within 60 calendar days of the completion of construction. This report shall provide the following information:

- 1) dates that construction occurred;
- 2) pertinent information concerning the permittee's success in meeting the project's minimization measures;
- 3) an explanation of failure to meet such measures, if any;
- 4) known project effects on federally-listed species, if any;
- 5) occurrences of incidental take of federally listed species, if any; and
- 6) other pertinent information.

8.7.2 Annual Mitigation Monitoring Reports

PCO, LLC must submit an annual monitoring report to the Ventura Fish and Wildlife Office of the USFWS, describing activities performed to benefit the MHJB as part of its agreement to sell conservation credits and operate a conservation bank. Thus, mitigation monitoring reports will be prepared annually by the biological monitor, PCO, LLC. This report shall be submitted to the Ventura Fish and Wildlife Office of the USFWS by December 31st of the monitoring year. This report shall include:

- 1) a general assessment of the condition of the habitat at the Ben Lomond Sandhills Preserve;
- 2) a description of all management actions taken on the Preserve along with an assessment of their effectiveness toward enhancing the biological goals and objectives;
- 3) a description of any problems encountered in managing the Preserve;
- 4) results of monitoring studies for the endangered species and/or communities conducted during the year and an assessment of their implications for the biological goals and objectives; and
- 5) a description of other activities designed to enhance the Preserve.

8.8 FUNDING

Mr. Busch is responsible for the full cost of the 0.870 MHJB conservation credit as well as the minimization measures described in Section 7.1 and Table 2, and potential changed circumstances described in Section 9.1 of this HCP. A copy of the sales agreement for the purchase of the 0.870 MHJB conservation credit will be attached as Appendix A upon purchase of the credits prior to permit issuance. PCO, LLC has already assumed responsibility for funding of annual maintenance of the Ben Lomond Sandhills Preserve and the fulfillment of all monitoring and reporting activities associated with the Zayante Sandhills Conservation Bank.

**Table 2. Costs of Minimization and Mitigation Measures
for the Twin Pines Drive Project**

Mitigation and Minimization Activities	Unit Cost	Total Cost
Mitigation Activities:		
Purchase 0.870 MHJB conservation credits	\$7.00/ft. ² /credit	\$265,279 ^a
Minimization Activities:		
Biological Monitor	50 hrs. @ \$100/hr.	\$5,000
Protective Fencing & Signs	1,000 ft. @ \$1.00/ft.	\$1,000
Dust Control Measures	100 applications @ \$5.00/application	\$500
	Grand Total Cost	\$271,779

Note: ^a – an as yet to be determined administration fee may be charged

9.0 CHANGED AND UNFORESEEN CIRCUMSTANCES

Federal regulations pursuant to section 10(a)(1)(B) of the ESA [50 CFR 17.22 (b) and 17.32] require that an HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. In addition, the Habitat Conservation Plan Assurances (No Surprises) Rule [50 CFR 17.3, 17.22 (b)(5) and 17.32 (b)(5)(6); 69 Federal Register 71723, December 10, 2004] defines changed and unforeseen circumstances and describes the obligations of the permittee and the USFWS. The purpose of the No Surprises Rule is to provide assurances to non-Federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

9.1 CHANGED CIRCUMSTANCES

Changed circumstances are defined as changes in circumstances affecting a species or geographic area covered by an HCP that can reasonably be anticipated by plan developers and the USFWS and for which contingency plans can be prepared (e.g., the new listing of a species, a fire, or other natural catastrophic event in areas prone to such an event). If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program (e.g., the conservation management activities or mitigation measures expressly agreed to in the HCP or IA), then the permittee will implement those measures as specified in the plan as may be reasonable. However, if additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the plan's operating conservation program, the USFWS will not require these additional measures as far as the HCP has been "properly implemented" (properly implemented means the commitments and the provisions of the HCP and the IA have been or are being reasonably implemented).

If a new species that is not covered by the HCP but that may be affected by activities covered by the HCP is listed under the Federal ESA during the term of the section 10(a)(1)(B) permit, the permit may be reevaluated by the USFWS and the HCP covered activities may be modified, as necessary, to insure that the activities covered under the HCP are not likely to jeopardize or result in take of the newly listed species or adverse modification of any newly designated critical habitat. The permittee shall implement the modifications to the HCP covered activities identified by the USFWS as necessary to avoid the likelihood of jeopardy to or take of the newly listed species or adverse modification of newly designated critical habitat. The permittee shall continue to implement the modifications until such time as the permittee has applied for and the USFWS has approved an amendment of the section 10 (a)(1)(B) permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species or until the USFWS notifies the permittee in writing that the modifications to the HCP covered activities are no longer required to avoid the likelihood of jeopardy to or take of the newly listed species or adverse modification of newly designated critical habitat. If the USFWS, in consultation with the permittee, determines that the project-related activities cannot be modified to avoid jeopardy to or take of a species not covered under the HCP, then the permittee shall cease any activities that may result in jeopardy to or take of any species not covered under

the HCP until a permit amendment has been issued.

As to other potential changed circumstances, Mr. Busch has applied for a permit for incidental take of the MHJB throughout the entire 0.870 acre impact area of the Twin Pines Drive project site. Therefore, Mr. Busch does not anticipate that any additional changed circumstances will occur during the life of the permit on either project site that will result in unanticipated levels of take of the covered species. Additional changed circumstances; e.g., wildfire, erosion, extended drought, earthquake or other natural disaster, may occur at the off-site conservation bank. However, the short duration of the permit (i.e., five years) lessens the likelihood that one of these phenomena may cause substantial changes to the off-site conservation bank during the permit period. Furthermore, some types of changed circumstances, for example a wildfire, may actually enhance habitat values in the long term because Ponderosa Pine is adapted to, and regenerate well after such fires. Winter storms or earthquakes could cause landslide or erosion problems in habitat areas that would require subsequent repairs, such as slope stabilization, repair of fencing, and revegetation. A portion of the fees paid by Mr. Busch to PCO, LLC for the MHJB conservation credits include contingency funds to cover the costs of unexpected repairs or habitat restoration that may be required as a result of any natural disasters occurring at the off-site conservation bank.

9.2 UNFORESEEN CIRCUMSTANCES

Unforeseen circumstances are defined as changes in circumstances that affect a species or geographic area covered by the HCP that could not reasonably be anticipated by plan developers and the USFWS at the time of the plan's negotiation and development and that result in a substantial and adverse change in status of the covered species. The purpose of the No Surprises Rule is to provide assurances to non-Federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

In the case of an unforeseen event, Mr. Busch or the current permit holder shall immediately notify the USFWS staff, who have functioned as the principal contacts for the proposed action. In determining whether such an event constitutes an unforeseen circumstance, the USFWS shall consider, but not be limited to, the following factors: size of the current range of the affected species; percentage of range adversely affected by the HCP; percentage of range conserved by the HCP; ecological significance of that portion of the range affected by the HCP; level of knowledge about the affected species and the degree of specificity of the species' conservation program under the HCP; and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

If the USFWS determines that the unforeseen circumstance will affect the outcome of the HCP, additional conservation and mitigation measures may be necessary. Where the HCP is being properly implemented and an unforeseen circumstance has occurred, the additional measures required of the permittee must be as close as possible to the terms of the original HCP and must be limited to modifications within any conserved habitat area or to adjustments within lands or waters that are already set aside in the HCP's operating conservation program.

Additional conservation and mitigation measures shall not involve the commitment of additional land or financial compensation or restrictions on the use of land or other natural resources otherwise available for development or use under the original terms of the HCP without the consent of the permittee. Resolution of the situation shall be documented by letters between the USFWS, Mr. Busch, and the conservation bank operator.

Thus, in the event that unforeseen circumstances adversely affecting the MHJB occur during the term of the requested incidental take permit, Mr. Busch would not be required to provide additional financial mitigation or implement additional land use restrictions above those measures specified in the HCP, provided that the HCP is being properly implemented. This HCP expressly incorporates by reference the permit assurances set forth in the Habitat Conservation Plan Assurances ("No Surprises") Rule revised by the USFWS and published in the Federal Register on December 10, 2004 (50 CFR Part 17).

10.0 PERMIT AMENDMENT/RENEWAL PROCESS

10.1 AMENDMENTS TO THE PERMIT

At this time there is no reason to expect that an amendment to the take permit will be needed to complete the development of Twin Pines Drive project site. However, during the specified permit period, amendment of the section 10(a)(1)(B) permit for Mr. Busch's project would be required for any of the following changes:

- a) significant revision of the permit area boundary;
- b) the listing under the ESA of a new species not currently addressed in this HCP that may be taken by project activities;
- c) modification of any important project action or mitigation component under the HCP, including funding, that may significantly affect authorized take levels, effects of the project, or the nature or scope of the mitigation program; or
- d) any other modification of the project likely to result in significant adverse effects to the MHJB not addressed in the original HCP and permit application.

Amendment of the section 10(a)(1)(B) permit would be treated in the same manner as an original permit application. Permit amendments typically require a revised HCP, a permit application form and application fee, a revised Implementing Agreement, a revised NEPA document, and a 30-day public comment period. However, the specific documentation needed in support of a permit amendment may vary, depending on the nature of the amendment. If the permit amendment qualifies as a low-effect HCP, an Implementing Agreement would not be needed and amendment of the permit would qualify for a categorical exclusion under NEPA .

10.2 AMENDMENTS TO THE HCP

This HCP may, under certain circumstances, be amended without amending its associated permit, provided that such amendments are of a minor or technical nature and that the effect on the species involved and the levels of take resulting from the amendment are not significantly different from those described in the original HCP. Examples of minor amendments to the HCP for Mr. Busch's Twin Pines Drive project that would not require permit amendment include:

- a) minor revisions to monitoring or reporting protocols;
- b) minor revisions of the HCP's plan area or boundaries;
- c) minor revisions in project design and construction procedures; and
- d) typographical errors.

To amend the HCP without amending the permit, the permittee must submit to the USFWS in writing a description of the proposed amendment, an explanation of why the amendment is necessary or desirable, and an explanation of why the effects of the proposed amendment are believed not to be significantly different from those described in the original HCP. If the USFWS concurs with the amendment proposal, it shall authorize the HCP amendment in writing, and the amendment shall be considered effective upon the date of the USFWS's written authorization.

10.3 PERMIT RENEWAL

Upon expiration, the section 10(a)(1)(B) permit may be renewed without the issuance of a new permit, provided that the permit is renewable, and that biological circumstances and other

pertinent factors affecting MHJB are not significantly different than those described in the original HCP. To renew the permit, Mr. Busch shall submit in writing to the USFWS at least 30 days prior to expiration of this permit:

- a request to renew the permit;
- reference to the original permit number;
- an application to renew the permit and the associated \$100 fee;
- certification that all statements and information provided in the original HCP and permit application, together with any approved HCP amendments, are still true and correct, and inclusion of a list of changes;
- a description of any take that has occurred under the existing permit; and
- a description of any portions of the project still to be completed, if applicable, or what activities under the original permit the renewal is intended to cover.

If the USFWS concurs with the information provided in the request, it shall renew the permit consistent with permit renewal procedures required by Federal regulation (50 CFR 13.22). If Mr. Busch files a renewal request and the request is on file with the issuing USFWS office at least 30 days prior to the permit's expiration, the permit shall remain valid while the renewal is being processed, provided the existing permit is renewable. However, Mr. Busch may not take listed species beyond the quantity authorized by the original permit. If Mr. Busch fails to file a renewal request within 30 days prior to permit expiration, the permit shall become invalid upon expiration. Mr. Busch and the conservation bank operator must have complied with all annual reporting requirements to qualify for a permit renewal.

10.4 PERMIT TRANSFER

Although the sale or transfer of ownership of the property is not expected to occur during the life of the permit, should it occur, the following will be submitted to the USFWS by the new owner(s); a new permit application, permit fee, written documentation providing assurances pursuant to 50 CFR 13.25(b)(2) that the new owner(s) will provide sufficient funding for the HCP and will implement the relevant terms and conditions of the permit, including any outstanding minimization and mitigation. The new owner(s) will commit to all requirements regarding the take authorization and mitigation obligations of this HCP unless otherwise specified in writing and agreed to in advance with the USFWS.

11.0 ALTERNATIVES CONSIDERED

11.1 ALTERNATIVE #1: NO-ACTION

Under the No-Action Alternative, relocation of the existing single-family residence and development of two new homes at 587 Twin Pines Drive would not occur and Mr. Busch would not implement an HCP or receive a section 10(a)(1)(B) incidental take permit from the USFWS. The existing single-family home would remain at the project site but no additional homes would be built.

However, potential impacts to the covered species may be greater in the absence of this HCP. Currently, habitat conditions at the project site are degraded due to the presence and abundance of various non-native plants. Without the HCP, habitat quality would probably continue to decline and no prime habitat at the conservation bank would be acquired to benefit the covered species. Therefore, the No-Action Alternative is concluded to be of lesser conservation value to the covered species than the proposed project and accompanying HCP. It would also result in unnecessary economic burden on the applicant. For these reasons, the No-Action Alternative has been rejected.

11.2 ALTERNATIVE #2: REDESIGNED PROJECT (REDUCED TAKE)

Under this alternative, the development footprint of the proposed new homes would be reduced at the newly subdivided lots, thereby reducing the loss of potential habitat for the MHJB. Although a section 10(a)(1)(B) permit would still be required, biological impacts, including loss of MHJB habitat, associated with this alternative would still result, but would be reduced in magnitude. A reduction in the proposed residential developments would not significantly improve onsite habitat conditions for the MHJB. Also, incidental take of MHJB could still occur during initial grading activities. As the project site is situated in a developed residential neighborhood and comprises only 0.999 acre, relocation of the new homes and other amenities is not practical. Thus, the gains in reduction of take of the covered species and reduced modification of the covered species habitat would not be significant; furthermore this alternative would also result in unnecessary economic burdens to the applicant. For these reasons, the Reduced Take Alternative has been rejected.

12.0 HABITAT CONSERVATION PLAN PREPARERS

Dr. Richard A. Arnold prepared this HCP. Dr. Arnold is an entomologist and the President of Entomological Consulting Services, Ltd., of Pleasant Hill, CA. Paul Burrowes is the Managing Member of PCO, LLC, provided the cost information for the purchase of conservation credits from the Zayante Sandhills Conservation Bank. Ifland Engineers, Inc. provided the existing site plan (Figure 3) and proposed site plan (Figure 4).

13.0 REFERENCES CITED

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**14.0 APPENDIX A: Conservation Credit Sales Receipt from the
Zayante Sandhills Conservation Bank**