

**Low Effect Habitat Conservation Plan for  
the Morro Shoulderband Snail  
at the Bahia Vista Estates Site  
(APN 074-052-049)  
in Los Osos, California**

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# Executive Summary

## Executive Summary

Barkwood Development, LLC has applied for a permit pursuant to Section 10(a)(1)(B) of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884) (ESA), as amended, from the U.S. Fish and Wildlife Service (Service) for the incidental take of the endangered Morro shoulderband snail (*Helminthoglypta walkeriana*). The potential taking would occur incidental to the phased redevelopment of a 5.5-acre residential parcel located in the west-central region of the unincorporated town of Los Osos (western San Luis Obispo County, California). This residential redevelopment project is known as Bahia Vista Estates.

The proposed development or impact area of the project encompasses the entire 5.5-acre parcel, which has been substantially altered by past residential use and does not support any areas of native habitat for the Morro shoulderband snail (MSS). Despite the absence of suitable native habitat, the presence of the endangered invertebrate was established on the site during a presence/absence survey conducted in 2005. Consequently, redevelopment of the parcel will result in the taking of MSS sheltering on the site.

As a result of the anticipated taking of MSS, Barkwood Development, LLC has applied for a Section 10(a)(1)(B) incidental take permit (ITP) and proposes to implement this Low Effect Habitat Conservation Plan (HCP), which provides measures for minimizing and mitigating the take of a low number of MSS. Barkwood Development, LLC requests that the Section 10(a)(1)(B) permit be issued for a period of twenty (20) years. This term may be extended by the agreement of the participating jurisdictions and the Service.

This HCP summarizes the Bahia Vista Estates project and identifies the responsibilities of the Service, Barkwood Development, LLC, and their successors and assigns. Also described in this HCP are measures that will be implemented by Barkwood Development, LLC to minimize impacts resulting from site preparation and construction, and to mitigate for the unavoidable take of the MSS that will result from the project. These measures include:

- a) conduct thorough surveys of all potential sheltering areas (landscape vegetation, bricks, boulders, etc.) on the site for MSS prior to and during site preparation (building demolition, site grubbing and grading) and construction, and relocate any MSS found during the surveys to suitable native habitat within the Sweet Springs Nature Preserve in Los Osos, California;
- b) undertake various MSS take minimization measures prior to the initiation of site preparation activities and during construction phases;



- c) mitigate the unavoidable take of MSS by providing funding for scientific population studies on conserved parcels within the known range of the species. The results of the studies will provide MSS population estimates and natural history information for the conserved parcels that will assist in the achievement of Service recovery tasks for the species.

Funding of the mitigation component described in this HCP will be through payment by Barkwood Development, LLC into an Impact Directed Environmental Account (IDEA) with the National Fish and Wildlife Foundation (NFWF) which will serve as the source of funding for MSS recovery activities on off-site conserved land. Funding for the take minimization and compliance monitoring component will be guaranteed by a Letter of Credit.

# Section 1

## Introduction and Background

### Overview and Background

This Low Effect Habitat Conservation Plan (HCP) has been prepared pursuant to the requirements of Section 10(a) of the Federal Endangered Species Act (ESA) of 1973, as amended, for the proposed redevelopment of a 5.5-acre (239,580 square feet) parcel (APN 074-052-049) located in the unincorporated community of Los Osos, in western San Luis Obispo County, California (Figure 1). The HCP is intended to provide the basis for issuance of a Section 10(a)(1)(B) incidental take permit (ITP) to Barkwood Development, LLC to authorize incidental take of the federally listed endangered Morro shoulderband snail (*Helminthoglypta walkeriana*) (MSS).

The Bahia Vista Estates project is a residential renewal project on a developed Residential Single Family (RSF) zoned parcel located in the west-central region of Los Osos. The site was originally developed for residential use more than fifty years ago and most of the original residential structures, including twelve small to medium-sized residences, a trailer, and seven outbuildings, remain on the site. The Bahia Vista Estates project entails subdivision of the site into 26 residential lots, demolition and removal of the existing structures, grubbing and re-grading of the site, installation of site infrastructure, and the phased construction of up to 26 new homes.

The presence of the federally endangered MSS was established on the Bahia Vista Estates site during a United States Fish and Wildlife Service (Service) protocol survey conducted in November-December 2005 (Attachment A). Survey results indicated that MSS were present in low abundance on the site despite its highly disturbed condition and the absence of native habitat. Suitable native MSS habitat (also disturbed) is present on the adjacent undeveloped parcel (Tract 1643) to the east and it is assumed that MSS periodically migrate onto the project site from Tract 1643 and opportunistically use non-native plants and landscaping features (boulders, bricks, etc.) for shelter. Due to their presence on the project site, project implementation will result in the incidental take of the MSS.

Through this Low Effect HCP, the applicant, Barkwood Development, LLC, addresses any incidental take of the MSS that will result from proposed residential renewal activities through a strategy of take minimization and mitigation. In addition to detailing measures intended to minimize the take of the species, this HCP advances a recovery-based mitigation approach, meaning that the HCP applicant will mitigate take of the MSS by effecting recovery activities as identified in the *Recovery Plan for the Morro Shoulderband Snail and Four Plants from*

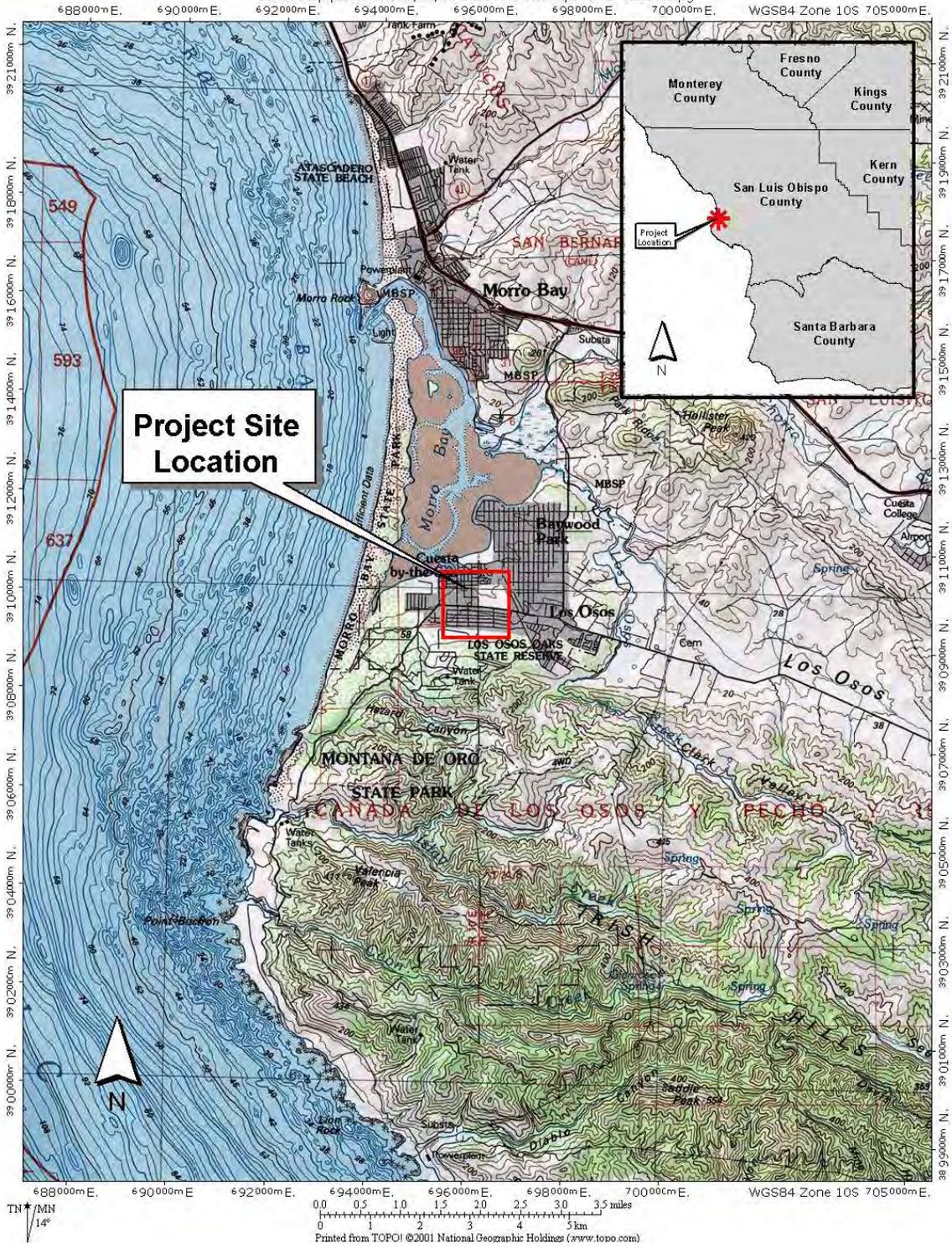


Figure 1. Regional view of project location.

*Western San Luis Obispo County, California* (Recovery Plan) on conserved lands within the range of the MSS. The activities funded through this HCP will provide data to address specific recovery tasks for the species (Morro shoulderband snail).

## Permit Holder/Permit Duration

Initially, Barkwood Development, LLC (the applicant and developer) will be the Section 10(a)(1)(B) permit holder (i.e., permittee). Mr. Richard Friedman, principal of Barkwood Development, LLC is the contact person for this HCP and will be responsible for communications with the Service and for overseeing compliance with the permit. He may be contacted at P.O. Box 775026, Steamboat Springs, CO 80477; telephone 970.875.0999 and e-mail [rfriedman@chadwick-usa.com](mailto:rfriedman@chadwick-usa.com). Additional or other contact persons shall be reported to the Service as necessary.

The desired period of the permit is twenty (20) years, which should allow for the completion of the phased (Phase I and Phase II) redevelopment of the site. Phase I includes demolition of existing structures, site grading and grubbing, and the construction of ten houses. It is anticipated that completion of Phase I will take two years. Phase II of the Bahia Vista Estates project is conditioned on the existence of a community wastewater treatment system. The extended duration of the requested 10(a)(1)(B) incidental take permit is due to uncertainty regarding the completion of the community wastewater system in Los Osos.

Upon completion of construction activities in connection with Phase II of the project and sale of the new homes, the developer will be removed from the permit. The permit will then be transferred to the Bahia Vista Estates Homeowner's Association (HOA). The HOA must be able and willing to assume the responsibilities associated with the permit (i.e., the minimization/mitigation strategy and the terms and conditions of the permit) to receive the assurances of the permit. To ensure that Barkwood Development, LLC informs the HOA of its rights and responsibilities, the Section 10(a)(1)(B) incidental take permit will commit Barkwood Development, LLC to notify the Service of any transfer of ownership of any parcel(s) subject to the permit before the transfer is finalized. The Service should attempt to contact the HOA to explain the prior permit and determine whether the HOA would like to continue the original permit or enter into a new permit. In addition, Barkwood Development, LLC will ensure the HOA understands the obligations associated with permit transfer. The Service will provide any technical assistance necessary to ensure that all parties understand their rights and responsibilities. If, however, the HOA does not agree to the terms and conditions of the original permit, Barkwood Development, LLC must work with the Service to determine whether, and under what circumstances, the permit can be terminated. In order to terminate the permit, the Service must determine if the minimization and mitigation measures that were conducted up to that point were commensurate with the amount of incidental take that occurred during the term of the permit. If the incidental take occurred during the initial stages of implementing the permit, but the minimization and mitigation measures occur throughout the term of the permit, the Service shall require that the remainder of the minimization and mitigation measures be implemented before the permit is terminated. In this fashion, the Service will be able to ensure that there is adequate and sufficient minimization and mitigation for the incidental take that occurred during the term of the permit.

If the Bahia Vista property is sold prior to completion of the developer's construction activities, Barkwood Development, LLC shall comply with the requirements specified in 50 CFR Section 13.25 (64 FR 32711, June 17, 1999, as amended 64 FR 52676, Sept. 30, 1999 ) regarding permit transfer. The new owner shall submit a new permit application along with an Assumption Agreement to the Service. Transfer of the permit shall be governed by the Service's regulations in force at the time.

## Permit Boundary/Covered Lands

The Bahia Vista Estates HCP boundary encompasses the entire 5.5-acre parcel (APN 074-052-049) (Figure 2). The property is located within Section 13 of Township 30S, Range 10E, of the Morro Bay South, Calif. quadrangle (USGS 7.5 minute) (Figure 3). A legal description of the land is included (Attachment B) to avoid any possible future uncertainty as to the designated area that the permittee is responsible for under the HCP. The plan area is not located within any of the four Conservation Planning Areas specified in the Recovery Plan (USFWS, 1998) or within the three Critical Habitat Units designated for the species pursuant to FR 66:9233 (USFWS, 2001).



Figure 2. Aerial view of the Bahia Vista Estates Habitat Conservation Plan area (red outline).

## Species to be Covered by Permit

The following species are referred to as "covered species" related to the Incidental Take Permit if it is issued.

Covered Species	Federal Status/State Status
Morro shoulderband snail ( <i>Helminthoglypta walkeriana</i> )	Endangered/None

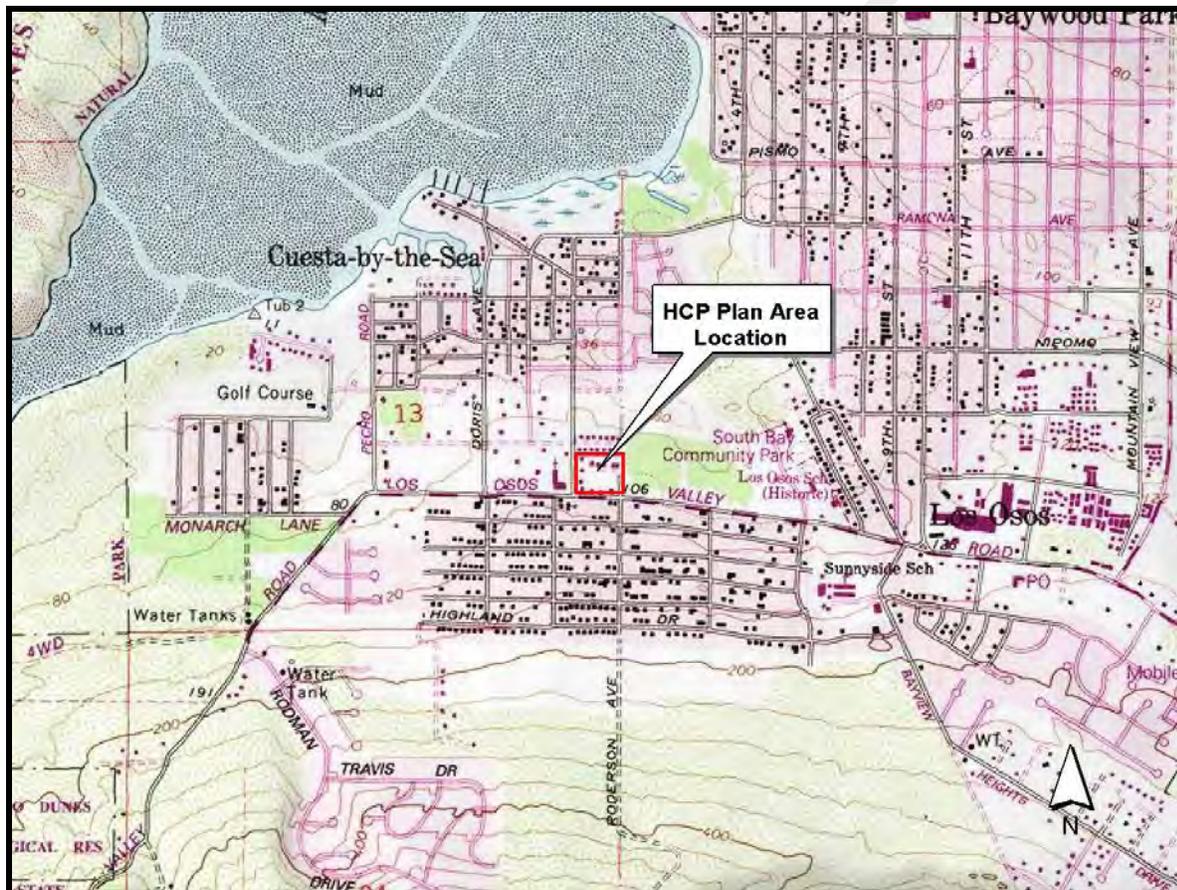


Figure 3. Topographic view showing the location of the Bahia Vista Estates Habitat Conservation Plan Area (outlined in red) within the community of Los Osos.

## Regulatory Framework

### Federal Endangered Species Act

The Endangered Species Act of 1973, 16 United States Code (U.S.C.) §1531 et seq., provides for the conservation and protection of fish, wildlife, and plant species that have been listed as threatened or endangered and the ecosystems upon which they depend. Section 9 of the ESA and federal regulation 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 Service 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 Service 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 Service 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 an HCP. The regulatory standard under Section 10 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 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 Service is a federal action subject to Section 7 of the ESA. As a federal agency issuing a discretionary permit, the Service is required to consult with itself (i.e., conduct an internal consultation). Delivery of the HCP and a Section 10 permit application initiates the Section 7 consultation process within the Service.

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 an HCP to meet the requirements of Section 7 and to assist the Service with its internal consultation.

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## The Section 10 Process - Habitat Conservation Plan Requirements and Guidelines

The Section 10 process for obtaining an incidental take permit consists of 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, with technical assistance from the Service, prepares a plan (HCP) that integrates the proposed project with the species' protection needs. The HCP must provide the following information as required by the Endangered Species Act [Section 10(a)(2)(A)] and Federal regulations [50 CFR 17.22(b)(1), 17.32(b)(1), and 222.22]:

- 1) the impact likely to result from the proposed taking of the MSS;
- 2) measures taken to monitor, minimize, and mitigate such impacts;
- 3) information on available funding to undertake such measures;
- 4) procedures to deal with unforeseen circumstances;
- 5) alternative actions considered that would not result in take and the reasons such alternatives are not being utilized;
- 6) additional measures the Service may require as necessary or appropriate for purposes of the Habitat Conservation Plan.

The Service has established a special category of HCP, called a Low Effect HCP, for projects with relatively minor or negligible impacts. Low Effect HCPs are projects that involve: "(1) minor or negligible effects on federally listed, proposed, or candidate species and their habitats covered under the HCP; and (2) minor or negligible effects on other environmental values or resources." 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 by 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 mitigation plan. Low Effect projects are categorically excluded from the National Environmental Policy Act of 1969 (NEPA) because the incidental take permit issued involves no individual or cumulative significant effects on the environment.

The HCP permit application processing phase begins when the complete application package from the applicant (including the HCP, application form, and \$100 fee) has been submitted to the appropriate permit-issuing office. Additionally, the Service must publish a Notice of Receipt of Permit Application in the Federal Register, conduct a formal Section 7 consultation, prepare a Set of Findings as to whether the HCP meets ESA statutory issuance criteria, and prepare an Environmental Action Memorandum, a document that serves as the Service's record of compliance with NEPA. An implementing agreement is not required for a Low Effect HCP. Upon determination by the Service that all requirements for permit issuance have been met, a Section 10 incidental take permit is granted to the applicant. Statutory criteria for issuance of a permit include the following:

- the taking will be incidental;
- the impacts of incidental take will be minimized and mitigated to the maximum extent practical;
- 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 the Service requires as necessary or appropriate;
- the Service has received assurances, as may be required, that the HCP will be implemented.

The post-issuance phase is the period during which the HCP and its monitoring and funding programs are implemented by the responsible entities. The Service will monitor the permittee's compliance with the conservation program, other terms and conditions of the permit, and the HCP's long-term progress and success.

### **National Environmental Policy Act**

The purpose of the National Environmental Policy Act of 1969, as amended, is two-fold: to ensure that federal agencies analyze and disclose the environmental impacts of their actions (in this case deciding whether to issue an incidental take permit) and to include public participation in the planning and implementation of their actions. The NEPA process facilitates informed decision making by federal agencies regarding the environmental consequences of their actions and ensures that federal actions include measures, as appropriate, to protect, restore, and enhance the environment. NEPA also serves as an analytical tool on direct, indirect, and cumulative impacts of proposed project alternatives to help the Service decide whether to issue an incidental take permit (Section 10(a)(1)(B) permit). NEPA analysis must be completed by the Service for each HCP as part of the incidental take permit application process. HCPs differ in scope and impact so there are several means of satisfying NEPA requirements: 1) through the preparation of an environmental impact statement (EIS) (when there are known significant environmental impacts); 2) through the preparation of an Environmental Assessment (EA) (when there are less than significant environmental impacts, or when the significance of the impacts is unknown); or 3) through a categorical exclusion (allowed for Low Effect HCPs).

The Bahia Vista Estates project meets the criteria for a Low Effect HCP, as defined in the Habitat Conservation Planning Handbook (USFWS, 1996), and it will be implemented through a categorical exclusion under NEPA.

### **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 (RCRC) form to the Service for its review



of the project under the California Environmental Quality Act (CEQA). To complete compliance, the applicants may be required to contract for cultural resource surveys and possible mitigation. A cultural resources document, entitled The Cultural Resource Inventory of the Friedman Property, is included as Attachment C.

## **Other Relevant Laws or Regulations**

### **California Endangered Species Act**

The California Endangered Species Act (CESA) generally parallels the main provisions of the federal ESA and provides for the designation of native species or subspecies of plants, fish, and wildlife as endangered or threatened. CESA Section 2080 prohibits the take of state listed endangered or threatened species but allows for the incidental take of such species as a result of otherwise lawful development projects under Section 2081(b) and (c). The MSS is not listed under CESA therefore a state incidental take permit is not required for the Bahia Vista Estates project.

### **California Environmental Quality Act**

The California Environmental Quality Act is a state statute that is generally analogous to NEPA on the federal level in requiring the completion of an environmental review for projects that may impact environmental resources. CEQA requires public agencies to review the environmental impacts of proposed projects, prepare and review environmental impact reports (EIRs), negative declarations, and mitigated negative declarations, and to consider feasible alternatives and mitigation measures that would substantially reduce significant adverse environmental effects. CEQA applies to a broad range of environmental resources including any state and federally listed wildlife and plant species, as well as sensitive natural communities. Impacts to such species and natural communities must be evaluated under CEQA.

The County of San Luis Obispo (County) is the local (lead) agency responsible for conducting CEQA review and ensuring compliance for projects in the unincorporated community of Los Osos. Therefore, the County will evaluate the Bahia Vista Estates development application for compliance with CEQA. The receipt of a federal incidental take permit for the MSS represents one aspect of a CEQA review, however, potential impacts to other environmental resources will also be reviewed as part of the CEQA compliance process.

### **California Coastal Act of 1976**

A California voter initiative, Proposition 20 (the Coastal Zone Conservation Act), passed in 1972, creating the California Coastal Commission (Commission), and was later made permanent through the passage of the California Coastal Act of 1976. The Commission is a state environmental agency charged with ensuring that all development occurring within California's coastal zone (CZ) is consistent with the provisions of the Coastal Act. Commission jurisdiction within the CZ is broad and applies to both private and public entities, covering virtually all manner of development activities including any division of land, changes in the intensity of use of state waters, and of public access to the waters. The regulatory role of the Commission is facilitated through their review of development projects and the issuance of

Coastal Development Permits, which usually include conditions of approval that, if met, will bring the development into compliance with the Coastal Act. In circumstances where a Local Coastal Program (LCP), prepared by a local agency and certified by the Commission, is in effect, the environmental review and Coastal Development Permit issuance is performed by the local agency. The Commission retains ultimate oversight and responsibility for compliance through an appeal process.

The CZ encompasses waters three miles seaward from the coastline and generally extends inland 1,000 yards from the mean high tide line except in developed urban areas where the boundary is often less than 1,000 yards. In significant estuarine habitat and recreational areas the CZ extends inland to the first major ridge line, or five miles from the mean high tide line. By virtue of its proximity to the Morro Bay Estuary, the community of Los Osos, including the Bahia Vista Estates site, lies within the CZ. One of the primary provisions of the Coastal Act is to preserve, protect, and enhance environmentally sensitive habitat areas (ESHA). Section 30107.5 of the Coastal Act defines an “Environmentally Sensitive Area” as:

*Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.*

The Bahia Vista Estates site does not meet the criteria for designation as ESHA. By virtue of the presence of the MSS, a federally listed endangered species, a rare animal species occupies the site; however, the final criterion, that the site could be easily disturbed or degraded by human activities and developments, is not met since the site is already developed and highly disturbed from decades of residential use. The site also does not support any areas of native habitat.

### **San Luis Obispo County Local Coastal Program**

A Local Coastal Program, prepared by the County of San Luis Obispo and certified by the Commission, is in effect for areas of San Luis Obispo County located within the CZ. The County is therefore the lead agency with regard to Coastal Act compliance and is responsible for reviewing the Bahia Vista Estates project for compliance with their LCP and for issuing a Minor Use/Coastal Development permit for the project.

## Section 2

# Project Description/Activities Covered by Permit

### Project Description

The Bahia Vista Estates project entails the subdivision of the parcel and phased construction of up to 26 new single-family residences. Site preparation activities include: 1) the demolition and removal of the existing structures and infrastructure, 2) the grubbing and grading of the entire site (5.5 acres [239,580 square feet]), 3) the installation of underground utilities, individual septic systems, and a stormwater retention basin, and 4) the construction of streets, sidewalks, and a six-foot perimeter wall/fence. The residential lots will average 6,654 square feet in size and project plans include the construction of a two-story residence with a two-car garage on each lot. Residential structures will range in size from 1,820 to 2,310 square feet. Access to the site will be from an entrance on Pine Avenue located near the northern property boundary.

The project will be completed in two phases, with site infrastructure (for Phase I only), the perimeter wall/fence, and ten homes constructed during Phase I. Site preparation will take an estimated six months to complete and the anticipated completion of residential construction for Phase I will be approximately two years from the initiation of site work. Phase II permitting and site work will be initiated following the completion of the community wastewater treatment system. Completion of residential construction for Phase II will require an estimated 24 months.

### Activities Covered by Permit

The Habitat Conservation Planning and Incidental Take Processing Handbook prepared by the Service requires a description of all activities within the planning area that (1) are likely to result in incidental take; (2) are reasonably certain to occur over the life of the permit; and (3) for which the applicant or land owner has some form of control (USFWS, 1996). The covered activities specified in this HCP are intended to be as comprehensive as practicable and constitute the basis for determining the levels of take that will be authorized to occur over the life of the permit. A comprehensive list of covered activities also maximizes the permittee's long-term planning assurances, broadens legal coverage, and minimizes the possibility that some future activity will not be covered by an issued permit (USFWS, 1996).

This section lists all activities for which incidental take of the MSS will be authorized under the Section 10 permit. Generally, all incidental take of the MSS that occurs during the residential

construction period(s) for the Bahia Vista Estates site is covered under this HCP, provided the provisions (i.e., monitoring and minimization measures) are carried out in accordance with the HCP. It should be noted that the potential for MSS to occur on the site will be greatly reduced following completion of site preparation activities and construction of the six-foot perimeter wall/fence because the structure will function, by design but not intent, as a partial barrier to MSS movement between adjacent habitat on Tract 1643 and the site. Activities that are likely to result in an incidental take over the life of the incidental take permit include the following:

- Removal of boulders from the site
- Demolition and removal of existing structures
- Vegetation removal/grubbing the site
- Ground disturbance activities
- Construction operations
- Fire management/Weed abatement
- Monitoring activities/Relocation of Morro shoulderband snails
- Homeowner activities

#### **Removal of Boulders from the Site**

Includes activities and equipment used to remove the boulders that are currently stored near the southwest property corner and along the eastern boundary of the parcel adjacent to suitable MSS habitat on Tract 1643. Removal of the boulders from the site prior to grubbing and grading should take approximately one day and represents a single event during which direct take is likely to occur.

#### **Demolition and Removal of Existing Structures**

Includes all activities related to the demolition and removal of all existing buildings, trailers, storage containers, and associated structures/objects (fences, stairs, planters, etc.) and debris from the site. Demolition activities will occur during the initial site preparation for Phase I of the project and are likely to result in direct incidental impacts to MSS utilizing the structures/objects as aestivation and sheltering habitat.

#### **Vegetation Removal**

Vegetation on the site is primarily associated with landscaping around existing structures so its removal will be conducted to a great extent in conjunction with the demolition of those structures. Vegetation removal will not impact native habitat for the MSS since none is present on the site, but vegetation removal will result in the elimination of non-native plants and shrubs that offer suitable habitat for and are likely to be occupied by MSS. Covered activities include all vegetation removal during site preparation for Phase I of the project and, if necessary, removal of any vegetation/habitat that reestablishes within the undeveloped Phase II footprint prior to initiation of construction for that phase.

#### **Ground Disturbance Activities**

All ground disturbance activities during site preparation and construction are covered including grubbing and grading (rough and finish) of the entire site, import or export of top soils, cut and

fill operations, compaction of soils, and excavation for the storm water retention basin, septic system, and utility installation. Ground disturbance activities will impact the entire site during Phase I of the project and will largely be confined to the eastern half of the site during construction for Phase II.

### **Construction Operations**

Includes all construction operations related to the construction of residential structures, site infrastructure, roadways, sidewalks, individual lots, the storm water retention basin, and perimeter wall and fence. Covered activities include the movement of stored materials and construction debris that may provide attractive sheltering areas for MSS.

### **Fire Management/Weed Abatement Activities**

Includes vegetation mowing and clearance conducted in compliance with the weed abatement/fire protection measures prescribed by the San Luis Obispo County Fire Department for the Bahia Vista Estates site. Annual fire management/weed abatement will be required for lots within the Phase II footprint prior to the initiation of construction and within all lots post-construction.

### **Monitoring Activities/Relocation of Morro Shoulderband Snails**

Includes all activities associated with the construction monitoring and take minimization efforts on the Bahia Vista Estates site conducted by individuals or organizations authorized under a current Section 10(a)(1)(A) recovery permit issued by the Service. The relocation of snails found within the development footprint is not a covered activity unless the individual relocating the snails is specifically authorized by the Service under a current Section 10(a)(1)(A) recovery permit to relocate MSS. The MSS found during construction monitoring and take minimization efforts associated with this HCP shall be relocated to appropriate native habitat within the Sweet Springs Nature Preserve located at 660 Ramona Drive in Los Osos, California. The Sweet Springs Nature Preserve is owned and maintained by the Morro Coast Audubon Society (MCAS) and has previously been the receiver site for MSS relocated from the former site (APN 074-229-017) of the proposed community wastewater treatment plant in Los Osos. The preserve manager for the MCAS has agreed to the relocation of MSS found on the Bahia Vista Estates site to the Sweet Springs Nature Preserve (Sletteland, personal communication).

### **Homeowner Activities**

The activities of property owners during the construction, improvement, and occupation of their property are covered under this HCP. Activities include ground disturbance and vegetation clearance undertaken by homeowners during the establishment and maintenance of landscaping within the boundaries of their property. These activities are not covered if they occur in areas outside of the individual lot owner's property or violate the requirements and terms of the incidental take permit.

## Section 3

# Environmental Setting/Biological Resources

## Environmental Setting

### Climate

The Bahia Vista Estates plan area has a coastal Mediterranean climate, with long, dry, summers and short, wet, mild winters. Fog is common during the late spring and summer months and moderates summer temperatures. Temperatures in Los Osos range from 48° F to 69° F during the summer, with an average of 58° F and from 42° F to 66° F during the winter months, with an average temperature of 53° F. On average the warmest month is October and the coolest month is January. Rainfall is highly variable within and between winter seasons with an average of 49 days with measurable precipitation annually. The average annual precipitation in Los Osos is 17.6 inches with most of the precipitation occurring from November to April and highest rainfall occurring in February.

### Topography/Geology

Bahia Vista Estates is within an area of rolling, stabilized, pre-Flandrian aged dunes located at the southern end of the Morro Bay Estuary. Soils on the site consist of well-drained sandy loam described on the County soils survey as Baywood fine sand (2 to 9 percent slopes) (USNRCS, 1984). The site slopes gently upward to the south from an elevation of 92 feet at the northeastern corner to 112 feet along the Los Osos Valley Road frontage. A small rise occupies the southeastern corner of the parcel with an elevation of 115 feet at its peak, the maximum elevation on the parcel.

### Hydrology/Streams, Rivers, Drainages

Bahia Vista Estates is within the southwestern region of the Morro Bay watershed and is located approximately 0.6 miles from the southern shore of the Morro Bay Estuary. The site lies within a watershed area that drains directly into the Morro Bay Estuary. Surface runoff is conveyed across the parcel toward the northeast property corner and then across adjoining Tract 1643 to the northwest toward Cuesta-by-the-Sea.

### Existing Land Use

The Bahia Vista Estates site is zoned and currently developed for residential use. The site occupies the northeastern corner of the Los Osos Valley Road and Pine Avenue intersection,



with 497 feet of frontage on Los Osos Valley Road and 458 feet of frontage along both Pine Avenue to the west and Broderson Avenue (an unimproved sand road) to the east. The parcel has street addresses on all three streets: 2150 Pine Avenue, 520 and 550 Los Osos Valley Road, and 2170 Broderson Avenue. Current residential development of the site includes seven existing small residential cabins ranging from approximately 300 to 550 square feet in size, a restroom building, four duplex residential structures ranging in size (total building square footage) from 1,700 to 2,500 square feet, a single-family residence of approximately 1,050 square feet, an aged mobile home, and six small outbuildings used for storage (Figure 4). The structures are situated in a perimeter around an approximately 1.6-acre common area in the middle of the parcel. A roughly 85 foot wide undeveloped area (1.0 acre) supporting short-cropped non-native grassland extends along the entire length of the northern property boundary behind the row of small cabins. Until recently the existing structures on the site were used as residential rentals.

Historic aerial photographs dating back to 1937 show that for at least seventy years the Bahia Vista Estates site has supported little or no suitable native dune scrub habitat for the MSS. During the early part of the twentieth century the Bahia Vista Estates site was located within an expansive stand of non-native *Eucalyptus* trees that occupied much of the southwestern region of Los Osos. The *Eucalyptus* trees were cleared from the parcel sometime in the early to mid-1950s and by 1957 the site had been developed for residential use with at least a dozen residential structures present. Most of these original structures are still present on the site. The parcel appears to have sustained continuous residential use between its original development and the time the structures were vacated in 2007.

The property currently supports a ruderal plant community consisting of short-cropped non-native grasses (veldt grass, brome, Bermuda, etc.) and a variety of non-native trees, shrubs (bottle brush), ornamental plants, and herbaceous weeds. Most of the trees, shrubs, and ornamental plants on the site are common landscape species and are located in close proximity to the existing residential structures. California poppy (*Eschscholzia californica*) is the most abundant native plant species on the property. One arroyo willow (*Salix lasiolepis*) is also present on the property but it is not a naturally occurring specimen. The tree was planted as a sapling in the mid-1980s and is located in a raised, irrigated planter in the front yard of the residential structure nearest the northeastern property corner.

## Surrounding Land Uses

The Bahia Vista Estates site is located in the Estero Planning Area and is within the Urban Reserve Line (URL) of the unincorporated community of Los Osos. The site was one of the first developed parcels in its vicinity along Los Osos Valley Road and much of the surrounding area was subsequently developed for residential use during the 1960s and 1970s. Currently, adjacent land to the north of the site along Rosina Avenue, and to the south across Los Osos Valley Road, has been developed for relatively high-density single-family residential use (Figure 5). The Trinity United Methodist Church occupies the parcel directly across Pine Avenue to the west of the site and is situated in an area of lower density residential use. Tract 1643 is located across Broderson Avenue immediately to the east of the Bahia Vista Estates site. Tract 1643 is currently undeveloped and supports a degraded central dune scrub plant community. The Estero Area Plan designates Tract 1643 as a Dune Sands Sensitive Resource Area (SRA).

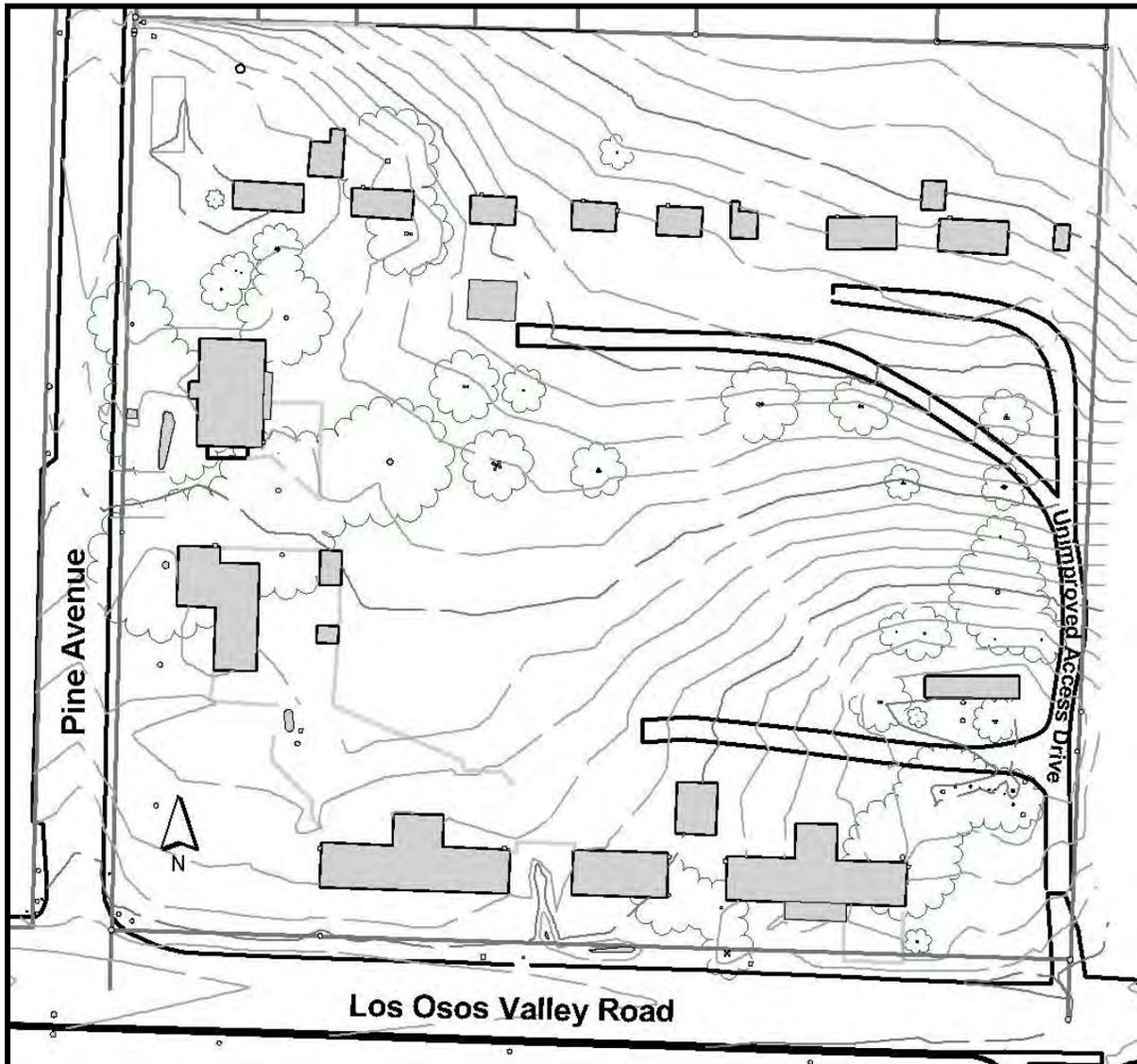


Figure 4. Engineer's drawing of HCP Plan Area showing topographic contours and the location/size of existing improvements (residential structures, outbuildings, fences, trees, etc.) (Hodge Company, 2008).



Figure 5. Aerial view of project site showing surrounding land uses.

## Covered Species

The subject of this HCP is the Morro shoulderband snail (*Helminthoglypta walkeriana*), also called the banded dune snail. This section summarizes the limited body of biological and ecological information currently available on the MSS including its status, ecology, range, and distribution on the Bahia Vista Estates project site. This summary includes a review of the historical literature that resulted in the listing of the species as well as information from the recovery status review, recent scientific papers and survey reports, and observations by Service permitted biologists who conduct MSS surveys in the Los Osos area.

## Status and Distribution of the Morro Shoulderband Snail

The MSS is a native gastropod found only in western San Luis Obispo County and was listed by the Service as an endangered species on December 15, 1994 (59 FR 64613) (USFWS, 1994). The original listing recognized two subspecies or interspecific variations of the MSS, *Helminthoglypta walkeriana* and *Helminthoglypta walkeriana* var. *morroensis*. At the time of listing *H. walkeriana* and *H. w. morroensis* (= *H. w. var. morroensis*) were classified as a single species under the taxonomic classification prescribed in Roth (1985). A recent re-examination of the taxonomic status of the two variants by Roth and Tupen (2004) resulted in their classification as separate species, *Helminthoglypta walkeriana* (Hemphill 1911), the Morro

shoulderband snail, and *Helminthoglypta morroensis* (Hemphill 1911), the Chorro shoulderband snail. In June 2004, based on the preliminary findings of Roth and Tupen, the Service issued a position statement announcing that the unintended protection of *H. morroensis* under the ESA would be discontinued. ESA protection is still provided for *H. walkeriana*, the species that inhabits sandy soils around the community of Los Osos.

A recovery plan for the species, *Recovery Plan for the Morro Shoulderband Snail and Four Plants from Western San Luis Obispo County, California* was published on 26 September 1998 (USFWS, 1998). The plan delineates four Conservation Planning Areas within which conservation and habitat protection efforts will be focused to facilitate the recovery of the MSS and the four plant species and to preserve native habitat for numerous other listed and sensitive species. Critical habitat for the MSS was proposed on 12 July 2000 (65 FR 42962) and designated pursuant to the ESA on February 7, 2001 (66 FR 9233) (USFWS, 2001). The designation included three separate Critical Habitat Units consisting of a total of 1,039 hectares (2,566 acres) of coastal dune and scrub habitat, and maritime chaparral located adjacent to Los Osos and the Morro Bay Estuary (USFWS, 2001). Most recently, a five-year status review for the MSS was issued on 11 September 2006 (USFWS, 2006). The status review for the species concluded that the Morro shoulderband snail (*Helminthoglypta walkeriana*) population is stable to increasing and that threats to the species have been reduced considerably (USFWS, 2006). However, recovery criteria for delisting the species have not been fully achieved and therefore the results of the status review only recommend downlisting the MSS from endangered to threatened status. The five-year status review for the MSS also recommends delisting the Chorro shoulderband snail (*Helminthoglypta morroensis*).

At the time of the listing, the range of *H. walkeriana* was described as being restricted to sandy soils of coastal dune and coastal sage scrub communities near Morro Bay and included areas south of Morro Bay, west of Los Osos Creek, and north of Hazard Canyon. The current known range is slightly expanded and encompasses approximately 7,700 acres, extending from Morro Strand State Beach in northern Morro Bay southward to Montana de Oro State Park and inland to at least Los Osos Creek in eastern Los Osos (Roth and Tupen, 2004; USFWS, 2006).

## Species Taxonomy and Description

The MSS belongs to the phylum Mollusca, class Gastropoda, subclass Pulmonata, order Stylommatophora, family Helminthoglyptidae, genus *Helminthoglypta*, subgenus *Charodotes*, species *walkeriana*. The MSS first described in Hemphill (1911) as *Helix walkeriana* from specimens collected from habitat in "San Luis Obispo, Cal." was reassigned to the genus *Helminthoglypta* by subsequent malacologists (Field, 1930; Pilsbry, 1939; Roth, 1985). The genus *Helminthoglypta* currently contains three subgenera comprising 100 or more species and subspecies with individual ranges located between southwestern Oregon and Baja California Norte, and from the Sierra Nevada and Mojave Desert westward to the Pacific coast, including islands off Baja California and California. In San Luis Obispo County the genus is represented by six species in two subgenera, *Helminthoglypta* and *Charodotes*. The subgenus *Helminthoglypta* includes two species, *Helminthoglypta cuyama* (Cuyama shoulderband snail) and *Helminthoglypta umbilicata* (Big Sur shoulderband snail), and the subgenus *Charadotes* includes four species: *Helminthoglypta walkeriana* (Morro shoulderband snail), *H. carpenteri*,



(San Joaquin shoulderband snail), *H. fieldi* (surf shoulderband snail), and the recently named *H. morroensis* (Chorro shoulderband snail).

The shell of the MSS is described as umbilicated, globose, reddish brown to chestnut in color but thin and slightly translucent (Hemphill, 1911; Roth 1985). The shell has five to six whorls and a single, narrow (2 to 2.5 mm [0.08 to 0.1 in.]), dark spiral band on the “shoulder” with thin light yellowish margins above and below. Sculptural features of the shell include incised spiral grooves, spiral and transverse striae that give the surface a checkerboard appearance, and papillae at the intersections of some of the striae (USFWS, 1994). Adult shell dimensions range from 18 to 29 mm (0.7 to 1.1 in.) in diameter and from 14 to 25 mm (0.6 to 1.0 in.) in height (Roth, 1985).

Shoulderband snails (*Helminthoglypta* spp.) can be distinguished from the sympatric non-native European garden snail (*Helix aspersa*) and cellar glass snail (*Oxychilus cellarius*) by the presence of both an umbilicus and the single narrow, dark brown spiral band on the “shoulder” of the shell. *Helix aspersa* lacks an umbilicus and has a multi-band, marbled pattern on the shell. An umbilicus is present in *O. cellarius*, however, the shell lacks any dark banding. Among *Helminthoglyptid* snails (subgenera *Helminthoglypta* and *Charodotes*) that occur in San Luis Obispo County, species can generally be distinguished by shell morphology, however, the shell morphology, ecological associations, geographic isolation, and analysis of soft tissue are used for more definitive classification.

Two other *Helminthoglyptid* species occur within the known range of the Morro shoulderband snail; the Big Sur shoulderband snail (*H. [H.] umbilicata*) and the Chorro shoulderband snail (*H. [C.] morroensis*). The Big Sur shoulderband snail occurs from the Monterey Peninsula in Monterey County south into northern Santa Barbara County and is common in San Luis Obispo County from Atascadero and San Luis Obispo west to the coast, including the range of the MSS. *H. umbilicata* and *H. walkeriana* occur sympatrically at many locations and specimens of each have been found in similar habitat and in relatively close proximity to each other (Dugan, personal observation). *H. walkeriana* can be distinguished from *H. umbilicata* by its more globose shape, the presence of incised striae, papillations over all or most of the body whorl, and half or more of the umbilicus covered by the apertural lip (Roth, 1985). *H. umbilicata* tends to have a more depressed shell shape with a shinier, malleated surface and little or no occlusion of the umbilicus.

*H. walkeriana* and *H. morroensis* were elevated to separate full species status based on differences in soft tissue, shell morphology, and differing habitat associations. The shell of *H. morroensis* can be distinguished from *H. walkeriana* by its more depressed shape (ratio of shell height to shell width), larger, less occluded umbilicus, more profusely granulated surface, and weak to absent incised spiral grooves on the body whorl (Tupen and Roth, 2005). Until recently the two species were not known to occur sympatrically, with *H. walkeriana* occurring only on Baywood fine sand soils and *H. morroensis* being associated with clay or serpentine soils. However, in 2005 the shells of both species were collected at a location with Briones-Tierra complex soils near the northeastern extent of the suspected range of *H. walkeriana*, indicating some level of sympatry (Dugan, personal observation). During 2007 the shells of both species were also collected at two locations with Baywood fine sand soils within the City of Morro Bay (Dugan, personal observation).

## Natural History

Despite increased attention due to its status as a federal endangered species, relatively little is known about the demographics and ecology of the MSS. The species is associated with sandy soils that support coastal dune, coastal dune scrub, and open maritime chaparral plant communities in the Los Osos and Morro Bay region of Central California. Morro shoulderband snails typically inhabit dense, shrubby, or prostrate vegetation that has considerable contact with the ground. The early successional stages of these native plant communities are thought to offer more favorable habitat than mature stands, which may have branches that are too high off the ground to offer good cover (Roth, 1985). Within such habitat, MSS typically occupy shaded areas with accumulated plant litter or the undersides of low shrub branches. These areas provide a microclimate that moderates temperature and moisture loss, and provides refuge from the desiccating effects of wind. It has been suggested that vegetation on north-facing slopes is slightly more dense and shrubby than on south-facing slopes and therefore may support a substantially greater abundance of MSS (Roth, 1985).

Known plant associates of the MSS include both native and non-native species. Typical native plant associates include dune ragwort (*Senecio blochmaniae*), California sandaster (*Lessingia filaginifolia*), mock heather (*Ericameria ericoides*), buckwheat (*Eriogonum parvifolium*), eriastrum (*Eriastrum densifolium*), silver lupine (*Lupinus chamissonis*), seaside woolly sunflower (*Eriophyllum staechadifolium*), dune almond (*Prunus fasciculata punctata*), dudleya (*Dudleya* sp.), California croton (*Croton californicus*), black sage (*Salvia melifera*), California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), California poppy (*Eschscholtzia californica*), and deerweed (*Lotus scoparius*) (Roth, 1985; USFWS, 2003; Roth and Tupen, 2004; Dugan, personal observation). The most commonly reported non-native plant associates are veldt grass (*Ehrharta calycina*) and sea fig/hotentot fig (*Carpobrotus* spp.) however, MSS have been found occupying other non-native invasive plants including conicosia (*Conicosia pugioniformis*), pampas grass (*Cortaderia jubata*), German ivy (*Senecio mikanioides*), fennel (*Foeniculum vulgare*), and myoporum (*Myoporum laetum*) (Dugan, personal observation). Live MSS and vacant shells have also been found in a variety of ornamental plants including rock rose (*Cistus* sp.), aloe (*Aloe* sp.), jade plant (*Crassula ovata*), and lilies of the Nile (*Agapanthus africanus*) (Dugan, personal observation).

MSS are most active during wet conditions and most feeding, reproduction, and individual growth is thought to occur during the rainy season (Roth, 1985). During prolonged dry periods MSS are inactive and are presumed to enter a state of aestivation (summer dormancy). MSS become active during rain, heavy fog, and dew and individuals may be particularly active during the evening, night, and early morning hours when they emerge to feed and disperse to new habitats. The feeding habits of the MSS are not well studied, however the mouth parts (radula) of the species are consistent with other snail species that feed on decaying matter and micorhizae. Hill (1974) indicated that, although feeding on decaying plant matter occurs, the primary food source for MSS was probably fungal mycelia that grow on decaying plant matter. Walgren (2003) reported that MSS will eat live vegetable matter when presented in the lab, however, the species is not considered a garden pest (USFWS, 2006). Moisture is reported as important in facilitating the feeding of MSS (USFWS, 2003).

A description of threats to the MSS in the original listing included degradation of its habitat due to invasive, non-native plant species (e.g., veldt grass [*Ehrharta calycina*]), structural changes in its habitat resulting from the maturation of dune vegetation and recreational use (e.g., heavy off-road vehicle use), and the destruction of its habitat from increasing development (USFWS, 2001). Additional threats to the snail were thought to include competition for resources with the introduced brown garden snail, the introduction of non-native predatory snails (e.g., *Oxycheilus* sp.), the small and isolated nature of the remaining snail populations, fire, and parasitization by sarcophagid flies (Roth, 1985; USFWS, 2001). The MSS is vulnerable to mortality caused by snail bait. It was suggested by Heagy (1980) that predators of the MSS may include deer mice, alligator lizards, and beetles (Heagy, 1980 in Roth, 1985; Roth, 1985). Another factor that may contribute to the Morro shoulderband snail's egg mortality is seasonal drought and/or heat.

The results of the 2006 status review by the Service found that recreational use (off-highway vehicles) and parasitism by sarcophagid flies were no longer threats to the continued existence of the MSS (USFWS, 2006). Off-highway vehicle use is no longer allowed in habitat areas where the activity was once considered a threat and the sarcophagid flies were identified as belonging to a group in which a majority of the files are not parasitic (USFWS, 2006). Additionally, no evidence was found to indicate that there was a competition for resources with the introduced brown garden snail (USFWS, 2006).

### **MSS Distribution on the Bahia Vista Estates Site**

Presence/absence surveys of the Bahia Vista Estates site were conducted by biologists from Tenera Environmental on 9 November 2005 and on 31 December 2005 but were discontinued following the establishment of the presence of a live snail on the property during the second survey. Service guidance at the time was to discontinue surveys once MSS presence was established on a site. Therefore, no further MSS abundance and distribution data has been collected for the site.

Survey findings, although incomplete, suggest that the MSS is not widely distributed on the parcel. The live MSS and vacant shells found during the surveys were located on the eastern half of the site, with all but one located in non-native vegetation and objects (boulders, brick arraignments, etc.) near the southeast corner of the property (Figure 6). The observed distribution suggests that MSS may migrate onto the site from habitat on adjacent Tract 1643 during wet conditions and opportunistically occupy any suitable sheltering habitat. Consequently, the distribution of the species on the site cannot be defined by the presence of a particular habitat type but could include any vegetation or object that provides suitable shelter. Under such circumstances a moderate degree of movement back and forth between the two parcels would be expected, likely causing the MSS population on the site to fluctuate in numbers from season to season and year to year.



Figure 6. Aerial view of Bahia Vista Estates site showing locations where the live snail (n = 1) and vacant shells (n = 6) were found (green dot = live snail; yellow dot = vacant shell).

## Section 4

# Potential Biological Impacts/Take Assessment

### Direct and Indirect Impacts

Residential redevelopment activities on the Bahia Vista Estates site require the demolition of existing structures and the grubbing and grading of the entire site. These activities will directly impact 5.5 acres of area that is currently under residential use and management. Project impacts include the removal of existing residential structures and associated landscape vegetation/objects and the grubbing/grading of surrounding ruderal grassland habitat that supports non-native trees, grasses, weedy herbaceous plants, escaped ornamentals, and a few native plant species common to disturbed soils. The project will not result in direct impacts to native plant communities or suitable native habitat for the MSS. However, direct impacts to Morro shoulderband snails residing in landscape vegetation and objects (brickwork, debris) around buildings and boulders on the site are likely during site preparation and residential construction. No indirect impacts to off-site MSS habitat areas are anticipated.

### Anticipated Take of the Morro Shoulderband Snail

Proposed incidental take levels can be expressed in two ways: (1) in terms of the number of animals to be “killed, harmed, or harassed” if those numbers are known or can be determined; or (2) in terms of habitat acres or square footage to be affected generally or because of a specified activity.

The MSS is a small, cryptic species that occurs in aggregated distributions and may be difficult to locate and inventory when in low numbers. Additionally there is likely to be a moderate degree of MSS movement on and off the Bahia Vista Estates parcel along the eastern border during wet conditions so the number of MSS on the site is expected to fluctuate regularly. Consequently, a meaningful estimation of the number of individual snails that reside on the project site at any one time and are vulnerable to take during project activities is not considered feasible. Due to the historic residential site use and existing high level of disturbance, the incidental take of individual snails resulting from project activities is presumed to be low.

Direct project impacts include the possible taking of MSS eggs, juveniles, or adults that may be injured or killed during initial building demolition, grubbing and grading activities, by construction equipment and vehicles, or during other activities throughout the parcel. Take minimization measures will also result in the capture and relocation of individual MSS that are found on the site and relocated to suitable off-site habitat at the Sweet Springs Nature Preserve. Following

construction of the six foot tall perimeter wall/fence the migration of MSS onto the site is likely to be reduced, resulting in a corresponding reduction in the potential for take. However, because the perimeter wall/fence is likely to be only a partial barrier to the movement of snails onto the site, a potential remains for the take of MSS during construction and occupation of the newly constructed residences.

## **Effects on Critical Habitat**

The proposed project site is not located within any of the three Critical Habitat Units designated for the MSS so the completion of the project will not result in any effects on critical habitat or the recovery of MSS.

## **Cumulative Impacts**

The Bahia Vista Estates project entails the redevelopment of a developed residential site that does not support any areas of native MSS habitat. The site is situated in a relatively densely populated area of Los Osos that, with the exception of the two vacant parcels to the east, is nearing full build out (Figure 5). Phase I of the site redevelopment will not result in an increase in the historic level of residential occupation/use of the site, however, Phase II will result in additional homes being built that will exceed the historic level of residential occupation of the site. The primary environmental impact of site redevelopment will be the direct take of a presumed low number of individual MSS. No areas of native MSS habitat will be eliminated or impacted. Considered alone or together with potential future projects in the area, the Bahia Vista Estates project is not expected to result in significant cumulative environmental effects.

## **Anticipated Impacts of the Taking**

It is anticipated that the take of MSS resulting from the proposed project activities will have negligible effects on the species' overall survival. The actual number of animals taken incidentally is expected to be low, native habitat for the species will not be impacted, and the project site is located in an area that is not considered important to the recovery of species. For these reasons, the level of take of the MSS that would result from the Bahia Vista Estates project is considered negligible.

## Section 5

# Conservation Program/Measures to Minimize and Mitigate for Impacts

### Biological Goals and Objectives

Under Section 10(a)(2)(A) of the Endangered Species Act and the ESA implementing regulations (50 CFR §§ 17.22(b)(1), 17.32(b)(1), and 222.22), an HCP must detail “what steps the applicant will take to minimize and mitigate to the maximum extent practicable the impacts of the taking of any federally listed animal species as a result of activities addressed by the plan.” Although there are no specific rules for developing mitigation and monitoring plans, according to the HCP Handbook, mitigation generally takes the following form: (1) avoiding the impacts to the extent practicable, (2) minimizing the impact, (3) rectifying the impact, (4) reducing or eliminating the impact over time, and (5) compensating for the impact.

The Bahia Vista Estates HCP employs a nontraditional conservation strategy to mitigate the unavoidable take of MSS. Typical conservation strategies involve the conservation or restoration of habitat (on-site or off-site) for a species that is commensurate with habitat impacted by a project. The Bahia Vista Estates site does not support any areas of native vegetation so none will be impacted. Additionally, the site is not a good candidate for on-site habitat conservation or restoration because of its highly disturbed nature (due to decades of residential occupation) and location in a largely developed area near the town center. Off-site mitigation options are also limited within the range of the MSS by the high cost of vacant land, which is prohibitive for small, low effect projects. Finally, the funding/implementing of MSS habitat restoration activities on off-site land that is already conserved is not a feasible means of mitigation because agreements governing the acquisition of land for conservation often specify that the land cannot be used to mitigate impacts from development of other parcels. Given the circumstances, a non-habitat based conservation/mitigation strategy was developed that directly addresses recovery needs (Recovery Tasks) of the MSS as described in *Recovery Plan for the Morro Shoulderband Snail and Four Plants from Western San Luis Obispo County, California* (USFWS, 1998). The biological goals of the Bahia Vista Estates Conservation Program are:

**Biological Goal 1:** Minimize, to the extent practicable, the taking of the MSS resulting from the redevelopment of the site.

Objective 1a: Implement all take minimization measures during site preparation and construction.

Objective 1b: Raise awareness about the MSS for construction personnel and homeowners through worker training, signage, and through the distribution of MSS informational brochures to all homeowners (Recovery Tasks 5 and 5.2).

**Biological Goal 2:** Mitigate the unavoidable take of MSS by providing funding to develop and conduct population research that will provide data to fulfill recovery task needs for the MSS. The objectives of this mitigation strategy are to:

Objective 2a: Develop and obtain Service approval for a standardized survey methodology for the scientific estimation of MSS population densities (Recovery Tasks 4 and 4.1)

Objective 2b: Implement the approved survey methodology for MSS population research on a specified number of conserved parcels and collect data (for each parcel) describing vegetation community coverage, MSS presence/absence, MSS habitat usage, and MSS density estimations for each mapped vegetation community (Recovery Tasks 3.2, 3.2.1.2, 4, and 4.1)

Objective 2c: Provide the Service with survey results and scientifically derived MSS population estimates for each surveyed parcel (Recovery Tasks 3.1, 3.2, 3.2.1.2, 4, and 4.1)

## Recovery Tasks

(Excerpt from *Recovery Plan for the Morro Shoulderband Snail and Four Plants from Western San Luis Obispo County, California* (USFWS, 1998).

**Recovery Task 3.1:** Conduct habitat-oriented research for Morro Bay species (i.e., MSS). Because of the need to manage large habitat areas for the benefit of multiple listed, candidate, and sensitive species, habitat-oriented research is especially important for the Morro Bay species.

**Recovery Task 3.2:** Conduct species-specific research. Although many basic characteristics of the life history of these species are known, other critical aspects need to be investigated to allow refinement of management actions.

**Recovery Task 3.2.1.2:** Study habitat use and life history needs of the Morro shoulderband snail. Studies should be performed to determine if immature stands in earlier successional stages offer more favorable shelter and litter higher in food value compared to mature senescent stands of coastal dune scrub. Documented observations and research on the feeding behaviors of the snail should be gathered to determine the required vegetation needed for food resources. Information on the snail's reproduction, growth, and dispersal capabilities should also be obtained.

This information is needed to understand the ecological, management, and recovery requirements of the snail.

**Recovery Task 4:** Determine population dynamics and effects of recovery efforts. Studies should be conducted to learn the number and size of successful self-sustaining populations for each species to establish criteria for their reclassification.

**Recovery Task 4.1:** Document population dynamics and cycles to ascertain trends. Monitoring of the Morro shoulderband snail should be conducted to document population dynamics and cycles to determine population trends. Standardized survey methodology should be used to track populations from one year to the next

**Recovery Task 5:** Develop and implement an education/information program. The benefits of protecting native species and their habitats and maintaining native biological communities should be explained clearly to all concerned parties.

**Recovery Task 5.2:** Inform and educate the public. The Service should strive to encourage appreciation for the unique and sensitive species of western San Luis Obispo County.

## **Avoidance, Minimization, and Mitigation Measures**

### **Measures to Avoid Impacts**

Avoidance of take is not considered feasible on the Bahia Vista Estates site since MSS occupy habitat (ornamental vegetation, boulders, and manmade objects) that is in close association with aged residential structures on the site that will require removal. Native habitat is not present on the site and the avoidance of non-native habitat/objects that are occupied by MSS is not practical or desirable.

### **Measures to Minimize Impacts**

#### **Pre-construction Surveys**

As a condition of the issuance of grading and construction permits, the County of San Luis Obispo shall require Barkwood Development, LLC or its successor in ownership to retain a Service-approved biologist to conduct pre-construction surveys of the site prior to the initiation of each construction phase to minimize take of MSS. The objective of pre-construction surveys is to locate the maximum number of MSS possible for relocation to appropriate native habitat within the Sweet Springs Nature Preserve. Pre-construction surveys shall entail a thorough and systematic search of vegetation and objects on the site that could provide suitable shelter for MSS. The rock material (boulders) stored on the site (along the eastern border and at the southwestern corner) shall be thoroughly searched for MSS prior to any disturbance to ensure

that injury or mortality to live snails is minimized during their removal from the site. The results of the pre-construction surveys shall be presented in a report to the Service.

### **Relocation of Morro Shoulderband Snails**

All live MSS that are found during the pre-construction surveys or construction monitoring shall be relocated to appropriate habitat on the Sweet Springs Nature Preserve by a Service-authorized biologist with a current 10(a)(1)(A) permit for the MSS that includes authorization to relocate MSS.

### **Pre-construction Environmental Awareness Training**

A Service-approved biologist knowledgeable about the MSS and its habitat shall conduct pre-construction training meetings for all personnel who will work on-site during construction. The meeting(s) are to inform construction crews, field supervisors, equipment operators, etc. about the status and presence of MSS, grading and construction activity restrictions, and the protection and minimization measures specified in the HCP.

### **Construction Monitoring**

A Service-approved biologist with a current 10(a)(1)(A) permit for the MSS that includes authorization to relocate MSS shall be present daily during the installation of construction fencing, demolition of existing structures, and initial grading and excavation activities (e.g., clearing of vegetation and stripping of the surface soil layer). Any live snails that are found during construction monitoring will be relocated to the Sweet Springs Nature Preserve by the authorized monitor/biologist. The monitor shall have the authority to order any reasonable measure to avoid the take of MSS and to immediately stop any work or activity that is not in compliance with this HCP. The Service office in Ventura shall be notified of any "stop work" order and the order shall remain in effect until the issue has been resolved. Upon completion of site grading activities the monitor will periodically, but no less than once a week, visit the project site throughout the construction period to ensure that impacts to the project site are consistent with the project description contained in this HCP. During periods of rain or heavy fog/dew the monitor will conduct daily pre-activity surveys to ensure no MSS have migrated onto the site. No construction work will be initiated until the monitor determines that MSS have not moved onto the site.

### **Environmental Education and Awareness Program**

Ecological information about the MSS will be compiled and developed into an Environmental Education and Awareness Program pamphlet to be distributed to Bahia Vista Estates residents at the time individual lots/homes are sold. The program will include a list of biologically sensitive resources found near the project site and an explanation of the importance of these resources. The Program will stress conservation of the MSS through avoidance of activities that may adversely affect individual snails and snail habitat. Also included will be a statement regarding the protection the MSS is afforded under the law and the penalties for violations of these laws.

### **Covenants, Conditions, and Restrictions (CC&Rs)**

Covenants, Conditions, and Restrictions (CC&Rs) shall be developed for the Bahia Vista Estates subdivision that reflect agreement with and acceptance of the requirements and terms

specified in the 10(a)(1)(B) incidental take permit issued by the Service for the Bahia Vista Estates.

## Measures to Mitigate Unavoidable Impacts

### Rationale for Mitigation Strategy

Unavoidable take of the MSS will be mitigated through the funding of MSS population research on conserved parcels within the known range of the species. Currently there are minimal data available for estimating MSS population levels on these lands. The Recovery Plan for the MSS (USFWS, 1998) specifies that downlisting of the species can be considered when sufficient populations and suitable occupied habitats from all four Conservation Planning Areas (Morro Spit, West Pecho, South Los Osos, and Northeast Los Osos) are secured and protected. The five-year status review for the MSS (USFWS, 2006) indicates that sufficient habitat blocks have been secured and protected to satisfy the criterion for downlisting. However, existing MSS population information is based largely on presence/absence surveys prompted by applications for changes in land use (e.g., residential development). Such surveys have provided a better general understanding of MSS distribution and habitat use but do not produce data suitable for estimating population size within the Conservation Planning Areas. Activities on conserved lands do not generally trigger MSS surveys, so many of the parcels have not been surveyed and it is unknown whether the species is present. On the conserved parcels where MSS presence has been established there is little or no information regarding population size.

To consider downlisting, the Recovery Plan also specifies that MSS populations must be large enough to minimize the short-term (next 50 years) risk of extinction on any of the four Conservation Planning Areas. Again, specific data about the size of MSS populations within these areas are generally lacking. Therefore, additional data suitable for population estimation would greatly improve the means of assessing whether sufficiently large populations exist to meet the recovery criteria.

A primary objective of this mitigation strategy is to facilitate the collection of data that will address some of the remaining recovery task needs for downlisting (and potential de-listing) of the MSS. Data resulting from the research will also be useful in the development of habitat management strategies that will be necessary for the eventual delisting of the species. The level of funding provided in this HCP for mitigating the take of MSS is expected to facilitate (1) the development and preparation of a study plan for a standardized survey methodology for MSS population research, (2) the implementation of population studies on conserved land within the range of the MSS, (3) the compilation and analysis of the data collected, and (4) the preparation of a final report presenting study results and MSS population estimates. The number of acres of land on which recovery activities will be undertaken is estimated to comprise a minimum of 60 acres, however revisions may be necessary once the survey methodology is developed and approved by the Service. Examples of the conserved parcels on which recovery activities may be undertaken are listed in below. Under the current estimate the conserved parcels on which the funded recovery activities will occur include the Hotel Parcel (APN 074-022-061) and Butte Parcel (APN 074-022-003) (61.3 acres).

Examples of conserved parcels that have not been surveyed include:

Assessor's Parcel Number	Name	Agency	Size	Recovery Unit
APN 038-711-016	BLM Parcel	BLM <sup>1</sup>	4.7 acres	Unit 4
APN 038-711-010	Powell I Parcel	CDPR <sup>2</sup>	15.6 acres	Unit 4
APN 067-012-011	Powell II Parcel	CDPR	50.6 acres	Corridor
APN 038-721-024	Pismo Parcel	CDPR	10.9 acres	None
APN 074-022-003	Butte Parcel	CDPR	18.9 acres	Unit 2
APN 074-022-061	Hotel Parcel	CDPR	42.4 acres	Unit 2
APN 074-229-009	Sweet Springs	MCAS <sup>3</sup>	~ 8 acres	None
APN 074-229-010	Sweet Springs	MCAS	24.0 acres	None
APN 038-711-015	Attman Parcel	LCSLO <sup>4</sup>	11.2 acres	Unit 4 <sup>5</sup>
APN 038-711-004	Garris Parcel	LCSLO	~4 acres	Unit 4 <sup>5</sup>
APN 074-224-019	Los Osos Oaks	CDPR	~90 acres	None <sup>6</sup>

<sup>1</sup>Bureau of Land Management

<sup>2</sup>California Department of Parks and Recreation

<sup>3</sup>Morro Coast Audubon Society

<sup>4</sup>Land Conservancy of San Luis Obispo

<sup>5</sup>Located in Designated in Critical Habitat

<sup>6</sup>Designated as "Other Habitat Area: Los Osos Oaks Preserve"

## Monitoring

Monitoring plays a vital role in the conservation strategy of this HCP by tracking compliance with the terms and conditions of the HCP and incidental take permit. The monitoring program for this HCP is designed to fulfill three purposes:

- track the permit holder's compliance with the requirements specified in the HCP (compliance monitoring)
- track the impacts of the covered activities on the covered species (effects monitoring)
- track the progress of the conservation strategy in meeting the HCP's biological goals and objectives (includes species surveys, reproductive success, etc.) (effectiveness monitoring)

## Compliance Monitoring

Compliance monitoring is required to verify and document that all requirements in this HCP and the terms and conditions of the incidental take permit are implemented. The deposit of \$50,000 into the National Fish and Wildlife Foundation (NFWF) Impact Directed Environmental Account will satisfy Barkwood Development, LLC's mitigation responsibilities; however, Barkwood



Development, LLC will continue to be responsible for ensuring that all minimization measures are completed, reports are submitted on time, and any other conditions included in the permit are completed. Barkwood Development, LLC will contract with a Service-approved biologist to (1) verify that all take avoidance and minimization measures have been implemented successfully and (2) prepare and submit the post-construction compliance report to the Ventura Fish and Wildlife Service Office for each construction phase (Phase I and Phase II) within 90 days of completion. Compliance monitoring will be successful once all of the terms and conditions of the incidental take permit have been implemented and documented.

### **Effects Monitoring**

Effects monitoring for the Bahia Vista Estates project includes pre-construction monitoring (i.e., a pre-construction survey) and construction monitoring. It is anticipated that the effects (i.e., take) of project activities on the MSS will occur primarily during initial site preparation (building demolition and grubbing/grading). However, daily pre-activity monitoring surveys shall be completed at any time during project construction when measurable rain or heavy fog/dew occurs. The Service-approved biologist under contract with Barkwood Development, LLC for construction monitoring will provide monthly correspondence with the project proponent and a designated contact in the Ventura Fish and Wildlife Service Office during the initial site preparation period and biannually (twice a year) thereafter. The monthly/biannual reports will document project activities, worker training, the number of MSS found/relocated during surveys/monitoring, compliance issues that may arise, and the actual levels of take of MSS (if possible). Information from the effects monitoring reports will be summarized in the post-construction compliance report.

### **Effectiveness Monitoring**

The effectiveness of the mitigation/conservation program for the Bahia Vista Estates HCP is a function of the successful completion of the objectives of Biological Goal 2 through the provision of funding to develop and conduct a scientific study that will provide data to fulfill recovery task needs for the MSS. The deposit of the mitigation funds specified in this HCP (\$50,000) into the IDEA account that has been established with NFWF will successfully satisfy Barkwood Development, LLC's role in effectuating the mitigation strategy. Issuance of the incidental take permit for the project will be timed by the Service to coincide with the deposit of the mitigation funds into the IDEA account. Once the incidental take permit is issued, the effectiveness of the HCP mitigation will be the responsibility of the Service, NFWF, and the researcher(s)/biologist(s) contracted to develop the standardized survey methodology and conduct recovery activities. The Service will serve as the primary administrator of the IDEA account.

The general timeframe for completion of the mitigation components of this HCP is for (a) the standardized MSS population survey methodology to be developed and submitted to the Service for approval within 90 days of the deposit of the mitigation funding and (b) the MSS recovery activities specified in this HCP to be completed within three years of the deposit of the mitigation funding, as conditions allow (i.e., the presence of a sufficient number of rainy days). Effectiveness monitoring will be documented through completion of annual progress reports submitted by the end of each calendar year (December 31) to the Ventura Fish and Wildlife Service Office. The mitigation strategy will be considered successful upon submittal of the final

MSS Population Survey Report to the Ventura Fish and Wildlife Service Office presenting the results of the surveys.

## Site Access

Upon notification, Barkwood Development, LLC and its assigns and successors (e.g., Bahia Vista Estates HOA) shall allow Service personnel and Service-approved biologists access to the Bahia Vista Estates site for the purpose of compliance with the HCP's terms and conditions.

## Reporting

### Reporting for Take Minimization and Monitoring Program

There are several reporting requirements related to construction monitoring and the successful completion of the take minimization goals of this HCP. These include:

**Monthly Effects Monitoring Reports** Beginning with the initiation of pre-construction/MSS relocation surveys and extending through building demolition, grubbing, and grading, monthly reports will be submitted to the Ventura Fish and Wildlife Service Office summarizing survey dates and activities, construction progress, the number of MSS relocated, HCP compliance issues, and the level of take of MSS. The monthly monitoring reports will be in letter form and transmitted electronically in a PDF (Portable Document Format) file format.

**Annual Progress Reports** Following the initial site preparation phase, the biological monitor shall submit annual reports to the Ventura Fish and Wildlife Service Office documenting construction progress and the success of take minimization measures. The annual reports shall be submitted at the end of the calendar year for each year in which construction activities occur. Reports shall include:

- 1) Brief summary or list of project activities accomplished during the reporting period (e.g., development/construction activities and other covered activities)
- 2) Summary of construction monitoring activities
- 3) Pertinent information concerning the permittee's success in meeting the project's minimization measures
- 4) An explanation of failure to meet such measures, if any
- 5) Known project effects on MSS, if any
- 6) Occurrences of incidental take of the MSS, if any
- 7) Other pertinent information

**Post-Construction Completion Report** Following the completion of each construction phase (Phase I and Phase II), a Post-Construction Completion Report will be prepared in lieu of a semi-annual progress report. Barkwood Development, LLC will submit a post-construction compliance report to the Ventura Fish and Wildlife Service Office and the County of San Luis

Obispo within 90 calendar days of the completion of each construction phase. This report shall be prepared by the biological monitor and provide the following information:

- 1) Brief summary of the project phase and project activities accomplished during the construction phase
- 2) Project impacts (e.g., number of acres graded, number of buildings constructed, etc.)
- 3) Description of any take of MSS that occurred (includes cause of take, form of take, take amount, location of take and time of day, and deposition of dead or injured individuals)
- 4) Monitoring results (compliance, effects and effectiveness monitoring) and survey information (if applicable)
- 5) Description of any changed or unforeseen circumstances that occurred and how they were dealt with
- 6) Description of any minor or major amendments

### **Reporting for Mitigation Program**

Reporting requirements related to the mitigation goal of this HCP will be specified in the Service-approved Study Plan for MSS population surveys. At a minimum, these will include Annual Progress Reports and a Final MSS Population Survey Report as described below.

**Annual Progress Reports** Following Service approval of the Study Plan, survey progress will be documented with annual reports. MSS activity is greatest (and therefore the level of detection is presumed to be highest) during the rainy season, either during or shortly after rain events. Since there is a limited annual timeframe during which the surveys can be conducted it is anticipated that the work may require two to three years to complete. During this time period the biologist contracted to complete the surveys will submit annual progress reports to the Ventura Fish and Wildlife Office by 31 December of each year in which surveys are conducted. Annual progress reports will provide a summary of the survey results for the year, including survey dates and conditions, surveyed parcels, vegetation mapping results, number of MSS located, MSS density variance by site and strata (vegetation community), number of transects conducted, MSS population estimates for parcels where surveys are completed, and other pertinent information (e.g., MSS habitat usage, movement, etc.).

**Final MSS Population Survey Report** A Final MSS Population Survey Report will be prepared by the biologist(s) contracted to complete the MSS population research when the funded recovery activities are complete. The final report shall be submitted to the Ventura Fish and Wildlife Service Office by 31 December of the third year following issuance of the ITP or the year that funding of field-related activities has been expended. The report shall include the updates to information presented in the annual progress reports along with MSS population estimates for each of the surveyed parcels. Additionally, the report shall include other pertinent information that can be derived from the data collected (e.g., MSS habitat usage, movement, etc.).

## Section 6

# Plan Implementation

### Plan Implementation

Barkwood Development, LLC will be responsible for implementing this HCP under the terms of the Section 10(a)(1)(B) incidental take permit issued by the Service for the Bahia Vista Estates project. Two separate components of this HCP must be funded and implemented: (1) the mitigation component, which entails (a) preparation of a Service-approved Study Plan for standardized MSS population surveys and (b) completion of related recovery actions on an estimated 60 acres of conserved land (Hotel Parcel and Butte Parcel) and (2) the take minimization and compliance monitoring component. The minimum number of acres of land (i.e., 60 acres) on which the recovery activities for this HCP will occur is dependent on the survey methodology ultimately approved by the Service and is therefore subject to revision.

Following approval of the Bahia Vista Estates project by the County, the HCP mitigation component requirements shall be satisfied by Barkwood Development, LLC through the deposit of the mitigation funds (\$50,000) into the existing IDEA account that has been established for MSS recovery activities. As the lead agency for the Bahia Vista Estates project the County, through *Conditions for Approval* for the project, shall require Barkwood Development, LLC to demonstrate that it has obtained, and met all applicable conditions of, an incidental take permit for MSS prior to issuance of any work-related permits (Minor Use, grading, building demolition, etc.) or recordation of the Bahia Vista Estates tract map. The Service shall, at its discretion and to the greatest degree practicable, issue the incidental take permit to coincide with the deposit of the full amount of mitigation funding into the existing IDEA account. The incidental take permit shall be conditioned to prohibit any site disturbance and/or alteration prior to Barkwood Development, LLC fully satisfying the mitigation component requirements of this HCP. Barkwood Development, LLC understands that the incidental take permit will only cover the take of MSS associated with otherwise legal activities. Barkwood Development, LLC also understands that any activity that is not in compliance with all conditions specified in the incidental take permit and County *Conditions for Approval* is not a legal activity and therefore would not receive the protections of the incidental take permit.

Funding for the take minimization and compliance monitoring component will be guaranteed by a Letter of Credit. Barkwood Development, LLC will facilitate the take minimization and compliance monitoring component by contracting with a Service-approved biologist to conduct take minimization tasks, construction worker and homeowner MSS awareness training, compliance monitoring, and related reporting requirements of the HCP.

The oversight of plan implementation will be the responsibility of the Service and the County of San Luis Obispo. The County, as the lead agency for the project, shall include the take minimization, training, MSS awareness, monitoring, and related reporting requirements of this HCP in the *Conditions of Approval* for the project. The Service-approved biological monitor shall submit monitoring reports and compliance documentation to both agencies.

## Responsibilities

### Identification of Project Representative

The designated representative for Barkwood Development, LLC responsible for communications with the Service and for overseeing compliance with the Section 10(a)(1)(B) permit is Mr. Richard Friedman, P.O. Box 775026, Steamboat Springs, CO 80477, phone 970-875-0999 and e-mail [rfriedman@chadwick-usa.com](mailto:rfriedman@chadwick-usa.com). If a substitute representative is designated, the Service shall be notified in writing of the representative's name and contact information.

### Identification of Pre-Construction and Construction Biological Monitor

Subject to approval by the Service, Mr. Daniel Dugan will be the pre-construction and construction biological monitor for this project during Phase I. He can be contacted at TENERA Environmental Inc., 141 Suburban Road, Suite A2, San Luis Obispo, CA 93401, phone 805.772.4080, fax 805.771.9420, and via email at [ddugan@tenera.com](mailto:ddugan@tenera.com). Mr. Dugan is familiar with the Bahia Vista Estates site and the habitats types MSS utilize on the site, and has a current 10(a)(1)(A) permit for the MSS. Ms. Barbie Dugan will assist Mr. Dugan with pre-construction surveys, construction monitoring, and MSS relocation as necessary. Ms. Dugan has a current 10(a)(1)(A) permit for the MSS, including permit authorization to relocate MSS.

If at its sole discretion Barkwood Development LLC determines that an alternate biological monitor is needed during any phase of the project then Barkwood Development, LLC will provide the Service with contact and 10(a)(1)(A) permit information, a resume, and any other pertinent information regarding the proposed monitor's experience working with the MSS. Barkwood Development, LLC must receive written Service approval of the monitor prior to the initiation of any further habitat disturbance on the site.

### Identification of IDEA Account Manager

The designated IDEA account management agency is the National Fish and Wildlife Foundation. The contact for NFWF is Liz Epstein, Senior Manager, Impact-Directed Environmental Accounts, at 90 New Montgomery Street, Suite 720, San Francisco, CA, 94105; phone 415.243.3102.

## Changed Circumstances

### Summary of Circumstances

Section 10 regulations [(69 Federal Register 71723, December 10, 2004 as codified in 50 Code of Federal Regulations (C.F.R.), Sections 17.22(b)(2) and 17.32(b)(2))] 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 HCP No Surprises Rule [50 CFR 17.22 (b)(5) and 17.32 (b)(5)] describes the obligations of the permittee and the Service. The purpose of the No Surprises Rule is to provide assurance to the 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.

Changed circumstances are defined in 50 CFR 17.3 as changes in circumstances affecting a species or geographic area covered by an HCP that can reasonably be anticipated by plan developers and the Service and for which contingency plans can be prepared (e.g., the new listing of species, a fire, or other natural catastrophic event in areas prone to such events). 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), then the permittee will implement those measures as specified in the plan. However, if additional conservation management 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 Service will not require these additional measures absent the consent of the permittee, provided that the HCP is being "properly implemented" (properly implemented means the commitments and the provisions of the HCP have been or are fully implemented).

## **Potential Changed Circumstances**

### **Newly Listed Species**

The developed, highly disturbed condition of the Bahia Vista Estates site, its location in a largely developed area near the town center, and the absence of native vegetation make the occurrence of a newly listed species unlikely. However, 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 permit, the Section 10 permit will be reevaluated by the Service 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 the take of the newly listed species or adverse modification of any newly designated critical habitat. Barkwood Development, LLC shall implement the modifications to the HCP covered activities identified by the Service, as necessary, to avoid the likelihood of jeopardy to, or take of, the newly listed species or adverse modification of newly designated critical habitat. Barkwood Development, LLC shall continue to implement such modifications until such time as the permittee has applied for and the Service has approved an amendment of the Section 10 permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species or until the Service notifies Barkwood Development, LLC in writing that the modifications to the HCP covered activities are no longer required to avoid the likelihood of jeopardy of the newly listed species or adverse modification of newly designated critical habitat.

Barkwood Development, LLC does not anticipate that any additional changed circumstances will occur during the life of the permit that will result in unanticipated levels of take of MSS on the project site.



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## Unforeseen Circumstances

Unforeseen circumstances are defined in 50 CFR 17.3 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 Service at the time of the HCP'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 case of an unforeseen event, Barkwood Development, LLC shall immediately notify the Service staff who have functioned as the principal contacts for the proposed action. In determining whether such an event constitutes an unforeseen circumstance, the Service 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 Service determines that additional conservation and mitigation measures are necessary to respond to the unforeseen circumstances where the HCP is being properly implemented, the additional measures required of Barkwood Development, LLC 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 already set-aside in the HCP's operating conservation program. Additional conservation and mitigation measures shall 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 only with the consent of Barkwood Development, LLC.

## Amendments

### Minor Amendments

Minor amendments are changes that do not affect the scope of the HCP's impact and conservation strategy, change amount of take, add new species, and change significantly the boundaries of the HCP. Examples of minor amendments include correction of spelling errors or minor corrections in boundary descriptions. The minor amendment process is accomplished through an exchange of letters between the permit holder and the Service's Field Office.

### Major Amendments

Major amendments to the HCP and permit are changes that do affect the scope of the HCP and conservation strategy, increase the amount of take, add new species, and change significantly the boundaries of the HCP. Major amendments often require amendments to the Service's decision documents, including the NEPA document, the biological opinion, and findings and

recommendations document. Major amendments will often require additional public review and comment.

## **Suspension/Revocation**

The Service may suspend or revoke their respective permits if Barkwood Development, LLC fails to implement the HCP in accordance with the terms and conditions of the permits or if suspension or revocation is otherwise required by law. Suspension or revocation of the Section 10(a)(1)(B) permit, in whole or in part, by the Service shall be in accordance with 50 CFR 13.27-29, 17.32 (b)(8).

## **Renewal of Section 10(a)(1)(B) Permit**

Completion of Phase II of the Bahia Vista Estates project is conditioned on the presence of a community wastewater treatment system. Renewal of the permit may be necessary if the community wastewater system is not completed by the permit expiration date. Upon expiration, the projects' Section 10(a)(1)(B) permit may be renewed without the issuance of a new permit, provided that the original permit is renewable, and that biological circumstances and other pertinent factors affecting MSS at the project site are not significantly different than those described in the original HCP. To renew the permit the permittee (Barkwood Development, LLC or its successors and assigns) shall submit the following, in writing, to the Service:

- a request to renew the permit; reference to the original permit number
- 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
- 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 Service 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 the permittee files a renewal request and the request is on file with the issuing Service 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, the permittee may not take listed species beyond the quantity authorized by the original permit. If the permittee fails to file a renewal request within 30 days prior to permit expiration, the permit shall become invalid upon expiration. The permittee must have complied with all annual reporting requirements to qualify for a permit renewal.

## **Permit Transfer**

In the event of sale or transfer of ownership of the property during the life of the permit, a new permit application, permit fee, and an Assumption Agreement will be submitted to the Service



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by the new owner(s). Barkwood Development, LLC is responsible for notifying the Service of any pending transfer of ownership of the Bahia Vista Estates site before the transfer is finalized and providing contact information for the prospective new owner(s). The Service shall attempt to contact the new landowner to explain the prior permit and determine whether the new landowner would like to continue the original permit or enter into a new permit. Additionally, Barkwood Development, LLC shall inform the new landowner(s) of their rights and responsibilities under the section 10(a)(1)(B) permit and ensure that they understand the obligations associated with the permit transfer. The Service shall provide any technical assistance necessary to ensure that all parties understand their rights and responsibilities.

The new owner(s) may commit to all requirements regarding the take authorization and mitigation obligations of this HCP and, unless otherwise specified in the Assumption Agreement and agreed to in advance with the Service, shall be bound by the terms and conditions of the original permit and regarded as having the same rights with respect to the permit as the original landowner. Actions taken by the new landowner resulting in the incidental take of species covered by the permit would be authorized if the new landowner agrees to the permit and continues to implement the minimization and mitigation strategies of the HCP.

If, however, the new landowner does not agree to the terms and conditions of the original permit, Barkwood Development, LLC must coordinate with the Service to determine whether, and under what circumstances, the permit can be terminated. In order to terminate the permit, the Service must determine if the minimization and mitigation measures that were conducted up to that point were commensurate with the amount of incidental take that occurred during the term of the permit. If the incidental take occurred during the initial stages of implementing the permit, but the minimization and mitigation measures occur throughout the term of the permit, the Service shall require that the remainder of the minimization and mitigation measures be implemented before the permit is terminated. The Service will, through this process, be able to ensure that there is adequate and sufficient minimization and mitigation for the incidental take that occurred during the term of the permit.

## Section 7 Funding

### Costs of HCP Implementation

Barkwood Development, LLC will provide all funding for implementation of the HCP, including take avoidance, minimization, and mitigation measures, and monitoring and reporting as specified in this HCP. The permittee understands that a failure to provide adequate funding, and a consequent failure to implement the terms of this HCP in full, could result in temporary permit suspension or permit revocation.

**Table 1. Estimated Costs of Implementing the Bahia Vista Estates HCP.**

ITEM/ACTIVITY	UNIT COST	HOURS	ONE-TIME COST	RE-OCCURRING COSTS	TOTAL
<b>MITIGATION COMPONENT</b>					
IDEA Account			\$44,000		\$44,000
Development of Methodology			\$6,000		\$ 6,000
<b>Mitigation Component Subtotal</b>			\$50,000		<b>\$50,000</b>
<b>MINIMIZATION &amp; MONITORING COMPONENT</b>					
<b>Monitoring/Training/Awareness</b>					
Pre-construction Survey- Phase I	\$105/hr	30	\$3,150		\$3,150
Pre-construction Survey- Phase II	\$150/hr	9	\$1,350		\$1,350
Construction Monitoring- Phase I	\$105/hr	40	\$4,200		\$4,200
Construction Monitoring- Phase II	\$150/hr	20	\$3,000		\$3,000
Construction Worker Training	\$100/hr	4	\$ 400		\$ 400
Homeowner MSS Awareness Pamphlet			\$2,000		\$2,000
<b>Monitoring/Training/Awareness Subtotal</b>					<b>\$14,100</b>
<b>Reporting (Phase I)</b>					
Monthly Effects Monitoring Report (4)	\$105/hr	4		\$ 420	\$1,680
Annual Progress Reports (2)	\$105/hr	24		\$2,520	\$5,040
Post Construction Completion Report (1)	\$105/hr	24	\$2,520		\$2,520
<b>Reporting (Phase II)</b>					
Monthly Effects Monitoring Report (4)	\$150/hr	4		\$ 600	\$2,400
Annual Progress Reports (2)	\$150/hr	24		\$3,600	\$7,200
Post Construction Completion Report (1)	\$150/hr	30	\$4,500		\$4,500
<b>Reporting Subtotal</b>					<b>\$23,340</b>
<b>GRAND TOTAL</b>					<b>\$87,440</b>

## **Funding Source(s), Mechanism, and Management**

Barkwood Development, LLC will provide all funding for implementation of the HCP, including take minimization and mitigation measures, and monitoring and reporting as specified in this HCP. Barkwood Development, LLC understands that a failure to provide adequate funding, and a consequent failure to implement the terms of this HCP in full, could result in temporary permit suspension or permit revocation. Funding for implementation of take, minimization measures, construction/compliance monitoring, and reporting will be guaranteed through a Letter of Credit for \$37,440. Funding of the mitigation program will be provided by Barkwood Development, LLC through a lump sum payment of \$50,000 to the National Fish and Wildlife Foundation Impact Directed Environmental Account.

## Section 8

# Alternatives

### Summary

Section 10(a)(2)(A)(iii) of the Endangered Species Act of 1973, as amended, [and 50 CFR 17.22(b)(1)(iii) and 17.32(b)(1)(iii)] requires that a Habitat Conservation Plan include a description of “alternative actions to such taking.” Alternatives to be considered include the “no action” alternative and other alternatives that would reduce take below the levels anticipated for the proposed project. Discussion of these alternative strategies must include an explanation of why the alternatives were not implemented.

### Alternative 1- No Action Alternative

Under the No-Action Alternative, the proposed Bahia Vista Estates project would not be completed and any incidental take of the MSS associated with the development would be avoided. The issuance of a Section 10(a)(1)(B) incidental take permit from the Service would not occur and an HCP for the MSS, including the funding of activities that would assist in advancing Service recovery tasks for the species, would not be implemented. The funding of recovery gains to the MSS associated with this HCP would not occur under this alternative. Residential uses of the property would continue under the No-Action Alternative. The aged structures on the site would be used as residential rentals so the site would sustain disturbance from residential activities such as weed abatement mowing, landscaping, pedestrian use, and vehicular traffic.

The No-Action Alternative would not preserve any areas of suitable native habitat for the MSS since none are present on the site and would eliminate recovery benefits to the species provided through implementation of this HCP. Any take of MSS that results from existing residential use of the site would continue without mitigation. Abandonment of the structures and associated site maintenance activities to avoid take is not a viable option because it would create a fire hazard and attractive nuisance that would burden the parcel owner with significant liability. Additionally, the considerable financial investment Barkwood Development, LLC has incurred in parcel acquisition, site design, and environmental review would be forfeited. For these reasons the No-Action Alternative is rejected by the applicant.

## Alternative 2- Alternate Site

One of the alternative actions that is often described in the review of a project is the construction of the project on an alternate site. The site for the proposed Bahia Vista Estates Project is a developed residential parcel located within a central region of the community of Los Osos that is in need of residential renewal. Implementation of the Alternative Site alternative would require the acquisition of a developed alternate site that is in need of redevelopment and has sufficient water/sewer credits to complete the phased redevelopment. No developed infill parcels were identified within Los Osos that are of comparable size and have similar zoning designations and physical characteristics for a comparable residential development.

Construction of the project at an alternate location is not feasible given the potential costs and other difficulties involved with such an action. Biological resources would be expected to vary from site to site, as would the impacts or take associated with the project. Construction of the project at an alternate site would not necessarily reduce impacts to MSS because the species is present on many developed parcels within the town and alternate locations may support undocumented MSS populations. There is also the potential that similar, or new, special-status species issues could arise. This alternative is considered unfeasible and rejected because it offers no clear environmental benefits and, as with the No-Action Alternative, imposes considerable economic costs to the project proponent.

## Alternative 3- Redesigned Project (Reduced Take)

This alternative would entail a redesign of the project footprint and/or individual building envelopes to avoid areas where MSS and vacant shells were found during the partial protocol survey. Avoidance of these areas would be expected to reduce the level of take that occurs as a result of the project but would not eliminate take entirely. Consequently, the issuance of a Section 10(a)(1)(B) incidental take permit from the Service would still be required and implementation of an HCP for the MSS would be necessary.

The site design currently proposed for the Phase I development is a revision of the original site plan that was prepared specifically to avoid areas where MSS/vacant shells were found during the protocol survey. On the revised site plan the project footprint is located primarily on the western half of the site. Only a septic tank/leach field system and storm water retention basin would be present on the eastern half of the site where MSS were found to be present. However, existing aged residential structures on the eastern half of the site would still need to be removed to prevent them from becoming an attractive nuisance and/or fire hazard. Since MSS found on the site occupy ornamental vegetation and objects (boulders, brickwork, debris, etc.) located in close association with these structures, take of the species would likely occur during the demolition and removal process. Given the necessity of removing these aged structures, the Redesigned Project Alternative is unlikely to result in a reduced take of the MSS. Additionally, further adjustments to the site plan or reductions in the project footprint would result in adverse economic impacts to the project without corresponding benefits to the MSS. Therefore, the Redesigned Project Alternative is rejected for both biological and economic reasons.



## **Alternative 4- Proposed Action (Permit Issuance)**

Under the Proposed Action Alternative, the Bahia Vista Estates subdivision project would be developed as described in Section 2.0. The Proposed Action would require the issuance of a Section 10(a)(1)(B) permit to allow construction of the project. The project would result in the take of a low number of individual MSS but would not eliminate or degrade native habitat for the species. Funding of the recovery activities as proposed in this HCP for mitigating take would result in the advancement of scientific knowledge and Service recovery tasks for the species. The Proposed Action Alternative thus provides greater benefits to the species than the No-Action, Alternate Site, and Redesigned Project alternatives, and also best meets the needs of the applicant. Therefore, the Proposed Action is the preferred alternative.

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ATTACHMENT A  
**Morro Shoulderband Snail Survey Report**

DRAFT

*Bahia Vista Estates*

# **Morro Shoulderband Snail (*Helminthoglypta walkeriana*) Protocol Survey Report**



**January 26, 2006**

***Submitted to:***

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***Prepared and Submitted by:***



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## Introduction

TENERA Environmental has prepared the following report presenting the results of a protocol-level Morro shoulderband snail (*Helminthoglypta walkeriana*) survey conducted on private property in Los Osos, California owned by Chadwick Real Estate Group of Los Osos, LLC. The property is the proposed site of the Bahia Vista Estates housing development. This report is intended to provide the applicant, county planners, and other responsible agencies with necessary site-specific information about the Morro shoulderband snail. The objective of the protocol survey effort is to determine if the Morro shoulderband snail (MSS) or potentially suitable habitat for the species is present on the property.

## Site Location/Description

The project site is located in western San Luis Obispo County, California, in the west-central region of the unincorporated town of Los Osos (Figure 1). The property is shown in Section 13 of Township 30S and Range 10E on the Morro Bay South, Calif. quadrangle (USGS 7.5 minute) and occupies the northeastern corner of Los Osos Valley Road and Pine Avenue (Figure 2). The assessor's parcel number of the 5.5-acre (239,580 square feet) property is APN 074-052-049.

The Bahia Vista Estates site is rectangular in shape and has 497 feet of frontage on Los Osos Valley Road and 458 feet of frontage along both Pine Avenue to the west and Broderson Avenue (an unimproved sand road) to the east. The site includes multiple street addresses along both Los Osos Valley Road and Pine Avenue. Land to the north of the site and across Los Osos Valley Road to the south has been developed for residential use (Figure 3). The Trinity United Methodist Church occupies the lot across Pine Avenue to the west of the site and Tract 1643 is located across Broderson Avenue to the east. Tract 1643 is zoned for single-family housing but is currently unimproved and supports a degraded dune scrub plant community. The proposed project site is not located within the any of the four Conservation Planning Areas specified in the recovery plan for the Morro shoulderband snail or within the three Critical Habitat Units designated for the species (USFWS, 1998; USFWS, 2001).

The parcel slopes gently upward to the south from an elevation of 83 feet at the northeastern corner to approximately 103 feet along the Los Osos Valley Road frontage. Soils on the site consist of well-drained sandy loam described on the county soils survey as Baywood fine sand (2 to 9 percent slopes). Thirteen small to medium-sized residential structures, a trailer, and six outbuildings are currently present on the site. The structures are situated in a perimeter around a multi-acre common area in the middle of the lot. Piles of large boulder are present at several locations on the property and are reported to have been imported to the site from Bishop Peak in San Luis Obispo for storage. Aerial photographs indicate that the boulder piles appear to have been in place on the property as far back as 1998. The property has been cleared of native vegetation and currently

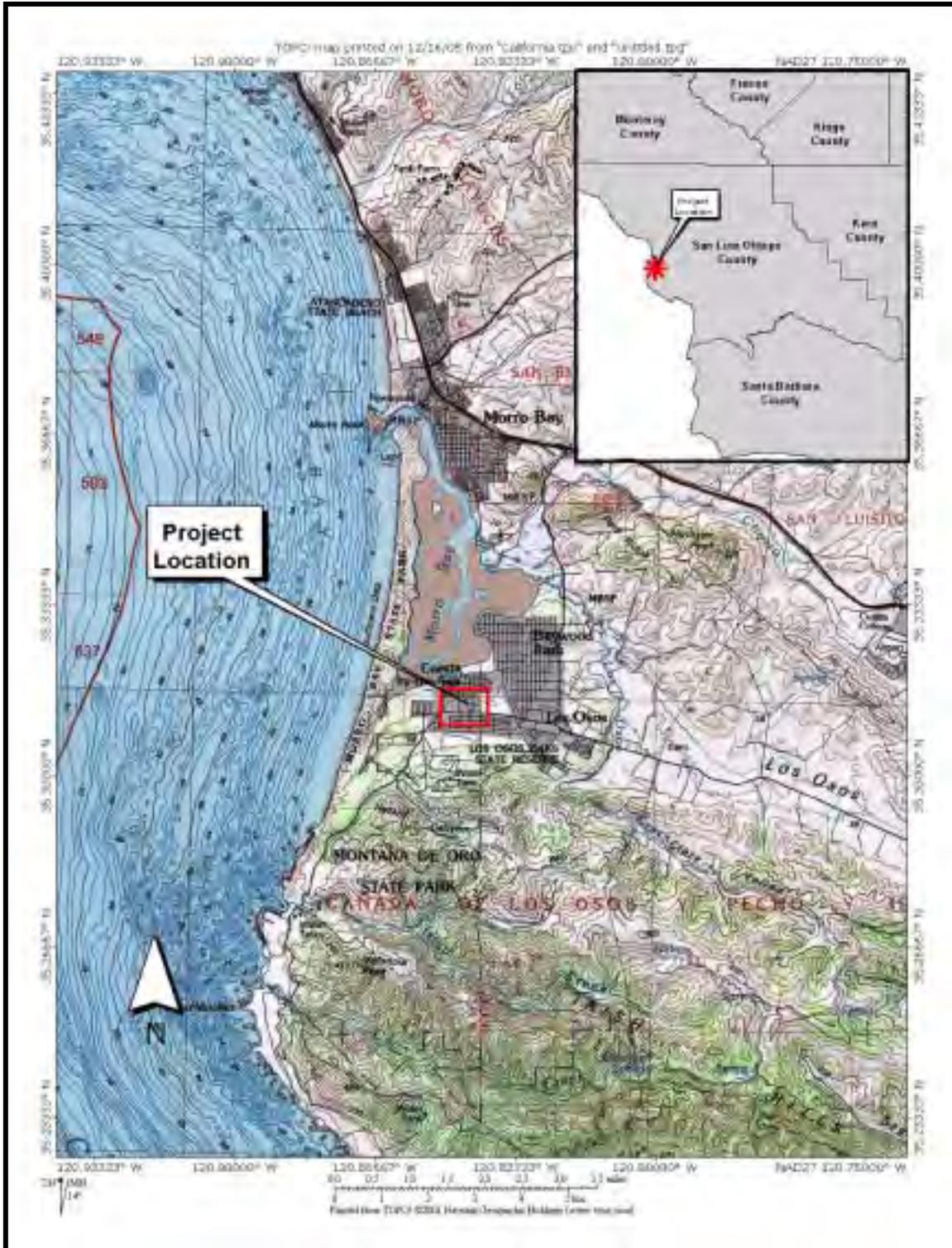


Figure 1. Regional view of project location.



Figure 2. Topographic view of Los Osos showing project site location.



Figure 3. Aerial photograph showing site boundaries and surrounding land uses.

supports short-cropped grasses and a variety of ornamental trees (walnut, pine, Eucalyptus, palm, and Acacia), shrubs, and plants. Most of the trees, shrubs, and plants on the site are common landscape species and located in close proximity to the existing residential structures. California poppy (*Eschscholzia californica*) was the most abundant native plant species remaining on the property. One small, coyote brush shrub was noted growing out of one of the more centrally located boulder piles.

## Project Description

The Bahia Vista Estates project entails the subdivision of the parcel and construction of up to 27 new single-family residences. Site preparation activities include the demolition of the existing structures, grubbing and grading of the entire site, installation of underground utilities, paving of access roads, and landscaping. The residential lots will average 6,654 square feet in size and project plans include the construction an upscale two-story residence with a two-car garage on each. The residential structures will range in size from 1,820 to 2,310 square feet. Access to the site would be from entrance on Pine Avenue located near the northern property boundary. The project will most likely be completed in two phases, with 10 homes constructed during the first phase and 17 during the second phase.

## Species Account

### Morro Shoulderband Snail (*Helminthoglypta walkeriana*)

The Morro shoulderband snail (*Helminthoglypta walkeriana*) is a native gastropod found only in western San Luis Obispo County. The U.S. Fish and Wildlife Service listed the species as endangered on December 15, 1994 (USFWS, 1994). At the time of the listing a description of threats to the Morro shoulderband snail included degradation of its habitat due to invasive, nonnative plant species (e.g., veldt grass), structural changes in its habitat resulting from the maturation of dune vegetation and recreational use (e.g., heavy off-road vehicle use), and the destruction of its habitat from increasing development (USFWS, 2001). Additional threats to the snail may include competition for resources with the introduced brown garden snail, the introduction of nonnative predatory snails (e.g., *Oxychilus* sp.), the small and isolated nature of the remaining snail populations, fire, the use of pesticides, and parasitization by sarcophagid flies (Roth, 1985; USFWS, 2001).

The range of the Morro shoulderband snail was originally reported to include areas south of Morro Bay, west of Los Osos Creek, north of Hazard Canyon, and south of Cayucos. An interspecific variation of the species, *H. walkeriana* var. *morroensis*, was also reported from locations “near” the City of San Luis Obispo, however, this inland variation of the Morro shoulderband snail was believed to be extinct at the time of the federal listing. Live specimens of *H. walkeriana* var. *morroensis* have been recently documented in a variety of habitats in and around San Luis Obispo, in the Chorro and Los Osos valleys, and north of Morro Bay from locations in Cayucos. The rediscovery of *H. walkeriana* var. *morroensis* and its documentation over a range that may exceed

35,000 acres has resulted in the issuance of a position statement by the USFWS announcing that the unintended protection of *morroensis* will be discontinued. Protection under the Endangered Species Act of 1973 is still provided for *H. walkeriana*, the variation of the species that inhabits sandy soils around the community of Los Osos. Critical habitat for the Morro shoulderband snail was designated pursuant to the Endangered Species Act of 1973 on February 7, 2001 (USFWS, 2001). The designation included three separate Critical Habitat Units consisting of a total of 1,039 hectares (2,566 acres) of coastal dune and scrub habitat, and maritime chaparral located adjacent to the Morro Bay Estuary.

Little is known about the ecology of the Morro shoulderband snail. It is presumed that Morro shoulderband snails aestivate in leaf litter during prolonged dry periods and become more active during rain, heavy fog, and dew. The Morro shoulderband snail is generally associated with sandy soils that support coastal dune and sage scrub, and maritime chaparral plant communities. Dense, low-growing vegetation that has considerable contact with the ground appears to be an important habitat feature for the species. Within this dense, shrubby vegetation snails typically inhabit microhabitat provided by accumulated plant litter, decaying vegetation, and woody debris. These features offer partial shading to moderate temperatures, some degree of moisture persistence, protection from desiccation by the wind, and refuge from predators.

Native plant species that the Morro shoulderband snail is often associated with include mock heather, buckwheat (*Eriogonum parvifolium*), eriastrum (*Eriastrum densifolium*), chamisso lupine (*Lupinus chamissonis*), seaside woolly sunflower (*Eriophyllum staechadifolium*), dune almond (*Prunus fasciculata punctata*), dudleya (*Dudleya* sp.), and deerweed (Roth, 1985; USFWS, 2003a). Morro shoulderband snails have also been found in introduced plant species such as ice plant/hotentot fig (*Mesembryanthemum* spp.), fennel (*Foeniculum vulgare*), fig-marigold (*Carpobrotus* sp.), rockrose (*Cistus* sp.), Myoporum (*Myoporum carsonii*), and German ivy (*Senecio mikanioides*) (USFWS, 2003a; Dugan, pers. obs., 2003).

## Methodology

Snail surveys were conducted in accordance with the guidelines outlined in *Survey Guidelines for the Morro Shoulderband Snail (Helminthoglypta walkeriana)* (USFWS, June 2003b). TENERA biologists Dan Dugan (USFWS Permit #TE 067992-0) and Barbie Dugan (USFWS Permit #TE 067990-0) conducted the surveys. Surveys of the property entailed visual searches of vegetation and objects that might provide suitable refuge or microhabitat for Morro shoulderband snails. Objects that were not embedded were carefully turned to inspect the area beneath; turned objects were subsequently returned to their original position/orientation. Live snails, empty shells, and shell fragments found during surveys were positively identified and noted on the survey data sheet (Appendix A). Representative photographs of the site are shown in Appendix B.

Rainfall totals reported for the Los Osos area during the 24 hours preceding each of the surveys are reported in Appendix C. The rainfall summary for the project area was compiled from information reported on Accuweather.com. Measurements of air temperature and wind speed were collected at the beginning of each survey using a Skymate SM-18 hand-held wind meter.

## Survey Results

The protocol survey effort for the property included two site surveys and was conducted over a period of just over seven weeks, from 9 November 2005 to 31 December 2005. A summary of the survey results is presented in Table 1. The survey effort for the site ranged from 2.0 to 3.3 person hours per hectare.

A total of one live Morro shoulderband snail and six vacant shells were located on the property during the two survey efforts. The live Morro shoulderband snail was documented on the site during the second survey, indicating that the species is currently present on the property. The small size of the live snail (10.8 mm) and the condition of the vacant shells found during the survey, including old shells (periostracum missing, bleached), medium-aged shells (periostracum partially of mostly missing, brown pigment remaining), and fresh shells (periostracum intact, shell about as in life), suggest that a viable population of Morro shoulderband snails has persisted on the site for an extended period of time. The live Morro shoulderband snail and five of the six vacant shells found during the survey were located on the southeastern quadrant of the property. The remaining shell was an extremely fresh broken specimen that was found on the northern half of the property, in grass at the base of a wooden fence. The shell was found within a pile of broken/vacant *H. aspersa* shells. In addition to Morro shoulderband snail, two introduced snail species, the European brown garden snail (*Helix aspersa*) and the cellar glass snail (*Oxychilus cellarius*), were encountered on the property during surveys.

**Table 1. Summary of survey effort, weather, and results (Search Area = 5.23 acres/2.117 hectares).**

Survey Date	Survey Time/Effort	Weather During and Prior to Survey	Temperature	Results
11/9/05	<b>Time:</b> 1300 to 1630 <b>Effort:</b> 3.3 person hours/hectare	<b>During:</b> Partly cloudy- clearing <b>Prior To:</b> 0.07 in. rain on 11/8/05 and 0.68 in. rain on 11/9/05	60° F	3 <i>H. walkeriana</i> shells <i>O. cellarius</i> present <i>H. aspersa</i> : present
12/31/05	<b>Time:</b> 1120 to 1530 <b>Effort:</b> 2.0 person hours/hectare	<b>During:</b> Clearing and windy. <b>Prior To:</b> 0.44 in. of rain during AM hours on 12/31/05.	61° F	1 live <i>H. walkeriana</i> 3 <i>H. walkeriana</i> shells <i>H. aspersa</i> : present <i>O. cellarius</i> present

## **Possible Threats Observed**

A number of direct threats to Morro shoulderband snails occupying the Bahia Vista Estates project site were identified during surveys. These include current landscaping practices, the disturbance/dismantling of boulder piles, and the use of snail bait. The future demolition of existing buildings on the site and the removal of associated landscape vegetation also have a strong likelihood to result in the “take” of Morro shoulderband snails. The meaning of “take” is defined in Section 3(18) of the Endangered Species Act (ESA) as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” The illegal take of an endangered species is a violation of Section 9 of the ESA and can result in fines of up to \$200,000, imprisonment, and possibly forfeiture of equipment and vehicles being used when the take occurred.

Two activities occurred on the site between the first and second survey efforts that may have resulted in the illegal take of Morro shoulderband snails. These include the dismantling and relocation of a number of boulder piles on the site, and the removal of several shrubs adjacent to Broderson Avenue. Both the boulder piles and the shrubs were identified to the on-site owner/property manager (during the first survey) as habitat features that may be occupied by Morro shoulderband snails.

## **Discussion**

The results of the survey effort indicate that the Morro shoulderband snail is present on the Bahia Vista Estates site. Therefore, construction activities associated with the proposed development have a strong likelihood to result in the “take” of the species. Options for moving forward with your project include avoiding the take of the MSS or obtaining an incidental take authorization from the U.S. Fish and Wildlife Service (USFWS) through an approved Habitat Conservation Plan (HCP). Avoidance is sometimes possible by re-designing the project so that occupied habitat is not disturbed and the potential for take of MSS is reduced to negligible levels. In such cases the USFWS may issue a determination of concurrence that the project is not likely to result in the take of Morro shoulderband snails. However, a redesign of the proposed Bahia Vista Estates subdivision to avoid the take of Morro shoulderband snails does not appear to be an appropriate or practical option.

First, the live MSS and vacant shells found on the property were located in vegetation and objects associated with aged structures that should not be preserved as MSS habitat. Avoidance of these areas during construction would restrict the full utilization of the property and ultimately create an attractive nuisance or hazard that would have to be remedied by demolition of the buildings at some point in the future. Therefore, avoidance of areas on the site where the live MSS and vacant shells would simply function to postpone the eventual take of the species. Given the circumstances, obtaining a determination of concurrence for your project from the USFWS appears unlikely.

## Recommendations

For non-federal projects and private development projects such as yours that do not require a federal permit, preparation of an HCP is the only legal mechanism for undertaking a project that will result in the take of a threatened or endangered species. You may obtain the necessary incidental take authorization through the preparation of an individual HCP or participation in a grouped HCP such as the Los Osos community wide HCP that has been under preparation for several years. However, due to recent developments with the Los Osos Wastewater Treatment Project, it is not known when the anticipated Los Osos Habitat Conservation Plan will be completed. Consequently, the most viable option for proceeding with the proposed Bahia Vista Estates project appears to be through an incidental take permit in the form of an approved individual HCP.

On larger parcels such as the Bahia Vista Estates site, the incidental take of Morro shoulderband snails is often mitigated in HCPs through on-site habitat preservation or restoration. However, the Bahia Vista Estates site is located in an area of little importance to the recovery of the Morro shoulderband snail and supports habitat of extremely low ecological value for the species. We recommend against restricting the full utilization of the property to avoid what is essentially incidental habitat for the Morro shoulderband snail. Additionally, because of its location and the low ecological value of habitat on the site, the appropriateness of on-site mitigation or habitat restoration is questionable. We recommend that you contact the USFWS to discuss your options for off-site mitigation. The USFWS biologist taking the lead on Morro shoulderband snail mitigation options is Ms. Julie Vanderwier. Her contact information is:

Mr. Julie Vanderwier  
Ventura Fish and Wildlife Service Office  
2493 Portola Road, Suite B  
Ventura, CA 93003  
Phone: 805.644.1766 Ext. 222

Finally, landscaping practices and other activities conducted on the Bahia Vista Estates site prior to and during the protocol survey effort have likely had a considerable impact on the distribution and abundance of Morro shoulderband snails. We strongly recommend against any unpermitted grading, ground disturbing activities (including the movement of boulders), building demolition, or vegetation clearance on the site. Each of these activities has a strong potential to result in the illegal take of the Morro shoulderband snail.

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**Appendix A**  
**Morro Shoulderband Snail**  
**Survey Forms**

# MORRO SHOULDERBAND SNAIL FIELD SURVEY FORM

PROJECT: Friedman DATE: 11-9-05 SURVEY NUMBER: 1  
 TEMPERATURE: 60°F START TIME: 1300 END TIME: 1630  
 WEATHER DURING SURVEY: Partly cloudy - clearing WIND: < 5 mph  
 AMOUNT OF MOST RECENT PRECIPITATION: 0.07 in. DATE: 11/8/05  
0.68 in. 11/9/05  
 SURVEYOR(S) D. Dagan SURVEY EFFORT: 3.3  
B. Dagan (person-hours/hectare)

SPECIES H. aspersa - abundant  
 LOCATION \_\_\_\_\_

LIVE  SHELL   
 HABITAT \_\_\_\_\_

SPECIES H. walkeriiana  
 LOCATION 35° 18' 46.2" 7 SE property  
120° 50' 35.9" 7 corner

LIVE  SHELL  - old  
 HABITAT Boulder pile

SPECIES H. walkeriiana  
 LOCATION same as above

LIVE  SHELL  - old  
 HABITAT Boulder pile

SPECIES H. walkeriiana  
 LOCATION 35° 18' 49.6"  
120° 50' 38.0"

LIVE  SHELL  - Fresh / broken  
 HABITAT grass @ base of fence

SPECIES \_\_\_\_\_  
 LOCATION \_\_\_\_\_

LIVE  SHELL   
 HABITAT \_\_\_\_\_

**Notes:** Fresh broken MSS shell found in pile of  
H. aspersa shells. Possible snail bait station.

# MORRO SHOULDERBAND SNAIL FIELD SURVEY FORM

PROJECT: Friedman DATE: 12/31/05 SURVEY NUMBER: 2  
 TEMPERATURE: 61°F START TIME: 1120 END TIME: 1530  
 WEATHER DURING SURVEY: Windy - clearing after AM showers WIND: 5-10 mph  
 AMOUNT OF MOST RECENT PRECIPITATION: 0.44 in. DATE: 12/31/05  
 SURVEYOR(S) D. Dugan SURVEY EFFORT: 2.0  
 (person-hours/hectare)

SPECIES H. walkeriawa

LIVE  SHELL

LOCATION 35° 18' 47.3"  
120° 50' 36.3"

HABITAT weedy/wet grass near fence

SPECIES H. walkeriawa

LIVE  SHELL

LOCATION 35° 18' 47.2"  
120° 50' 36.3"

HABITAT fallow garden area

SPECIES H. walkeriawa

LIVE  SHELL

LOCATION 35° 18' 47.3"  
120° 50' 36.2"

HABITAT Same as above - bricks

SPECIES H. walkeriawa

LIVE  SHELL

LOCATION 35° 18' 46.5"  
120° 50' 37.2"

HABITAT Boulders at base of aloe plant

SPECIES \_\_\_\_\_

LIVE  SHELL

LOCATION \_\_\_\_\_

HABITAT \_\_\_\_\_

Lots of *H. aspersa* shells - no live snail but?

**Notes:** Arrived on site and rock pile where shells were located during Survey 1 had been removed and ground surface leveled/scraped. Other piles (boulder piles) on site had also been dismantled and redistributed to the eastern boundary. The pile of Helix shells where MSS shell was found during Survey #1 had been cleaned up. Discussed with Mr. Ziebarth - said he knew what the MSS "looked like but had never seen one." Spoke with the resident of the trailer and he said that Mr. Ziebarth had come around with a hand full of MSS shells and asked him to "look out" for these

TENERA ENVIRONMENTAL

Page 1 of 1 Snails.

Several shrubs along the eastern property boundary had been removed since the 1st survey. Mr. Ziebarth had watched me search the shrubs during survey #1 and was informed that they were a likely place for MSS.

# **Appendix B**

## **Site Photographs**



**B-1. View of southwest property corner (facing north) from across Pine Avenue at the intersection of Pine Avenue and Los Osos Valley Road.**



**B-2. View of property from southeast corner at the Los Osos Valley Road- Broderson Intersection. View shows location of boulder pile (dismantled-single boulder remains) where two MSS shells (old condition) were located during first survey.**



**B-3. View along northern property boundary (facing east) from northeast property corner.**



**B-4. View of habitat along the eastern property line (facing south) from near northeast property corner.**



**B-5. View of southern property boundary along Los Osos Valley Road (facing west).**



**B-6. View of eastern property boundary along Broderson Avenue (facing north) showing location where boulders from dismantled piles are currently being stored.**



**B-7. View of the western property boundary along Pine Avenue (facing north).**



**B-8. View showing row of aging residential structures in the interior of the property.**



**B-9. View of the common area in the interior of the property (facing northwest).**



**B-10. View of the common area in the interior of the property (facing southeast).**



**B-11. View showing location of dismantled boulder pile (center) in central part of property.**



**B-12. Habitat where broken MSS shell in "fresh" condition was found during the first survey effort.**



**B-13. View showing habitat where two MSS shells were found during second survey effort.**



**B-14. View of habitat where the live MSS (center) was located during the second survey effort.**

# **Appendix C**

## **Rainfall Summary**

**Rainfall Summary**

Date	Rainfall (Inches)	Survey Number	Date	Rainfall (Inches)	Survey Number
11/1/05	0.00		12/12/05	trace	
11/2/05	0.00		12/13/05	0.00	
11/3/05	0.00		12/14/05	0.00	
11/4/05	0.00		12/15/05	0.00	
11/5/05	0.00		12/16/05	0.00	
11/6/05	0.00		12/17/05	trace	
11/7/05	0.01		12/18/05	0.29	
11/8/05	0.07		12/19/05	0.00	
11/9/05	0.68	1	12/20/05	0.01	
11/10/05	0.08		12/21/05	0.00	
11/11/05	0.03		12/22/05	0.01	
11/12/05	0.00		12/23/05	0.00	
11/13/05	0.00		12/24/05	trace	
11/14/05	0.00		12/25/05	0.07	
11/15/05	0.00		12/26/05	0.03	
11/16/05	0.00		12/27/05	trace	
11/17/05	0.00		12/28/05	0.09	
11/18/05	0.00		12/29/05	0.00	
11/19/05	0.00		12/30/05	0.01	
11/20/05	0.00		12/31/05	0.44	2
11/21/05	0.00		1/1/06	1.51	
11/22/05	0.00		1/2/06	0.99	
11/23/05	0.00		1/3/06	0.00	
11/24/05	trace		1/4/06	0.00	
11/25/05	0.02		1/5/06	0.00	
11/26/05	0.00		1/6/06	0.00	
11/27/05	0.00		1/7/06	0.00	
11/28/04	0.00		1/8/06	0.00	
11/29/05	0.04		1/9/06	0.00	
11/30/05	0.00		1/10/06	trace	
12/1/05	0.03		1/11/06	trace	
12/2/05	0.25		1/12/06	0.00	
12/3/05	0.00		1/13/06	0.00	
12/4/05	0.00		1/14/06	0.25	
12/5/05	0.00		1/15/06	0.00	
12/6/05	0.00		1/16/06	0.00	
12/7/05	trace		1/17/06	0.00	
12/8/05	0.44		1/18/06	0.06	
12/9/05	0.00		1/19/06	0.00	
12/10/05	0.00		1/20/06	0.00	
12/11/05	0.00		1/21/06	0.00	



ATTACHMENT B  
**Legal Property Description**

DRAFT

## LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF LOS OSOS, COUNTY OF San Luis Obispo, STATE OF CA AND IS DESCRIBED AS FOLLOWS:

That portion of the southeast quarter of Section 13, Township 30 South, Range 10 East, Mount Diablo Base and Meridian, in the County of San Luis Obispo, State of California, according to the official plat thereof, described as follows:

Beginning at a point on the Easterly line of the Southeast quarter of said Section 13, that is along said Easterly line, South 663.62 feet from the Southeast corner of the North 30 feet of said Southeast quarter: thence West 497 feet to the Easterly line of the land described in Parcel 4 of the deed to the County of San Luis Obispo, recorded March 25, 1949 in Book 513, page 455 of Official Records, in the Office of the County Recorder of said County; thence along the Easterly line of the land described in Parcel 4 of said deed, South to the Southwesterly corner of the land described in the deed to Gail Krisher and wife, recorded September 1, 1949 in Book 533, page 242 of Official Records: thence along the Southerly line of said land of Krisher, East 497 feet to the Easterly line of the Southeast quarter of said Section 13: thence along said last mentioned Easterly line, North to the Point of Beginning.

EXCEPTING therefrom all oils, gases, coal and metals and all other minerals of every kind, character and description, whether now known to exist or hereafter discovered and the right in first parties and in their successors and assigns to prospect, mine, drill and operate in and upon said portion for such oils, gases, coal, metals, and other minerals and to produce and remove the same, and saving, excepting and reserving from this conveyance and unto first parties, their successors and assigns to prospect, mine, drill and operate in and upon said portion, for such oils, gases, coal, metals, and other minerals and to produce and remove the same; and saving, excepting and reserving from this conveyance and unto first parties, their successors and assigns, full rights of ingress and egress to and from, in, along, upon and under the surface of the land hereby granted for the purposes of the aforesaid prospecting, mining, drilling and operating and producing and removing such oil, gases, coal, metals or other minerals, and the right to do on and in the land hereby granted whatever may be reasonably necessary for the full enjoyment and exercise of the property and rights hereby saved, excepted and reserved to first parties, as reserved by Wells Fargo Bank and Union Trust Co. et al, Trs., in deed recorded September 17, 1941 in Book 308, page 69 of Official Records.

ATTACHMENT C  
**Cultural Resource Inventory**

DRAFT



**Bertrando & Bertrando**  
**Research Consultants**  
188 Del Norte Way  
San Luis Obispo, CA 93405  
Office Phone Numbers:  
805 544-1308  
805 543-7831  
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E-mail: [bertrando@thegrid.net](mailto:bertrando@thegrid.net)

May 12, 2006

**Cultural Resource Inventory  
of the Friedman Property  
2150 Pine Avenue  
Corner of Los Osos Valley Road and Pine Avenue  
APN: 074-052-049  
Los Osos, CA.**

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Prepared at the Request of:  
Michael Hodge  
Los Osos, CA.

Prepared by:  
Ethan Bertrando  
Archaeologist

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## ABSTRACT

**In February, 2006, a request was made by Michael Hodge, for a Phase 1 cultural resource inventory to be conducted on property in Los Osos located at the corner of Los Osos Valley Road and Pine Avenue in Los Osos. The parcel was surveyed in anticipation of future development of a residential complex. The results of the investigation found that no potentially significant cultural resources exist on the parcel. Subsequently, no additional archaeological research is recommended for this parcel.**

## INTRODUCTION

The field work carried out as part of this study was conducted by Ethan Bertrando. Mr. Bertrando holds a Master's Degree in Anthropology. The field work took place on February 11, 2006. The investigated parcel contains an area OF approximately 5 acres. The parcel currently contains eighteen structures, most of which are World War II temporary buildings relocated to that property in the 1950s. The investigation was conducted at the request of Michael Hodge on behalf of the landowners and developer. The property is located on the corner of Pine Street and Los Osos Valley Road and is depicted on the Morro Bay South 7.5' USGS quadrangle topographic map as existing in Los Osos.

## BACKGROUND

### Natural History

#### Geology

The land occupied by the project parcel can be described as a stabilized dune over Pleistocene and older buried soils combined with complex geology near the backwaters of the Morro Bay estuary (Chipping 1987). Soil on the project parcel is Baywood soil, comprised almost entirely of sand, with some small gravels and variable frequencies of organic material. Surrounding areas are dominated by Monterey and Franciscan geologic formations, both of which contain pockets of chert and other materials which were sought out by native groups for the production of stone tools (Bertrando and Harro 1996). Areas of later volcanic intrusive formations composed primarily of dacite are also located nearby and also provided raw materials used during prehistory (Roper *et al.* 1997).

#### Hydrology

The water shed of the Los Osos Valley is dominated by Los Osos Creek which actually originates in Clark Valley to the south. The area immediately east of Los Osos, currently viewed as a flood plain exploited for its richness in cultivation, was probably an extension of the back bay in prehistory. Millennia of sediment run-off since the last Ice Age and recent intensification of this process due to agricultural activity, have effectively filled in this portion of the bay. Small

remnant bodies of water such as the Warden and Eto Lakes are all that remain. One of the largest natural springs in the area is located just to the north of the project parcel. Known as Sweet Springs, this artesian spring provides one of the few large reliable fresh water sources in the back bay area. Not surprisingly, aboriginal occupation around this water source appears to have been relatively intense.

Groundwater in the valley is available in three aquifer units; Recent Dune Sands, Older Dune Sands, and the underlying Paso Robles Formation (Chipping 1987). Currently, most of the water is taken from the deepest Paso Robles Formation as the shallower sources have elevated levels of nitrates. These high levels of nitrates are generally attributed to the extensive septic systems existing in Los Osos, although this may also be a result of the wide spread *ceanothus* population.

### Climate

The climate of the general area is described as Mediterranean, hot dry summers and mild wet winters. The south bay, including the areas of Los Osos, Baywood Park and Cuesta-by-the-Sea, has one of the mildest climates in San Luis Obispo County. Summer temperatures are kept in check by an omnipresent marine layer which blankets the coastline until fall. Winter temperatures are regulated by the moderating affects of the ocean. Temperatures rarely exceed 90° Fahrenheit while it is equally unlikely for the thermometer to dip below freezing. Precipitation occurs almost exclusively between the months of November and April. Condensation and light drizzle during the summer from the marine layer also provides some minimal water for certain plants and animals able to exploit this water source.

### Biology

The surrounding native plant community is that of sparse to dense coastal chaparral, including varieties of chamise, sage, coyote bush, dwarf oak, and various indigenous and introduced grasses. Much of the surrounding land has been developed during the last forty years into commercial and residential areas. Several open areas still exist however, including the large wetland areas associated with Morro Bay and Los Osos Creek. The land surrounding the project parcel still supports a variety of native animal species that have existed in the area since prehistoric times. Among these surviving species are badger, rabbit, skunk, grey and ground squirrel, mule deer, fox, raccoon and coyote as well as a variety of local and migrant waterfowl and pelagic avifauna. In addition, bobcat, black bear and mountain lion can still be found in the surrounding hills. Important native species to the local prehistory and history that can no longer be found in the area are tule elk, pronghorn antelope and grizzly bear. These were important resources to the local Native American inhabitants. Elk and antelope continue to be important natural resources in the interior of the county.

### Prehistory

The area surrounding the parcel was occupied at the time of Spanish contact by speakers of the Obispeño dialect of the Chumash language. The Chumash were a group of hunter-gatherer-

fishers who attained an extraordinary level of social complexity given their means of subsistence. Today, descendants of these groups continue to live in San Luis Obispo, Santa Barbara and Ventura Counties as well as elsewhere in California and the United States.

The Obispeño Chumash occupied the northern limits of the Chumash occupation sphere, beginning near the Nipomo area and extending northwards perhaps as far as San Simeon and beyond (Greenwood 1978; Gibson 1991). During prehistory, the area surrounding the estuary and inlet of the Morro Bay area was rich in wild resources. It is believed that this abundance of resources is the reason for the high number and large size of sites per mile relative to neighboring locations, especially to the north and inland. This high frequency of prehistoric sites makes the Morro Bay area extremely important in regards to interpreting prehistoric cultures. The likelihood of encountering large substantial prehistoric sites increases as one nears the bay and estuary. Conversely, most of the sites located in the nearby foothills, away from the resources of the bay, are small ephemeral sites, often used for special purpose activities.

The Native American habitation in the general area has spanned at least 9,000 years and possibly longer (Fitzgerald 1997; Greenwood 1972; Gibson 1996). The coastal sites, because of the proximity to littoral and estuarine resources are often identifiable as containing remarkably dense concentrations of shellfish remains (i.e., shell middens). The indigenous inhabitants were quite accomplished at recovering not only shellfish but other marine resources such as fish, marine mammals and seaweed. In addition, terrestrial resources provided a great part of their consumable goods (Erlandson 1994).

Settlement patterns remain poorly understood for this area, resulting primarily from a lack of investigative focus. Despite this, some general trends in settlement patterns appear in the Los Osos area. Because of the rich environment supported by the estuary throughout prehistory, human occupation of the area seems to have been constant, and in some cases intensive. Most of the older sites and permanent villages were located in what is today known as Baywood Park, especially near Sweet Springs (i.e. Early and Middle Periods). In contrast, the eastern end of Los Osos extending from the Elfin Forest in the north to the Little Oak Forest in the south and roughly bisected by South Bay Boulevard, shows indications of different types of occupation. In this area, the sites are spatially very large but are composed of relatively shallow cultural deposits. Temporally, most of these sites were occupied during the later part of prehistory, approximately after 500 A.D. (E. Bertrando in prep.). This shift in settlement patterns obviously reflects a change in behavior of the indigenous populace but the factors contributing to this shift remain unclear and speculative. Finally, sites on the outskirts of the Los Osos area, especially on the lower slopes of the Irish Hills to the south and Cerro Cabrillo to the north contain prehistoric sites that were focused on short term occupation and specialized activities such as quarrying of chipped stone (Woodward *et al.* 1986; Parker 1994), chipped stone tool reduction and retooling associated with hunting (Gibson 1984) and spiritual sites associated with rock art. The data regarding settlement patterns remains intriguing but woefully incomplete.

With the establishment of Mission San Luis Obispo de Tolosa in 1772 as well as infrequent European visits to the area prior to that time, the Native American culture of the area changed dramatically. Indigenous technologies were lost or replaced by western ones, and religion and belief systems became transformed and incorporated into the Spanish culture. Most devastating

to the local Chumash population was the introduction of Old World diseases for which they had little natural tolerance (Heizer 1974). As a result, the Native American population in the area dropped dramatically between the end of the 18th to the end of the 19th century (Gibson 1991).

## **History**

The land containing and surrounding the project parcel was first given for private ownership in the early 1840s. The parcel was located on the Rancho Cañada de los Osos, granted to Victor Linares in 1842 (Angel 1979). This rancho was combined with Rancho Pecho y Islay (to the south) in 1845 to form the Rancho Cañada de los Osos, y Pecho y Islay and was awarded to Captain John Wilson and James Scott (Miossi 1973).

At the time of Captain Wilson's death in 1861 the land defined as Rancho Cañada de los Osos was bequeathed to his son, John Wilson. Throughout these early historical periods the lands surrounding the project parcel remained relatively untouched. The area was described as "useless sagebrush land" that was not even fit for cattle grazing (Wheeler 1973). Areas to the east were cultivated but the sandy lower slopes of the Irish hills in this area made crop raising unfeasible. Historic maps and aerial photographs of the area show that the area immediately surrounding the project area saw little development until the middle of the 20<sup>th</sup> Century.

Original subdivision of the Baywood area was completed by the railroad in the 1800s. Walter Redfield saw an opportunity to make quick cash off of cheap, undesirable property. He began his run at development in 1919. Besides the low cost (some lots sold for as low as \$10.00) Redfield brought in prospective clients to enjoy fishing, hunting and the beach (Wheeler 1973). Several years later several parcels were sold to a Mr. Otto which heralded the next phase of development for Baywood Park.

The area to the north of the parcel was originally named El Moro but was changed in 1924 due to confusion with Morro Bay. The innovator responsible for this was Richard Stuart Otto who renamed the development Baywood Park. He began purchasing lots around 1920 and had acquired the entire development the same year the name changed (Sullivan 1994). In the 1920's the first grocery store and gas station were constructed at Los Osos and from this point development in this area continued at an ever increasing pace.

To the west, Cuesta-by-the-Sea was purchased from John and Maggie McGinnis, a Scots family of dairy farmers, by I. L. Mitchell, the brother-in-law of E.G. Lewis of Atascadero. Although the land was purchased and laid out prior to El Moro, actual development of the area did not take place until much later (Wheeler 1973). Initial use of the area in the 1940s was limited to vacation cabins designed primarily for those interested in hunting and fishing. To enhance the appeal of property in Cuesta-by-the-Sea, dredging was conducted in 1960. The intent was to provide 168 water front homes with private docks (Sullivan 1994). The success of the dredging was very limited and today little remains of the slips and docks originally conceived at this time.

The area between these two developments, including Sweet Springs, was proposed for subdivision in 1893. This subdivision, known as Sunshine Beach, never came into existence

because the water produced by the artesian wells at Sweet Springs was insufficient to supply the needs of the proposed community. This subdivision ran from the bay shore at Sweet Springs southward to Los Osos Valley Road where the appropriately named Sweet Springs Saloon is located (Sullivan 1994). Developments in the area did occur later but much of the immediate area remains undeveloped, a testament to the failure of the early Sunshine Beach subdivision.

The Stephen property exists in an area that remains little developed. The existing residence and residence immediately to the east were constructed in 1988. No other adjacent structures exist on Rosina Drive.

## **METHODS**

### **Archival Search**

On February 8<sup>th</sup>, 2006, a record search was conducted at the Central Coast Information Center (Department of Anthropology, University of California at Santa Barbara) for the project area. Cultural resource site maps, records and reports were consulted. In addition, the archives of Bertrando & Bertrando Research Consultants were reviewed. Finally, historic maps and documents were checked to determine past land use of the parcel and surrounding area.

### **Field Investigation**

On February 11<sup>th</sup>, 2006, a Phase I archaeological surface investigation was conducted by Ethan Bertrando on the project parcel. The entire parcel was surveyed using meandering transects at 2 meter intervals. Most of the parcel has been previously disturbed through human development. Topographic irregularities suggested that several significant episodes of filling and grading had occurred on the property

It was felt that sufficient areas of the property were visible to allow an acceptable level of confidence for an inventory of any potential prehistoric resources. Some small cleared areas and rodent tailings provided a glimpse at subsurface deposits. No subsurface testing was conducted during this study and no other means for investigating the nature of the subsurface deposit was employed.

## **SIGNIFICANCE CRITERIA**

Legislation created with the goal of protecting cultural resources originated with the passing of *The Antiquities Act of 1906*. This act protected and preserved cultural resources on federal lands including Indian Reservations, forest preserves and military reservations. Other acts followed including *The Historic Sites Act of 1935*, *The Federal Aid Highway Act of 1956*, *The Reservoir Salvage Act of 1960*, *National Historic Preservation Act of 1966*, *National Environmental Policy Act of 1969*, *The Archaeological and Historic Preservation Act of 1974*, *The American Religious Freedom Act of 1978*, *The Archaeological Resources Protection Act of 1979*

and *The Native American Graves Protection and Repatriation Act of 1990* (E. Bertrando and B. Bertrando 1996). Any or all of these may be invoked to address cultural resource issues on federal property. In California, the majority of projects subject to cultural resource considerations rely on *The California Environmental Quality Act of 1970* (CEQA) to provide guidelines regarding the determination of resource significance and mitigation measures.

Effective in February 1999, changes to CEQA removed thresholds of significance from the main document and relied upon criteria set forth in the Public Resources Code, Section 5042.1, Title 14 CCR Section 4852. These revisions to qualifying criteria include the following;

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic value.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Cultural resources displaying one or more of these characteristics, or others not mentioned, may be considered significant and thereby subject to special measures of avoidance or evaluation prior to any potential impacts. If impacts cannot be avoided then a mitigation plan is normally developed. CEQA directives regarding mitigation of cultural resources are also addressed in Section VI & VII, Appendix K (Wilcoxon and Bertrando in prep.).

## **RESULTS**

### **Archival Search**

The results of the record search found that no archaeological sites have been recorded in the immediate vicinity despite numerous reconnaissance projects conducted in the general area. The nearest was conducted a ½ block away at the corner of Skyline Drive and Doris Avenue and was also found not to contain any cultural resource remains (Dills 1992). The nearest archaeological sites are CA-SLO-1236 and CA-SLO-14 located on the shores of the back bay, a common prehistoric occupation area. Sites to the south and upslope include CA-SLO-1127 and CA-SLO-1151 and probably represent special use areas or task specific sites.

### **Field Investigation**

The brief survey of the small parcel quickly determined that no apparent archaeological or other cultural resources were present on the parcel. Some historic material was noted but it was of recent origin. Surface visibility was good to moderate over most of the project area. Despite dense grass, the loose Baywood soil on the parcel lent itself to relatively easy inspection. Based on

currently understood site locations and settlement patterns of prehistoric sites in the Los Osos area, this parcel location was not anticipated as a likely place for an aboriginal occupation. The results of this and other nearby field investigations support this belief (Bertrando 1998).

The existing residences on the property were all greater than fifty years of age and therefore were considered for their potential historic significance. All of the buildings were obtained from Camp Roberts in the 1950s and are examples of World War II temporary wooden structures. Similar examples of relocated military buildings are located throughout the county and provided inexpensive prefabricated housing in the 1950s and 1960s.

These buildings were found not to be significant because substantial modifications, loss of integrity and altered setting from their original location. Furthermore, temporary wooden structures from World War II have large been mitigated through a Programmatic Memorandum of Agreement (PMOA) between the Department of Defense and the Advisory Council on Historic Preservation. One of the mitigation measures supported in this PMOA is that the United States Army maintain examples of these structures in their original settings at military posts across the country. This additional consideration would minimize the historical or architectural value of the buildings on the Friedman property, even if setting, integrity and modifications were not concerns that detracted from their significance.

## **CONCLUSION \ RECOMMENDATIONS**

Based on the negative results of both the field investigation and the records/archival search of the project area, no further recommendations are made to research cultural resources of the parcel prior to construction. If, however, buried archaeological materials are encountered during construction, work should cease in the immediate area of the discovery until a qualified archaeologist can be retained to make an on-site evaluation of the resource and propose appropriate alternatives to protect and preserve the resource as stipulated in CEQA and the Public Resources Codes.

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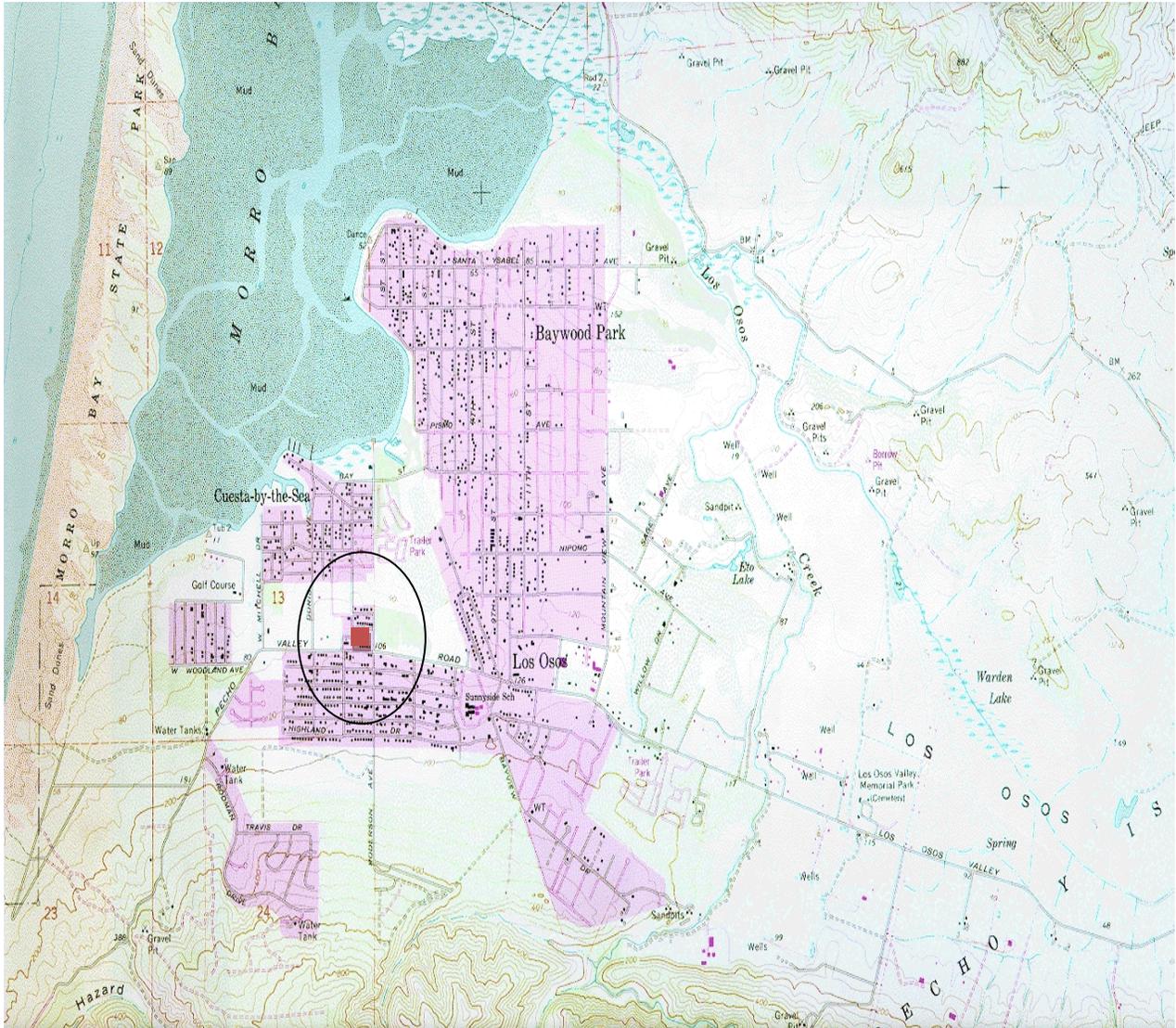
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## HISTORIC MAPS CONSULTED

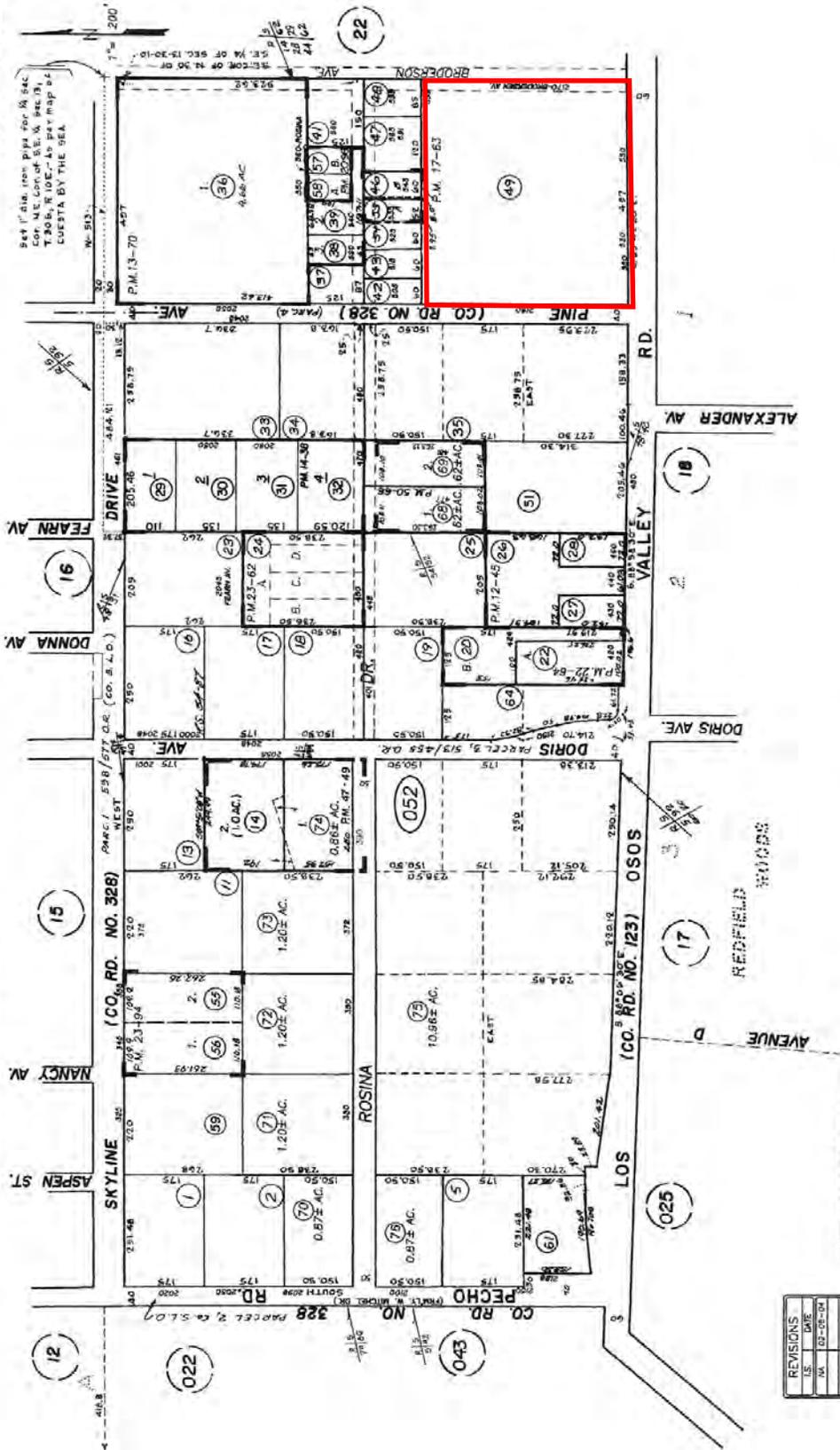
- 1858 Plat of Cañada de Los Osos y Pecho y Islay. Surveyed by Brice M. Henry. No structures are shown on or near the parcel.
- 1874 Map of the County of San Luis Obispo, California. Surveyed by R.R. Harris. No structures are shown on or near the parcel.
- 1900 USGS Topographic Map, San Luis Obispo Quadrangle. No structures are shown on or near the parcel. No structures are shown on or near the parcel.
- 1903 USGS Topographic Map, Cayucos Quadrangle. No structures are shown on or near the parcel. No structures are shown on or near the parcel.
- 1930's Aerial Photograph of Estero Bay, In All About Baywood Park by Joan Sullivan. Linear groves of trees suggest a residence in the general vicinity that is not directly visible.
- 1978 USGS Topographic Map, Moro Bay South, 7.5 Minute Series. Residences are shown near the parcel.

**APPENDIX A: Project Maps**  
Map 1 Quadrangle, Morro Bay South, 7.5 minute series



# Map 2: Parcel Map Project Parcel Depicted

074-052



LOS OSOS  
ASSESSOR'S MAP  
SAN LUIS OBISPO, CA  
BOOK 074 PAGE 052

MARTIN TRACT SURVEY, R.S. BK. 5, PG. 92.  
T.30S. ; R.10E. ; SECTION 13. (N.1/2 OF S.E.1/4), M.D.B. & M.

REVISIONS	DATE	BY

100' 0 200' 400'

THIS MAP IS PREPARED FOR  
JAN 12-13-09  
ASSESSMENT PURPOSES ONLY.

