ROBERTSON RANCH

EAST VILLAGE

OPEN SPACE LAND MANAGEMENT PLAN

Prepared for:

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May 2, 2006

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I. INTRODUCTION

A. Background

The Robertson Ranch Master Plan area is approximately 398 acres of planned development located within the north-central area of the city of Carlsbad (Figure 1). Through the CEQA review for the Robertson Ranch Master Plan project, the project was determined to result in significant impacts to sensitive upland biological resources.

As mitigation for these impacts, the two Robertson Ranch landowners are obligated to set aside for permanent conservation significant amounts of open space, including large tracts of native and restored Diegan coastal sage scrub ("DCSS") habitat. This habitat conservation and revegetation provides for a habitat corridor running diagonally through the Robertson Ranch site from north-east to southwest, but also meanders throughout the hillsides of the property.

The Robertson Ranch is owned by two separate entities, as follows:

East Village – Calavera Hills II, LLC

West Village – Robertson Family Trust

This Robertson Ranch East Village Open Space Land Management Plan ("Plan") constitutes the land management plan for the open spaces of the East Village only.

The East Village open spaces subject to this Plan are identified as the East Village Habitat Conservation Area ("EVHCA") (Figure 2). This is the area affected by the requirements of this Plan. This Plan is intended to provide guidance to the open space manager, to ensure the perpetual conservation and maximization of the biological resource values of the EVHCA.

The EVHCA is being preserved in accordance with the requirements of the City of Carlsbad Habitat Management Plan ("HMP"), in concurrence with the City of Carlsbad, the U.S. Fish and Wildlife Service ("USFWS") and the California Department of Fish and

Game ("CDFG"). The primary goal of this habitat conservation is to protect the habitat of the federally listed coastal California gnatcatcher, as well as other listed species and sensitive plant and wildlife species that are covered under the Multiple Habitat Conservation Plan ("MHCP"). A total of two (2) gnatcatchers have been observed to occupy the East Village preserve area in the survey (2002) by Merkel & Associates used to determine the preserve areas. To confirm the presence of coastal California gnatcatcher, a presence/absence survey shall be undertaken by long-term management entity within 60 days of officially accepting the property.

The subject EVHCA constitutes the implementation of the habitat conservation product contemplated in the planning standards for the Robertson Ranch property identified in the adopted HMP. As such, in accordance with this HMP, the developer is required to identify and endow a public or private natural land management entity to manage this conserved area in perpetuity. Identifying the critical processes and elements that need protection, and then planning, budgeting and funding for sustaining these processes and elements in perpetuity is the essence of long-term land protection. This Plan provides a blueprint for conservation management of the EVHCA site.

B. Purpose

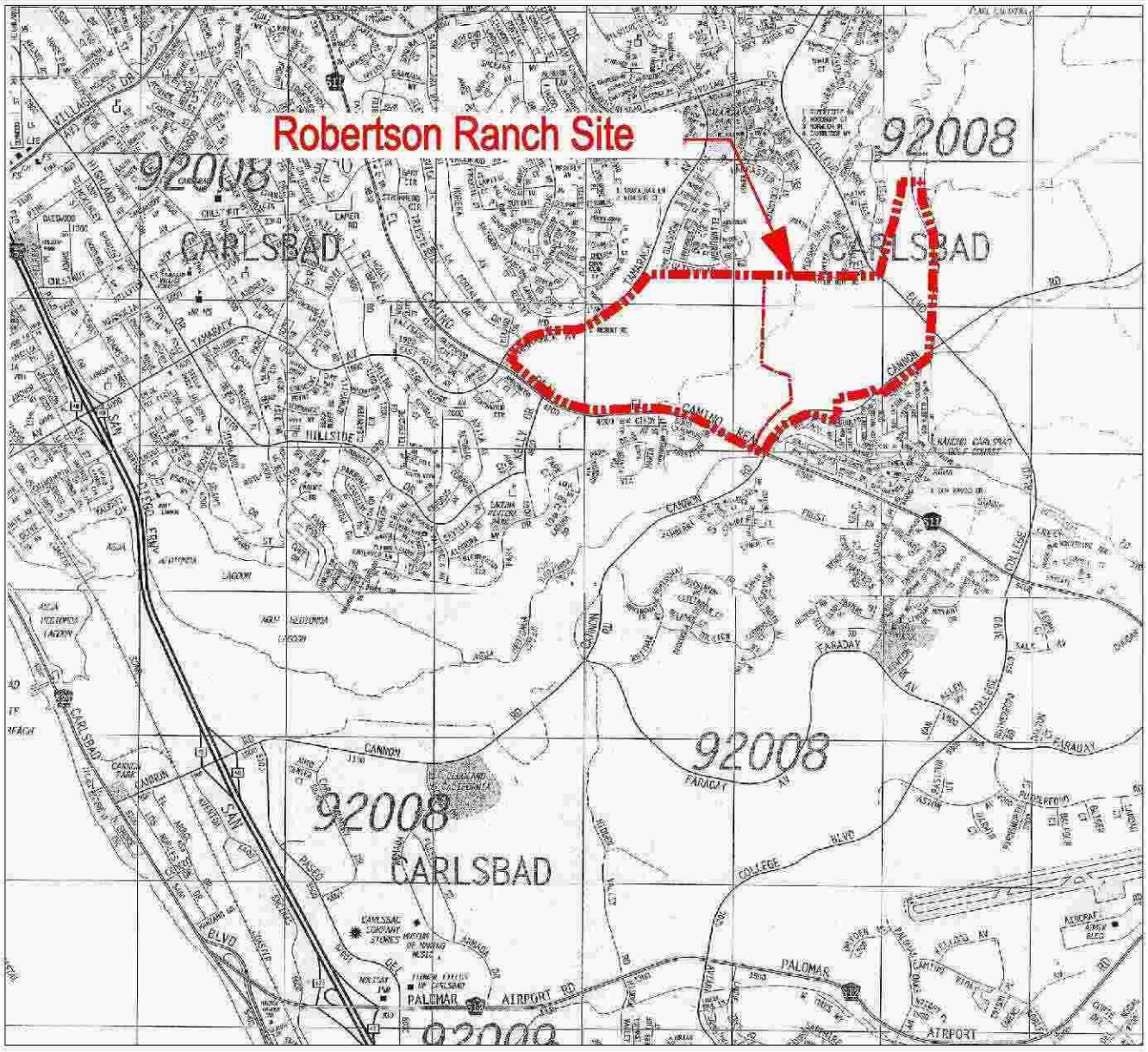
The purpose of this Plan is to establish parameters for the long-term management and protection of the biological resources of the EVHCA. This Plan includes a component for managing and monitoring riparian systems in the Robertson Ranch preserve and covered species associated with these areas. The Plan also includes areas which presently contain high-value DCSS resources, areas which will be restored from agricultural lands to DCSS habitat over an approximate 5-year period, and areas which will undergo re-introduction of native hydroseeding which are expected to re-vegetate naturally over a longer period of time. The intent is to assure that, through proper management, maintenance and monitoring, the overall biological values will be protected from disturbance. Through implementation of this Plan, it is anticipated that the open space area; (a) will persist and increase in value as viable California gnatcatcher nesting habitat, (b) will become biologically integrated into the overall open space network of the City of Carlsbad, (c) will remain consistent with the requirements of the HMP, (d) will provide a wildlife movement corridor for HMP covered species, coyotes, and mesopredators, and (e) will provide live-in habitat for HMP covered species with the potential to occur on-site.

This document provides a management program to ensure an ecologically sustainable conservation area, conserving both the diversity and function of the ecosystem through preservation of and adaptive management of the vegetation communities. This plan will outline the resources and characteristics of the EVHCA, and provide a brief overview of general tenets of conservation biology for natural areas management as it applies to this area.

C. Implementation of the HMP

This Plan is consistent with the California Natural Communities Conservation Planning ("NCCP") Act and with the City of Carlsbad's Habitat Management Plan ("HMP") and the North County Multiple Habitat Conservation Program ("MHCP"). It is expected that future development activity within San Diego County will necessitate the mitigation of impacts to endangered and sensitive species and biologically sensitive habitats through the preservation of on-site lands which possess comparable habitat values. The biological values on-site, along with the property's proximity to adjacent large areas of natural habitat and surrounding preserves, and its connectivity to the protected open space lands occupied by listed and sensitive species, led to its conservation. All management and monitoring activities outlined in this plan will remain consistent with all MHCP and HMP/OS standards and policies in the future.

The EVHCA constitutes the eastern portion of Linkage Area B between Core #3 and Core #4 of the Carlsbad HMP. As such, it is intended that this open space program is to be maintained as a functional biological linkage between preserve lands around Lake Calavera, Calavera Hills and preserved lands to the east, and the Robertson Ranch West Village habitat corridor and Agua Hedionda Lagoon wetlands open spaces to the west. The EVHCA is located within Local Facilities Management Zone 14, the southern portion of which encompasses Robertson Ranch. It is dominated by agricultural fields, with scattered areas of Non-native Grasslands ("NNG") and DCSS. It is the intent of this East Village Open Space Management Plan to implement the program of habitat linkage through Zone 14 through implementation of the revegetation and conservation program described in this Plan.



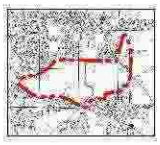
Base: The Thomas Guide, San Diego County (2005)

NORTH

2000' 4000' 8000' FT

Scale: 1" = 4000'

LEGEND



Robertson Ranch

Figure 1
Location Map
ROBERTSON RANCH
Carlsbad, California

PLANNING SYSTEMS

LAND DEVELOPMENT PLANNING
LANDSCAPE ARCHITECTURE
POLICY AND PROGRAMS
ENVIRONMENTAL MITIGATION

1503 GRAPHA AVENUE, SUITE 305, CARLSBAD, CA 92008

LEGEND

- Robertson Ranch Boundary
- HMP Hardline
- Open Space Boundary
- SDG&E Easement Boundary
- Protected Existing Diegan Coastal Sage Scrub (DCSS)
- Protected Existing Chamise Chaparral
- Protected Existing Riparian Corridor
- Wetlands Restoration
- Non-native Grasslands

UPLAND RESTORATION AREAS

- DCSS revegetation - Area A

HABITAT SUMMARY (EAST VILLAGE)	APPROX. AC.
Total existing Diegan Coastal Sage Scrub (DCSS):	28.4 ac
Total existing Chamise Chaparral:	1.7 ac
Total existing Riparian Corridor:	6.1 ac
(DCSS) REVEGETATION AREA A	10.2 ac
(DCSS) REVEGETATION AREA A (OFFSITE)	3.2 ac
TOTAL (AREA A & OFFSITE):	13.4 ac

May 1, 2006

PLANNING SYSTEMS
LAND USE/COASTAL PLANNING
LANDSCAPE ARCHITECTURE
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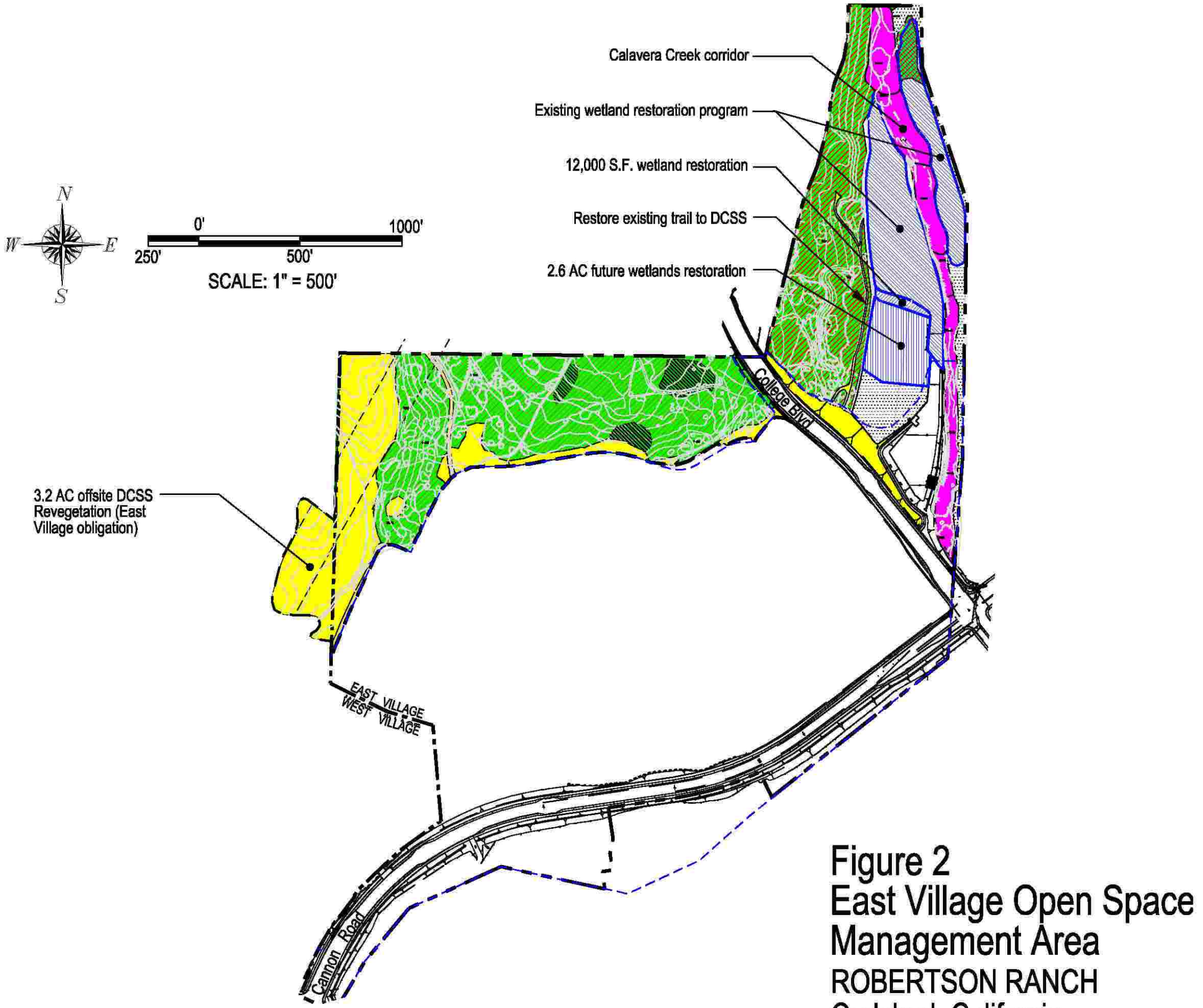

Figure 2
East Village Open Space Management Area
ROBERTSON RANCH
Carlsbad, California

II. SITE CHARACTERISTICS

A. Physical Characteristics

The EVHCA is located in the City of Carlsbad, within the area of Robertson Ranch, approximately 2.5 miles inland from the Pacific Ocean and lying east of El Camino Real and both east and west of College Boulevard. Residential neighborhoods occur adjacent to the property on the northern perimeter of the preserve. Planned residential land uses are clustered along the southern portion of the open spaces of this EVHCA. College Boulevard bisects the EVHCA. Area to the east and north of College Boulevard is referred to as the "panhandle" portion of the project site.

The site's topography slopes from a high point (elev. 200 ft.) at the central-north of the EVHCA, to a low point (elev. 25 ft.) at the southwesterly frontage at the El Camino Real and Cannon Road intersection. A portion of the area within the preserve consists of historical agricultural lands, which will undergo extensive DCSS revegetation. This revegetation program is the subject of a separate plan.

B. Biological Characteristics

1. Existing Native Habitats

The EVHCA contains a substantial existing stand of natural DCSS habitat interspersed with some Chamise chaparral communities. Also, an existing ribbon of riparian habitat (sycamores and southern willow scrub) exists along the banks of Calavera Creek. Other vegetation types are non-sensitive. These areas are shown on Figure 2, and quantified on Table 1.

Table 1: Vegetation Breakdown – Existing Native (Within EVHCA)

Vegetation Type	Acreage
Diegan coastal sage scrub (CSS)	28.4
Chamise Chaparral (CC)	1.7
Riparian Habitat (RH)	6.1
TOTAL	36.2

2. Habitat Revegetation

In addition to the native vegetation resources identified above, areas of DCSS habitat revegetation occur within the habitat corridor. This DCSS revegetation effort will be initiated by the developer of the East Village residential property at the time that development is commenced on the East Village. During the period in which this restored DCSS is establishing, the owner(s) of the property will be responsible to perform the necessary management, monitoring and maintenance. Upon completion of the establishment period (typically five years) and acceptance by the Wildlife Agencies, the revegetation area will be combined with the existing habitat area and transferred to the management entity. At that time,

ongoing maintenance and other obligations associated with these areas will become the responsibility of the management entity. These revegetated areas shall then be managed in accordance with the program for "Existing" DCSS in this Plan. The East Village CSS revegetation includes 10.2 acres of fallow agricultural lands and restored slopes on the East Village, and also 3.2 acres of fallow lands to be revegetated on the West Village. This West Village obligation is pursuant to mitigation for previous Calavera Hills open space impacts. These areas are all shown on Figure 2.

Also, existing wetland/riparian revegetation occurs over 7.4 acres in the panhandle portion of the site. This revegetation is provided as mitigation for the Calavera Hills and College Blvd. and Cannon Road projects which were previously approved and constructed. The City and the Calavera Hills developer are responsible for management and maintenance of this area during the establishment period. The wetlands/riparian revegetation area will be increased by approximately 2.9 acres as mitigation for wetlands and riparian impacts associated with the West Village. This area will be included in the Open Space Management at the time that the specific wetland revegetation area is accepted as completed by the City of Carlsbad.

Table 2: Revegetation Vegetation Breakdown – Agriculture Lands to be Restored to Native

Revegetation Type	Acreage
Initial (Extensive) CSS Revegetation (Area A)	10.2
Initial (Extensive) CSS Revegetation (Area A) (On West Village property)	3.2
Wetland (Riparian) Revegetation – Calavera Hills	8.3
Wetland (Riparian) Revegetation Expansion (12,000 s.f.)	0.3
Future Wetland (Riparian) Revegetation – West Village	2.6
TOTAL	24.6

3. Other Areas to be Managed

The EVHCA includes two non-native areas that will be managed in conjunction with the overall open space program.

Table 3: Other Areas to be Managed

Vegetation Type or Use	Acreage
Non-Native Grasslands	3.6
Community Trails	0.5
TOTAL	4.1

4. Non-Management Areas

Detention Basin BJB, located in the panhandle area of the East Village is maintained by the City of Carlsbad, and thus, will not be managed as part of this EVHCA.

Table 4: Non-Management Areas

Non-Management Area	Acreage
Detention Basin BJB	2.9
TOTAL	2.9

5. Total Robertson Ranch Open Space Breakdown Reference

The total Robertson Ranch open space acreage breakdown is as shown on Table 5, below.

Table 5: Robertson Ranch OS Breakdown Obligations

	East Village	West Village	Total
Existing Native Vegetation			
Existing Coastal Sage Scrub	28.4	22.0	50.4
Existing Chamise Chaparral	1.7	0	1.7
Existing Riparian	6.1	2.5	8.6
SUB-TOTAL	36.2	24.5	60.7
Revegetation			
Initial (Extensive) CSS Revegetation (Area A)	10.2	0	10.2
Initial (Extensive) CSS Revegetation (Area A) (On West Village property)	3.2	0	3.2
Extensive CSS Revegetation on Habitat Corridor slopes (Area B)	0	5.6	5.6
Modest CSS Re-introduction in Habitat Corridor (Area C)	0	18.9	18.9
Modest CSS Re-introduction with West Village Grading	0	9.3	9.3
Wetland (Riparian) Revegetation – Calavera Hills	8.3	0	8.3
Wetland (Riparian) Revegetation Expansion (12,000 s.f.)	0.3	0	0.3
Future Wetland (Riparian) Revegetation – West Village	2.6	0	2.6
SUB-TOTAL	24.6	33.8	58.4
Other Areas to be Managed			
Non-Native Grasslands	3.6	4.9	8.5
Community Trails	0.5	0.5	1.0
SUB-TOTAL	4.1	5.4	9.5
Non-Management Areas			
Detention Basin BJB	2.9	0	2.9
SUB-TOTAL	2.9	0	2.9
GRAND TOTAL	67.8	65.2	133.0

C. Endangered/Threatened Species

One (1) listed animal species (Coastal California Gnatcatcher) occupies the preserve area. Two pairs of Gnatcatchers have been located within DCSS of the EVHCA during focused surveys:

Table 6: Endangered/Threatened Species Occupying the EVHCA

Latin name	*Common name*	*agency listed*	*HMP listed*	*MHCP Vol. II listed*
Polioptila californica californica	Coastal California gnatcatcher	FT /SSC	Yes	Yes

Sensitive animal species also occupying the preserve area:

Table 7: Sensitive Animals Occupying the EVHCA

Latin name	*Common name*	*agency listed*	*HMP listed*	*MHCP Vol. II listed*
Cnemidophorus hyperthus beldingi	Orange-throated whiptail	SSC	Yes	Yes
Elanus leucurus	White-tailed kite	FP	No	No
Circus cyaneus	Northern harrier hawk	CSC	No	Yes
Accipiter cooperii	Copper's hawk	SSC	Yes	Yes
Lanius ludovicianus	Loggerhead shrike	CSC	No	No
Aimophila ruficeps canescens	So. Ca. Rufous-crowned sparrow	CSC	No	Yes
Amphispiza belli belli	Bell's sage sparrow	CSC	No	Yes

Sensitive plant species also occupying the preserve area:

Table 8: Sensitive Plants Occupying the EVHCA

Latin name	*Common name*	*agency listed*	*HMP listed*	*MHCP Vol. II listed*
Adolphia californica	California adolphia	CNPS	No	No
Dichondra occidentalis	Western dichondra	CNPS	No	No

Sensitivity Codes:
FT Federally Threatened
CE State Endangered
SSC State Species of Special Concern
FP State Fully protected species
CNPS California Native Plant Society listed

No "narrow endemic" plant or animal species listed in the HMP or the MHCP Volume II have been observed within the EVHCA.

In some areas of existing DCSS habitat, degradation of the habitat is sufficient to warrant remedial planting. Causes of habitat degradation include intensive weed removal, fire management damage, extreme vandalism, natural processes that displace habitat, or other degradation of this magnitude.

Enhancement as referenced in this plan is defined as the removal or suppression of exotic and invasive plant species. Along with the removal of exotics, enhancement may also involve native seed application. Enhancement is a very important management tool, particularly because existing non-native habitat will be allowed to remain in the preserve area. At this time, no introduction of any new plant or animal species is anticipated in the Preserve.

D. Threats to the Habitat

The Robertson Ranch East Village property is surrounded on the north and south by urban development and the non-open space areas of the West Village will be developed with urban uses in the near future. Habitat preserves that are located at the interface of urban areas are under regular threat of habitat deterioration and resulting species decline. Maintaining the existing habitat quality is fundamental to the continued biological health of the preserve.

The most severe threat to preserving the existing quality of the preserve is the invasion of non-native plant species that have the ability to out-compete native species and change the vegetation community structure and composition. This change can lead to a deterioration or elimination of habitat quality and thus a decline of the sensitive plant and animal species normally found within the Preserve area.

Other threats include unauthorized uses such as off-road vehicle use, camping and other recreational uses, feral or domestic animal occupation, and edge condition deterioration caused by impacts from adjacent urban owner uses. Human impacts from recreational use tend to trample and disturb plants and the soil layer leading to habitat destruction and erosion. In high impact circumstances, habitat fragmentation and isolation can result in extirpation of species. Feral animals, particularly cats, can dramatically impact native animal populations.

The most significant threats to the habitat within the preserve include:

- Invasive species management
- Trespassing
- Illegal waste disposal

Invasive species surveys will be conducted three times during the first year to assure prompt identification and eradication of invasive species. In subsequent years the invasive survey will be performed on an annual basis. Invasive species control will be accomplished using a combination of manual removal and application of herbicide.

Trespassing will be controlled by fencing to physically limit access and through educational outreach to encourage the public to respect the preserve boundaries. The Preserve Manager will patrol the preserve on a monthly basis to assure the fencing is intact, that illegal immigrants have not occupied the reserve and to assure that waste is not disposed of onsite.

Historically, fire is naturally occurring disturbance in DCSS habitat, and animals and plants within this habitat are to varying degrees adapted to persist in a mosaic of stands of vegetation in various stages of post-fire succession. However, within the EVHCA, fire poses a greater threat to the ecosystem than it did prehistorically. The relatively small size of the preserve increases the likelihood that a fire may affect the entire preserve at once, resulting in local extirpation of many species. Fire affecting a significant portion of the preserve is likely to result in decreased habitat availability, thus decreased carrying capacity, and higher probability of local extirpation of species by stochastic events.

III. OWNERSHIP/LEGAL REQUIREMENTS

A. Ownership and Management

The EVHCA is presently owned by Calavera Hills II, LLC except for the3.2-acre off-site (West Village) revegetation obligation, which is owned by the Robertson Family Trust. The area within open space will be the subject of a conservation easement, to be recorded in conjunction with the final map for City of Carlsbad CT 02-16. The subject open spaces shall remain in continued ownership of the existing owner(s) until they are transferred via fee title and/or easement to a master homeowner's association (HOA) or via easement to a professional environmental management entity as approved by the City of Carlsbad. Conservation management of the subject area are anticipated to be performed by Center for Natural Lands Management (CNLM) or other comparable entity with equivalent experience and credentials acceptable to the USFWS, CDFG and the City of Carlsbad.

Execution of a management contract to provide for management of the EVHCA open space sections owned by the owner over which property a grading permit has been pulled must occur prior to approval of the final subdivision map for the East Village development. This management contract between the existing owner) and the management entity will also include provision of the appropriate endowment referenced in this Plan.

The subject property will ultimately be managed by a private, non-profit conservation management entity, such as CNLM or by a public entity, as approved by the City of Carlsbad. A conservation easement will be recorded over the property to ensure long-term management by the manager, and preservation of the property in a "natural condition", including third-party right of enforcement by the City, or their delegate. The transfer of easement and fee title rights from the existing owner to a professional environmental management entity shall not preclude the transfer of such management rights to the City or other appropriate entity at some future date, as determined by the City.

While the open spaces are in continued private ownership, prior to transfer of the management rights described above, the existing owner(s) shall actively manage the lands to protect and preserve the biological quality of the habitat. These interim management activities shall include, at a minimum, trash removal and reasonable prevention of trespass.

B. Permit and Legal Requirements

The manager will obtain all necessary City, state and federal survey permits authorizing the managing entity to manage state and federally listed plant and animal species, as may be required pursuant to the monitoring requirements of this Plan.

IV. MANAGEMENT GOALS, OBJECTIVES AND SCHEDULE

A. Preservation of Natural Communities

The natural communities that exist on-site appear stable in as much as they continue to persist, but the composition and extent of existing habitat has been profoundly affected by past agricultural practice and adjacent urban development. In recent years, residential development near the EVHCA preserve area has been particularly intense, and its ultimate affect on the ecology of these natural habitats may not yet be fully evidenced.

Habitats occurring in the preserve will be native, revegetated, re-introduced and non-native. Native DCSS habitats will be preserved and enhanced as indicated in this Plan. Revegetated and re-introduced DCSS habitats are proposed for the areas of the habitat corridor that have historically been utilized for agricultural operations. The ultimate content of the habitat corridor is anticipated to be a DCSS-dominated corridor, in accordance with the requirements of the HMP.

B. Objectives

The preserve area should be managed based on objectives that can be modified over time as knowledge and experience dictate. The management recommendations proposed in this document are based on assumptions that should be tested for specifics on the site. The still developing urban environment nearby will increase pressure on existing habitats, at least for the near term, and the management mission must have the ability to adapt, and potentially reallocate management resources as the preserve situation evolves. The first five years of data gathering should be applied to developing a baseline range of data.

Urbanization of the area will also fundamentally affect management practices employed. It is not likely that a naturally occurring fire would be allowed to burn unchecked in the preserve area. Fire suppression maintenance will be implemented along development edges in consultation with the Carlsbad Fire Department.

Management Objectives:

1. Determine the distribution and abundance of plants and animals found at the Preserve and building a baseline database from this information to guide management practices.

2. Monitor specific taxonomic groups to determine whether the site is functioning naturally or if the biological diversity of the site is being degraded or diminished.

3. Assess the occurrence and threat from human encroachment. Maintain signage and perform trash removal. Control and reduce the opportunity for human impacts to the natural environment.

4. Assess the occurrence and threat from non-native plants and animals. Perform exotic species removal.

5. Monitor and manage all threats to the natural biology in a manner which encourages the maintenance, enhancement and re-establishment of natural habitats.

6. Ensure all applicable conditions for covered species on-site are met.

7. Ensure persistence of gnatcatchers.

8. Ensure the corridor functions for wildlife movement. This includes ensuring that the wildlife underpasses, etc. are functional.

C. Site Visit Management Schedule

The first year of management shall include a major one-time effort to rehabilitate the Existing DCSS area of the Plan area as necessary. This effort shall include trash removal, exotic species removal, closing of unauthorized trails, erosion control measures, installation of fences, repair of damaged fences, installation of signs, and revegetation as determined by the manager. In addition, on a routine basis, the conservation manager shall visit the entire conservation area for a review of its status in accordance with the following schedule. The numbers in the table below are drawn from the Center for Natural Lands Management (CNLM) Property Analysis Record (PAR) for the preserve, which also includes estimates of labor costs.

Approximately 40 hours of site assessments will be conducted specifically for overall site management and maintenance. In general, the tasks included in this site visit type include, but are not limited to, a full site assessment that determines the edge effects, trespass, and/or any other disturbances on or near the site, an evaluation of habitat conditions including all significant observations of plant and wildlife, regular access control and trash removal among other maintenance activities, and photo documentation of any significant observation including photographs taken from established points, twice yearly. All other site visits are to incorporate these tasks when and where necessary into the specified site visit procedures. This ensures more sustainable site conditions as the frequency of site visits will reduce the amount of disturbances incurred due to the proximity of residents, recreational users and other public entities. All of the management activities will be accomplished in accordance with this approved management plan.

Table 9: Proposed Open Space Management Schedule – East Village

Activity	Purpose of Activity	Approximate Year 1 One-time Effort Person-hours	Approximate Regular Person-hours per year
Property easement acquisition, Plan up-date	Finalize easements, update internal plans	20	
Reporting	GIS and CAD data reporting, Annual report	20	12.5
Office administration	Administration efforts, Operations	20	12.5
Site Assessment	Site assessment (edge effects; brief bio-survey with focus on sensitive species). Photo Documentation. Patrol for trespass and encroachment.	0	40
Spring Avian survey/Veg. Assess.	Avifauna Inventory during May	30	10
LBV/CAGN Surveys	Assess presence and extent of biological resources Year 1 - Quarterly Year 2+ -Annually	90	30
Herpatological survey	Characterize reptile population levels	106	15
Habitat revegetation	Exotic species removal, revegetation	40	30
Vegetation/sensitive species surveys		40	5
Community outreach, Trash, Signs and Locks	Trash and larger debris removal / Check and replace signs / replace locks/fences	40	12.5
Adaptive Management	Determine attainment of objectives and propose corrective action	14	14
Contingencies	Unexpected corrective actions	109	22
Total Person-hours per year		529	203.5

V. BIOLOGICAL MONITORING

A. Biological Inventory and Monitoring

Inventory and monitoring are used to track the condition of targeted habitats and populations relative to current ecological goals. Adaptive management is a comparative process between the monitoring results and the stated goals, so that management practices can be changed to affect desirable preserve area change.

No standardized monitoring protocols or success criteria have been established by the USFWS or CDFG for the NCCP preserve areas. This Plan proposes what is considered a reasonable monitoring scenario that allows for the analysis of multiple taxonomic groups, to assist a preserve manager in crafting measures of success, and in guiding appropriate management decisions. The goal of the monitoring effort is to determine if populations are declining or increasing, identification of the cause(s), and the implementation of an appropriate remedial action if necessary.

Biological inventories and monitoring shall be consistent with MHCP Volume III protocols. Monitoring data shall be collected to address the monitoring questions identified in MHCP Volume III for Wildlife corridors.

The initial monitoring program will measure vegetation types occurring in the preserve area, and include a rare plant spring survey component. A general Avian survey will be performed in the spring with a focus on Coastal California gnatcatcher. Pit-fall trapping will be utilized to monitor sensitive reptile species. All covered species identified in the project EIR will be monitored. If during monitoring visits a sensitive species not receiving focused survey attention is identified, that annual management report will recommend survey measures to inventory the species.

1. General Avian Survey

Monitoring the avian community will provide information regarding how the threats, such as habitat fragmentation and feral animals are impacting the Preserve. The distribution, abundance and composition of the bird community found at the Preserve will be determined using annual point counts. Permanent point count locations will be established and monitored for three days in the spring. If declines are noted within the community, or within individual species, then the monitoring emphasis will change to nest searches and reproductive success determinations. These surveys shall be coupled with predator base analyses such as track stations to determine cause and effect correlations.

A primary goal of preserve management is to maintain the population of California gnatcatchers occupying the EVHCA. The management entity will track population trends of the gnatcatcher in the first 5 years to ascertain the baseline range of pairs that are likely to persist on the site. Once a baseline range has been determined, management of the site shall focus on maintaining the population within this range. Gnatcatcher populations may fluctuate naturally with "natural" oscillations of resource levels. This natural variability will eventually be determined and the target population size will be managed to be within a nominal high and low range, rather than at a static level.

If it is determined that the population of gnatcatchers is appearing to fall permanently below the baseline range, attempts will be made to determine the causes of the decline. Potential causes for declines could be site specific in nature, such as cowbird parasitism, or regional, such as low rainfall, resulting in a reduction in foraging materials. Management actions, such as cowbird trapping, will be taken based on what is determined to be the cause of gnatcatcher decline. If it is determined that gnatcatcher nest monitoring is necessary, this work will be conducted only by an individual who is permitted through USFWS to conduct such monitoring.

2. Pit-fall Trapping

Reptiles, amphibian, invertebrate and small mammal (shrews) populations are extremely susceptible to the threats associated with habitat change. Approximately two pit fall arrays will be established within the Preserve to monitor reptile, amphibian, invertebrate and small mammal (shrews) population and abundance. Each array will be opened for one 10 day period every year. The value of data collected from the pitfalls will be evaluated over time for their utility, and methods will evolve to maximize the collection of useful information. Coupled with these pitfalls will be ant traps to monitor the composition and abundance of ant populations which are known to have substantial impacts on reptile and ground nesting bird populations.

3. Sensitive Plant Species

Sensitive plant species monitoring and management will focus on population distribution and abundance, and on evaluating and minimizing the threats to these species caused by human encroachment or habitat fragmentation. Populations of all sensitive plant species will be mapped during an initial baseline data gathering period of five years. In successive years these populations will be confirmed as existing or not found. Every five years, a new distribution map and population count will be generated. Sensitive plant species that are determined to have low numbers, limited distribution, or are particularly susceptible fragmentation and other anthropogenic sources will be monitored or assessed annually.

4. Vegetation Sampling

In order to detect changes in vegetation structure, species composition, and percent cover, such as might result from succession or type conversion, vegetation sampling will be conducted on the preserve in the spring of the year. This sampling will be conducted in the initial year and subsequently at five-year intervals. Within the coastal sage scrub, 30 randomly placed permanent sampling points will be established. A grid consisting of 1 acre parcels will be superimposed on a map of the sage scrub vegetation community in the preserve and numbered. Thirty squares will be selected randomly using random number generator. The center of each square will be the center of the point-center quadrant. Data will be gathered on the vegetation in the parcels.

The data will be analyzed to describe the change in vegetation variables between the initial state and each subsequent sampling period. Because vegetation communities such as coastal sage scrub and chaparral, dominated by woody vegetation, are unlikely to show pronounced changes from year to year, vegetation sampling will be conducted in the initial year and at 5 year intervals. At ten-year intervals, the preserve manager, in cooperation with the USFWS, will re-examine current knowledge of the relationship between vegetation variables and gnatcatcher habitat quality, to determine whether a change in management of the preserve is warranted.

VI. MAINTENANCE ACTIVITIES

During inspections in the first year of management, the site will be reviewed for any unauthorized fences or other man-made structures that are potentially detrimental to wildlife or preserve purposes. Such features will be targeted for removal from the site.

As a result of the close proximity of a significant number of residential neighborhoods, standard site maintenance inspections are to occur in accordance with the previous table. In general, maintenance activities will be directed towards the following issues: trash dumping, encroachments, increased use by the public for unauthorized trails or recreation (paintball, etc.), preparation of an annual educational newsletter, and placing of signage, as necessary.

Specific management directives will include measures to reduce edge effects and minimize disturbance, especially during the nesting period of the above listed sensitive bird species, between February 15 and August 30. A community flyer may be distributed as houses become occupied and prior to the nesting period mentioned above in order to remind residents to avoid trespassing, especially during that period. This proactive management should minimize the amount of edge effects and disturbances within the designated open space. Monitoring of open space areas adjacent to residential areas will occur on all site visits to ensure that the Preserve is not damaged by trash dumping, supplemental clearing of fire breaks, or unauthorized buffer landscaping.

Specifically, management and maintenance site visit activities will consist of, but are not limited to the following activities.

A. <u>Disturbance Patrol</u>

Patrolling for signs of trespassing, dumping, vandalism, off-road vehicle use, homeowner encroachment, and/or other disturbances by humans will occur during all site visits on the schedule identified in this Plan, as remedial measures will be provided in a timely manner to repair, reduce or eliminate current and future disturbances. This may involve the placement, reparation, and/or replacement of signs, access control, and barriers. In the event that general trespassing, transients or transient encampments are discovered on-site, the manager will note the location of the incident and report any such activities to the appropriate law enforcement agency, if deemed necessary. In the event of habitat alteration or human disturbances, the manager will evaluate the damage so as to restore the native habitat at the responsible party's expense. Physical barriers to trespass may be placed at strategic locations if trespassing, dumping or other activities are determined by the manager to be a disturbance to the Preserve environment.

B. Trash Removal

An initial major removal of trash shall be conducted immediately upon transfer of management responsibilities to the manager. Thereafter, removal of trash will be on an as-needed basis during every site visit in order to avoid the attraction of nuisance species or artificial increases in the presence of species such as crows and ravens. Each year, one specific site visit will be designated for the removal of accumulated trash and larger debris due to the amount of public activity surrounding the EVHCA. Debris shall be collected from within the EVHCA and properly disposed of as needed, but no less frequently than every six months. Trash consists of all man-made materials, equipment, or debris dumped, thrown, washed, blown-in or left within the EVHCA. However, pruning or clearing of any native vegetation will not be provided. Downed logs and leaf litter provide valuable microhabitats for invertebrates, reptiles, small mammals, and birds. In addition, the decomposition of deadwood and leaf litter is essential for the replenishment of soil nutrients and minerals.

C. Community Outreach

Due to the site's location in an urban setting, the preserve manager will distribute an educational flyer to the surrounding property owners as the houses become occupied to educate them about the importance and reason why the open space was set aside and why it is important to control the use of the site by humans as well as domesticated animals. The preserve manager will sign the site with information that states that the site is an area of protected habitat and no trespassing is allowed.

D. Photograph Documentation

The manager will take photographs from locations established during baseline surveys and will be used to illustrate site conditions or other uses relevant to site management. Prints of all monitoring photographs will be kept in the permanent files of the manager.

E. Enhancement

Native habitats in the preserve area will be weeded if it is determined that significant displacement of native species is occurring or imminent. In most cases no remedial planting will be required in areas that have been weeded. However, where weed removal has occurred in intensively infested areas, the loss of native habitat may be so extensive that natives may not reoccupy the site without remedial planting. When weed removal is anticipated to be extensive, the preserve manager should have a program of remedial planting ready to implement prior to initiating weed control activity. The annual report should explain all weed removal and replanting activities, and the work program for the following year should propose these types of activities for the following year.

Non-native habitats existing in the preserve area are subject to enhancement under certain conditions. The manager is required to monitor and report the status of these non-native habitats with the same level of analysis provided to native habitats. If it is determined that colonizing of non-native species is occurring in adjacent native habitat, the manager is required to develop a program to control the infestation in the next yearly work plan. Control measures must be implemented within the following calendar year, timed seasonally as necessary to best control the infestation.

F. Invasive Pests/Exotic Plant Species Control

Invasive pests or diseases are not likely to become a problem requiring corrective action. Mention of significant pest or disease problems should be included in annual reports. If it is determined that a pest or disease is threatening the sustainability of a habitat or a sensitive species, the manager is required to develop a program to control the infestation in the next yearly work plan. Any use of biological or chemical controls must be approved by resource agencies prior to dispersal or application. Only in circumstances of extreme plant duress should chemical controls be utilized, and then they must be applied only by a California licensed applicator, in strict adherence to state and federal law.

The preserve supports both native and non-native plant communities. Non-native plant communities are not subject to revegetation requirements. Preserve management must focus on both protection of native resources in an undisturbed state, and the containment of non-native resources. The preserve manager must educate maintenance supervisor and crew regarding where a weed is to be tolerated and where it must be removed.

Exotics control will be one of the ongoing and most important responsibilities of the preserve manager. Each year the manager shall assess the types of infestations observed, and implement a plan to control the most threatening ones. The manager shall stay abreast of current control practices, and seek to provide the least environmentally damaging control method available to provide adequate results. (The California Exotic Pest Plant Invasive Plants of Greatest Ecological Concern (CalEPPC) is a good information source). Of particular concern are species that are highly invasive, and aggressively out-compete native plants. By focusing on the most threatening exotics observed, less invasive exotics may be tolerated, perhaps indefinitely.

In the first year of management, a list of all non-native species, with map, shall be generated that specifies where weeds were located, whether the habitat is native or non-native, what degree of infestation was observed, and rate what level of concern exists for that site.

Infestation of highly-invasive exotics, including pampas grass, artichoke thistle, acacia, fennel, iceplant, castor bean, giant reed, tree tobacco, mustard and tamarisk shall be targeted for early removal and continue to be controlled in the preserve. Native habitats occurring adjacent to non-native habitats may require ongoing controls to prohibit the establishment of exotics. Some exotics infestation may be tolerated if it becomes apparent that problem can not be effectively managed by the methods available to the preserve manager. The yearly management plans should describe this type of circumstance. If it is observed that a gradual loss of native habitat is occurring, the next five year plan should propose opportunities for a permanent solution.

Some exotic plants, including some highly invasive ones, can not be effectively controlled except by the use of herbicides. No herbicides may be used unless approved by resource agencies prior to use. Herbicides should only be used when no other control will be effective in handling the type of problem encountered. The manager should err on the side of caution when using herbicides. If herbicide use has left an area greater than fifty square feet devoid of plant material, remedial planting of the disturbed area must be accomplished.

Weeds with shallow, sturdy root systems can be eradicated effectively by vigilant hand pulling which removes the plant with roots attached. It is essential that these species be pulled out and removed from the site on a regular basis before the seeds ripen and drop. While this is labor intensive it does not require expensive herbicides and eliminates the problem of overspray.

Other species that have deep roots and/or rapid re-growth cannot be controlled using manual methods alone. Examples of these weeds include giant reed, pampas grass and salt cedar. Eradication of these weeds will require herbicide application either by spraying the entire plant or by cutting the plant and painting the severed stem with herbicide.

Typically the systemic herbicide Roundup is used for upland species while Rodeo is the herbicide licensed for use near wetland environments. Herbicides must be used sparingly to minimize impact to non-target species and to control the overall cost of the weed eradication program. The preserve manager must determine when herbicide use is appropriate based on safety, environmental constraints, degree of infestation, proximity to native vegetation and permitted use of the herbicide. Only state licensed applicators will be allowed to use herbicides onsite.

The manager shall conduct a weed eradication training session where weed removal procedures are discussed prior to worker activity in the field. All maintenance personnel involved in the weeding process must attend this start-up meeting. The manager must designate a weed crew manager who will be the contact supervisor for weed removal information.

G. Fire Management

Included within the developed portion of the site, and not located within the EVHCA is a fire suppression zone that satisfies Carlsbad Fire Department standards for protection of residential and other urban structures and facilities. The fire suppression zone as established is considered adequate to protect properties on the preserve area edge. Preserve areas are not subject to fire suppression maintenance of any kind. The East Village HOA is responsible for managing fire suppression activities.

No fire management activities are proposed within the preserve areas. All brush will be allowed to grow unchecked. Leaf litter and dead limbs and other biomass will be allowed to remain undisturbed in place.

Existing utility easement roads will remain in place in preserve areas. If a wildland fire were to approach the area, the fire department may utilize these utility access roads in an effort to control the fire. Typical fire fighting techniques include: fire break clearing, controlled back burning, and use of fire-retardant chemicals. If the preserve area is disturbed by fire, the preserve manager's annual report should describe techniques employed and specifically address any threats posed to the habitat by these techniques. If permanent damage has occurred, the manager shall propose a remedial plan.

Upon the occurrence of a fire in the preserve, the preserve manager will notify the wildlife agencies. The preserve manager shall evaluate the potential for erosion in the fire-affected area, and promptly take appropriate measures to control erosion. The preserve manager will develop and implement a monitoring program to monitor natural re-growth, and erosion, within the burned area for a period of up to two years. The monitoring program will provide for site visits on a regular basis, as determined by the preserve manager to be appropriate to the severity and size of the burn. If monitoring observations indicate that allowing the habitat to re-grow without interference is resulting in increased opportunity for invasion by exotic plants and/or increased potential for type conversion, the preserve management program will be modified to reduce the potential for such invasion or type conversion. Measures may include increased exotic plant control, or revegetation with native plants, including hydroseeding and/or planting with container stock.

H. Trash Removal and Vandalism Control

Generally dead wood and leaf litter should remain undisturbed and in place on the site. Clippings may be left on site, or removed as deemed undesirable by the revegetation ecologist. All weed contaminated clippings must be removed from the property and disposed of at a recognized disposal site. Trash removal must be performed by hand, at least twice a year during the monitoring period. Vandalism of planting, and/or other revegetation associated equipment shall be reported in writing by the maintenance contractor and/or other owner's representatives to the owner within 3 working days of discovery. Replacement of poorly performing or vandalized equipment must be accomplished immediately to ensure proper plant growth. Plantings damaged by lack of proper irrigation are the responsibility of the landscaping contractor, even if vandalism is the cause. The landscaping contractor will be required to replace planting that die due to lack of proper irrigation.

I. Erosion Control

Repair of significant erosion problems is the responsibility of the preserve manager. Erosion problems should be repaired when they are first noticed, and not allowed to become major problems. If significant damage has occurred remedial planting may be required.

VII. PUBLIC USE

A. Association Responsibility

The Preserve is a significant amenity to the Robertson Ranch community. The provision of information and education of the local residents of the value of the Preserve as open space and wildlife habitat will be essential to maintaining the current resource levels found onsite. Without that local support, there will be an ongoing degradation through misuse, vandalism, poaching and trash dumping. With an actively involved community there will be hundreds of eyes and ears keeping a vigilant watch over the habitat. The East Village HOA is responsible for public areas of the development. The association can be helpful in disseminating information regarding trail use and edge condition problems. The preserve manager must keep the HOA informed of activities occurring in the preserve area, particularly as these activities may affect the health or safety of residents.

Preserve management will include sending information brochures to the members of the surrounding community, guided nature walks, and possible volunteer programs. Trail head signs should be posted for visitor information.

B. Trails and Fencing

A number of official pedestrian trails are located within the EVHCA area as shown on Figure 2.

1. Public Trails

Two public trails affect the habitat corridor. The trail is approximately 8 feet in width, with a compacted dirt surface. The manager shall create rules for pedestrian-only use of these trails, in an effort to minimize the impact of urban use on the EVHCA.

Signage will be posted at trail entries informing pedestrians of the rules of trail use. The rules of access will include:

1. Dogs on leashes only
2. No motorized vehicles
3. No Horseback riding
4. Mountain biking and hiking on designated trails only
5. No collecting of plant and wildlife species
6. No hunting or shooting
7. No camping

2. Fencing

All areas within the EVHCA which result in a direct interface between urban development and the preserve areas will be fenced in order to discourage intrusion between each. "Coyote Roller" fencing will be utilized to the degree feasible. These fences will be erected by the developers of the adjacent urban lands and will be maintained by the HOA. Fencing will be installed in locations as shown on Exhibit 3.

3. SDG&E Easement Trails

As shown on Figure 2, the eastern-most trail is also utilized as SDG&E maintenance access to the electrical transmission towers.

A handful of minor, unauthorized trails exist on the preserve. Temporary fencing will be placed across unauthorized trails to discourage their continued use. Additionally, informational signage and kiosks will be utilized as necessary to inform trail users of the importance of staying on the trail. Barriers and gates will be installed where necessary to reduce the opportunity for access from off road vehicles.

If certain sections of trail pass through a zone of work the may threaten the public or the success of the preserve effort, a temporary closing of the trail may be necessary. A temporary sign must be posted describing the work maintenance effort, including the date of trail re-opening. In order to avoid disruption of gnatcatcher breeding, some trails may be closed to public use during the Gnatcatcher breeding season if required by both the USFWS and the City of Carlsbad.

If trail users misuse sections of the trail, the Master Homeowner's Association (HOA) will be contacted to assist in educating the public regarding proper resource use. Signage cautioning against improper trail use should be placed at the point of damage.

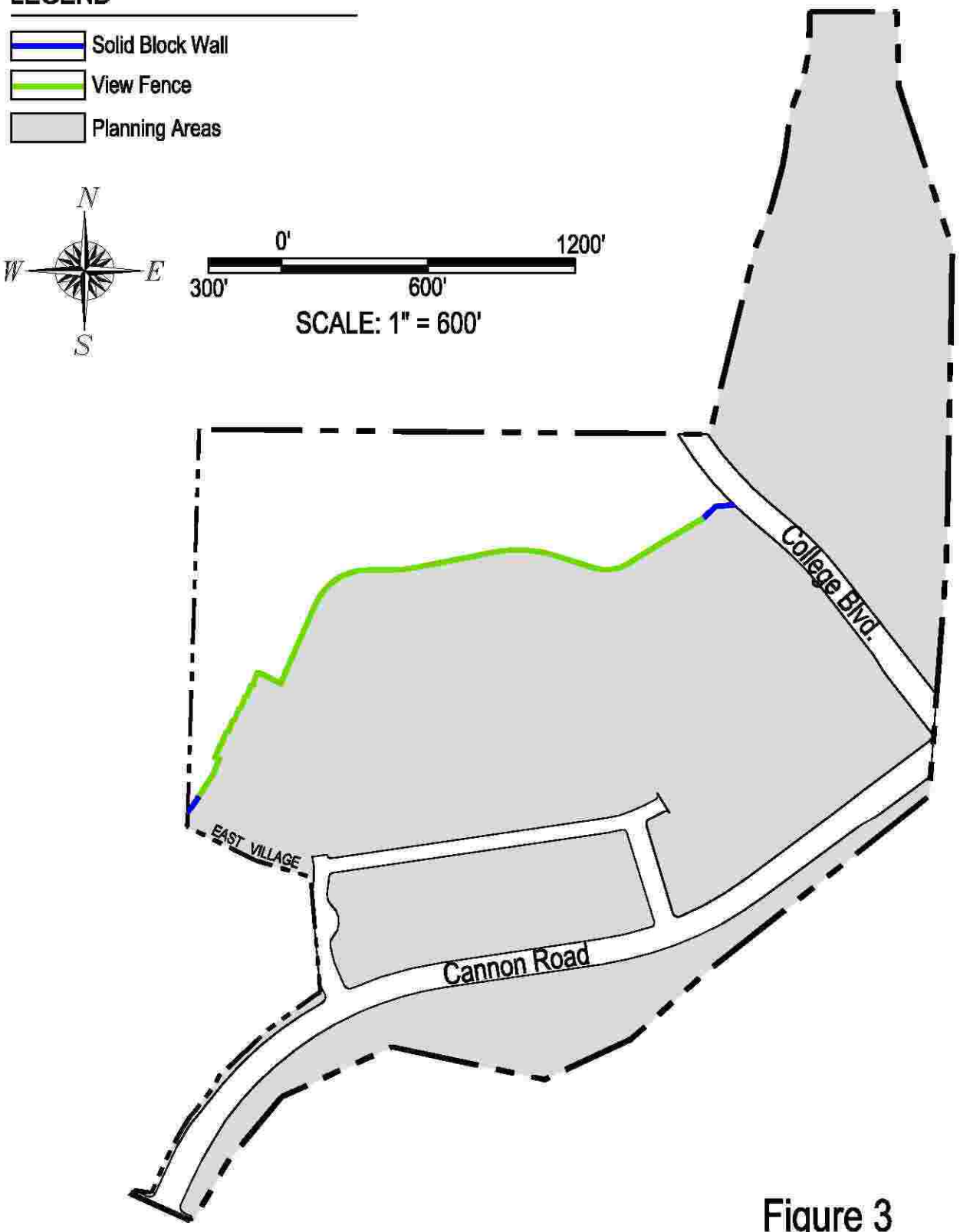

Figure 3
East Village
Fence and Wall Plan
ROBERTSON RANCH
Carlsbad, California

May 1, 2006

PLANNING SYSTEMS
LAND USE/TRANSPORTATION PLANNING
LANDSCAPE ARCHITECTURE
POLICY AND PROCESSING
ENVIRONMENTAL MITIGATION
1550 FARADAY AVENUE SUITE 100 CARLSBAD, CA 92008

VIII. FUNDING

The developer shall provide an amount sufficient to fund the initial Year 1 start up costs identified in this Plan, spring avian surveys, habitat surveys, community outreach, reporting, office administration and direct costs. This amount has been determined by the manager, and included as a line item in the Property Analysis Record (PAR) (see Appendix 1 – East Village PAR), to be approved by the USFWS. . In addition, to ensure that long-term management of the subject open spaces will be funded, an endowment fund shall be established by the developer which shall finance the net perpetual annual costs of management of the EVHCA pursuant to this Plan. The East Village developer will fund this endowment in conjunction with the final subdivision and grading associated with the East Village master tentative map.

The endowment funds shall be deposited in a secure investment paying a rate of interest sufficient to generate the amount needed for annual maintenance expenses. Endowment funds shall not be co-mingled with other funds, and the proceeds shall be used solely for the management of the open spaces, in accordance with the applicable permit conditions. The endowment principal must remain intact in perpetuity. The financing program for the balance of the endowment will be full funding by the developer.

IX. REPORTING REQUIREMENTS

A. Management Reports and Annual Reports

An annual summary report will be prepared and finalized by January 31st of any year for the previous year's monitoring and maintenance. A copy will be kept in the permanent files of the manager as well as provided to the City of Carlsbad Planning Dept., the USFWS, and CDFG.

The data from the biotic surveys will be analyzed, mapped, described, and reported in annual management reports which will be provided to the Wildlife Agency. All survey data will be entered into a GIS database to facilitate data analysis and presentation of results. Management reports will include GIS data documenting the location of sensitive species, the boundaries between habitat types and the expansion or contraction of habitat on the site.

The annual summary report will contain the following information:

- A summary of management actions taken during the report period;
- An analysis of the annual sensitive species surveys, plotted on site maps as appropriate, as well as documentation and mapping within the project area. Other information relevant to the management of target species will also be documented in the annual report. The report will analyze any of the sensitive species surveyed in that year, describing the status of the populations' viability;
- GIS formatted maps indicating cumulative areas of exotics, trespass, dumping, fire, etc. for the management period;
- Discussion of any of the above mentioned management problems encountered within the report period. The report shall describe any on-site measures undertaken to remove exotic species the prior year, review the effectiveness of those actions or actions performed in prior years, and identify measures (e.g., methods, locations, etc.) to be performed in the coming year.
- Recommendations for changes in management for the following year. These recommendations will be formatted as an addendum to the annual management report, and will be finalized after being submitted to the appropriate agencies. The changes in management could also include a recommended re-allocation of funds within the established budget.
- Photographs from the established photo points for the given report period and of any significant management issues or biological observations;

- The monitoring reports shall describe the existing conditions in the Preserve for that particular year. It will identify wildlife use of the site, significant changes on the property, and recommend remedial measures necessary;

- A list of names, titles, and companies who prepared the content of the annual report and participated in the monitoring activities.

B. Budgets

The status of the endowment will be included in every five year management plan, and yearly budgets will be reported in every annual work plan.