

APPENDIX C: Biological Studies

Canyon Hills Manor ■ Draft Environmental Impact Report

DRAFT

**BIOLOGICAL ASSESSMENT FOR
CANYON HILLS MANOR**

Prepared for:

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SECTION 1.0 – INTRODUCTION

1.1 DOCUMENT PURPOSE

This Biological Assessment (BA) has been prepared to document the effects of the proposed Canyon Hills Manor (Wedding Chapel and Banquet Facility) (Site) on the threatened coastal California gnatcatcher (*Polioptila californica californica*) and effects to designated critical habitat for the gnatcatcher. This Biological Assessment has been prepared to fulfill the consultation requirements pursuant to Section 7 of the Endangered Species Act, 16 U.S.C. 1536(c).

1.2 LISTED SPECIES CONSIDERED

Two plant species and three wildlife species were initially considered for inclusion in the BA (Table 1) based on their potential to occur on the project site.

Table 1
Listed Species Initially Considered for Inclusion

Scientific Name Common Name	Federal Status	California Status
<i>Astragalus brauntonii</i> Braunton's milk-vetch	Endangered	None
<i>Eriastrum densifolium ssp. sanctorum</i> Santa Ana River woollystar	Endangered	Endangered
<i>Euphydryas editha quino</i> Quino checkerspot butterfly	Endangered	Species of Special Concern
<i>Vireo bellii pusillus</i> least Bell's vireo	Endangered	Endangered
<i>Polioptila californica californica</i> coastal California gnatcatcher	Threatened	Species of Special Concern

Following onsite focused surveys, the number of threatened and/or endangered species to be considered was reduced to include only the coastal California gnatcatcher. The primary reasons listed species were removed from consideration were lack of suitable habitat or because they were not observed during focused surveys. The species and the reasons they were removed from consideration are discussed in Appendix A. The following section briefly describes the coastal California gnatcatcher and its occurrence on the project site.

Coastal California Gnatcatcher

The coastal California gnatcatcher was federally listed as threatened in 1993 and is also considered a California Species of Special Concern (CSC). Habitat loss, degradation, and fragmentation due to land alteration and development is considered the major threats to this species. The gnatcatcher is a nonmigratory songbird that nests and forages in moderately dense stands of coastal sage scrub occurring on arid hillsides, mesas, and washes. California gnatcatchers are also subject to nest parasitism by the brown-headed cowbird.

The Canyon Hills Manor site is within critical habitat for the coastal California gnatcatcher as designated in the U.S. Fish and Wildlife Service (USFWS) Federal Register on October 24, 2000, Final Determination of Critical Habitat for the Gnatcatcher. Suitable coastal sage scrub habitat for the coastal California gnatcatcher occurs throughout the Canyon Hills Manor site. Chambers Group conducted seven protocol

surveys for the California gnatcatcher (July-October, 1999). Three pairs of gnatcatchers were found onsite. One of the pairs inhabits the property just south of the site and has been observed foraging on the site (Chambers Group, 1999).

1.3 OTHER SENSITIVE SPECIES CONSIDERED

Thirteen species that are considered sensitive by the USFWS and/or California Department of Fish and Game (CDFG) were also covered in this BA. Appendix A provides a table and comments regarding these species and the listed species that are known from the project vicinity but were not found on the site.

1.4 ORGANIZATION OF THE BIOLOGICAL ASSESSMENT

This BA is for the proposed Site. The following sections are provided in this BA:

Section 1.0 Introduction

This section presents the purpose of the BA, the listed and non-listed species considered in the BA, organization of the document, and the informal consultation that has been conducted.

Section 2.0 Description of the Proposed Project

This section presents a description of the project location, the proposed project activities, and avoidance and minimization measures that are a part of proposed project activities.

Section 3.0 Existing Conditions

This section presents the general environmental setting of the proposed project site including the vegetation communities and general (non-sensitive) wildlife communities, and sensitive habitat areas on the site.

Section 4.0 Sensitive Species

This section presents a detailed discussion of the sensitive (listed and non-listed) species that are considered in this BA.

Section 5.0 Effects Associated With the Proposed Project

This section presents the direct, indirect, and cumulative effects of the proposed project on those species considered in this BA.

Section 6.0 Conclusion and Determination

This section presents conclusions and a determination of whether or not the proposed project by the federal action agency "may affect" a threatened or endangered species due to the direct, indirect, and/or cumulative effects associated with the activity.

Section 7.0 References

Those references used in preparing this BA.

Section 8.0 List of Persons and Agencies Contacted

This is a listing of persons contacted during the preparation of the is BA, and their business or agency.

Section 9.0 List of Preparers

This section presents a listing of those persons involved in the preparation of this BA.

1.5 CONSULTATION WITH RESOURCE AGENCIES

Four site visits and several meetings have been held to discuss aspects of the proposed project with the resource agencies. These site visits and meetings are listed below in chronological order.

July 23, 2001 Site visit with the U.S. Army Corps of Engineers (Corps)

Representatives from Chambers Group (project environmental consultant) met with Jae Chung from the Corps at the proposed project site to evaluate the drainages on the site. As a result of this site visit, the Corps took jurisdiction over 0.07 acre, none of which were wetlands. The Corps is the federal lead agency for this BA.

September 7, 2001 Site Visit with the CDFG

Representatives from Chambers Group, Mari Schroeder and Paul Brenner, met with Laura Crum from the CDFG to look at the drainages on the site and discuss mitigation for proposed affects to jurisdictional waters on the site. As a result of this site visit, the CDFG took jurisdiction over 0.07 acre, none of which contains riparian habitat.

August 21, 2001 Site Visit with USFWS

Representatives from Chambers Group, Ms. Schroeder and Mr. Brenner, met with Will Miller and Jonathan Snyder from USFWS (Carlsbad Field Office) to discuss effects to the coastal California gnatcatcher and potential mitigation measures for the project. Mr. Miller suggested the Nature Reserve of Orange County may be willing to purchase the property. The line of sight for the coastal California gnatcatcher between the site and nearby areas of coastal sage habitats were discussed. Other potential mitigation measures were discussed such as purchasing adjacent or nearby properties, and purchasing mitigation credits from mitigation banks.

September 21, 2001 Meeting at USFWS Carlsbad Field Office

Representative from Chambers Group, Ms. Schroeder, met with Mr. Miller and Mr. Snyder to further discuss options for mitigation of the proposed project.

November 1, 2001 Meeting at USFWS Carlsbad Field Office

Lisa Waddel (project proponent), Jim Schreder (Danjon Engineering - project engineers), and representatives from Chambers Group attended a working session with USFWS to try to examine possible project redesign features to avoid coastal California gnatcatchers on the site.

November 1, 2001 Meeting at Party Pantry Catering in Garden Grove

Representative of Chambers Group met with Mr. Chung (Corps) and Ms. Crum (CDFG) to discuss mitigation for affects to jurisdictional waters on the project site and to discuss the use of the Natural Communities Conservation Plan (NCCP) in project mitigation. As a result of this meeting it was agreed by all the Corps and CDFG that vegetating the detention basins with riparian species would be appropriate mitigation for affected jurisdiction.

January 15, 2001 Site visit with the Water Quality Control Board, Santa Ana Region (Regional Board)

A representative of Chambers Group (Mr. Brenner, Permitting Group Manager) met with Kelly Schmoker of the Regional Board onsite to evaluate the proposed project for the purpose of issuing a water quality certification pursuant to Section 401 of the Clean Water Act.

SECTION 2.0 – DESCRIPTION OF THE PROPOSED PROJECT

2.1 PROJECT LOCATION AND SITE DESCRIPTION

The approximately 29-acre project site is located in the northeastern portion of Orange County and is within the City of Anaheim, approximately 0.5 mile south of the City of Yorba Linda (Figure 1). The site is bounded on the north by Santa Ana Canyon Road and the Riverside Freeway (SR 91), the east by Festival Drive, the south by open space, and the west by Eucalyptus Drive. The site is vacant and characterized by steep natural terrain with a prominent slope. The site is located on or adjacent to four U.S. Geological Survey (USGS) California 7.5-minute topographic quadrangles: Yorba Linda, Orange, Black Star Canyon, and Prado Dam.

The Canyon Hills Manor project site ranges in elevation from approximately 330 feet (100 meters) in the northwest corner of the site to approximately 670 feet (205 meters) on the ridge in the extreme southeast part of the site. The northern portion of the site has a northern aspect, sloping towards Santa Ana Canyon Road and the Riverside Freeway and the southern portion of the site has a south and southwesterly aspect. Two drainages are found on the site, totaling approximately 0.07 acre, none of which are wetlands. One drainage is located in the southwestern portion of the site and the other is located in the northeastern portion of the site.

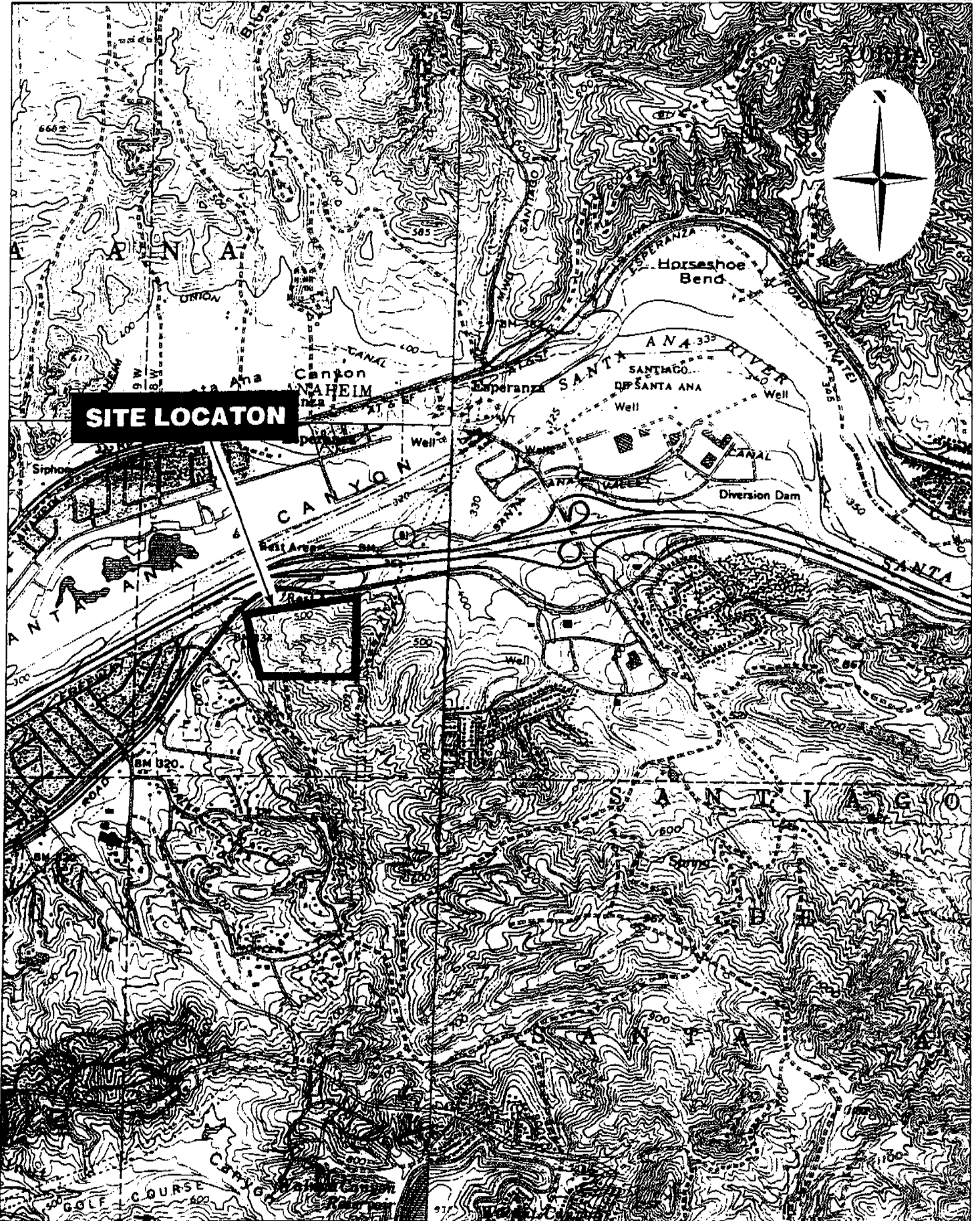
2.2 PROJECT DESCRIPTION

The Canyon Hills Manor project site consists of a comprehensive development plan for the 29 acres that not only includes the construction of the wedding/banquet facility and associated road, parking, maintenance structure and landscaping areas, but incorporates the preservation and restoration of open space areas on the site. The Environmental Impact Report for the Canyon Hills Manor project (currently in preparation) includes numerous project alternatives that are analyzed in detail. The proposed Canyon Hills Manor project that is analyzed in this BA incorporates the requests of the various agencies to avoid habitat used by the coastal California gnatcatchers and designated critical habitat for this species to the maximum extent possible. In addition, the Proposed Project preserves and restores large blocks of coastal sage scrub habitat that will continue to provide habitat for the California gnatcatcher. This alternative also incorporates an approach to the development (scheduled for a period of one year) to avoid the breeding season of the coastal California gnatcatcher. The project includes revegetating coastal sage scrub areas on the site, creative two retention basins revegetated with riparian plant species, and restoring coastal sage scrub in disturbed portions of the preserved open space areas. The combination of the phased approach to the development and the phased approach to the habitat restoration will minimize the temporary loss of coastal sage scrub habitat.

The applicant proposes to develop less than one-fourth of the 29-acre site. The development portion of the project includes the building of a wedding/banquet facility, a maintenance building, parking lots and an access road. Approximately three-fourths or 21.8 acres within the boundaries of the 29-acre site will remain as open space. The proposed plan for the development of the site was developed with sensitivity towards existing topography and unique landforms. It minimizes impacts to undisturbed areas.

Table 2 lists the acres of each type of land use included in the proposed project as well as the percent of the site that will be occupied by those land uses. The proposed Canyon Hills Manor project and grading limits are shown on Figure 2.

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SITE LOCATION

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CONCEPTUAL PLAN
Figure 2

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**Table 2
Designated Land Uses and Areas Encompassed by the Canyon Hills Manor Project**

Land Use	Acres	Percent of Site
Paved Areas (Wedding/Banquet Facility, Maintenance Building, Parking Lots, Access Road)	7.2	24.9
Natural Areas		
➤ Open Space	10.4	36.0
➤ Revegetation Areas	11.4	39.1
Total	29.0	100.0

The proposed project consists of an approximately 25,000 square foot two-story structure that would house a wedding and banquet facility. In addition, a 2,000 square foot maintenance building is also proposed. The main building would house two wedding chapels, two banquet rooms, restrooms, two bars, lounges, dressing rooms, and one central kitchen. The area surrounding the buildings would be landscaped or paved parking areas. A gated access road and two parking lots are planned as part of the proposed project.

The Proposed Project will require approximately 250,000 cy of raw cut, 50,000 cy of raw fill, and 200,000 cy of export. Approximately 18.9 acres of the site will be disturbed by grading. Construction is anticipated to take approximately 12 months. Grading of the site would take approximately 6 months and the facility construction is expected to take an additional 6 months. Grading would be necessary to level that portion of the site where construction of buildings will take place. Grading will be restricted to outside of the breeding season for gnatcatchers (breeding season is mid-February through July) to the maximum extent practicable.

The Conceptual Mitigation and Monitoring Plan (CMMP) proposes to mitigate for impacts to the site by revegetating approximately 10.6 acres of coastal sage scrub onsite and enhancing 1.3 acres (Figure 3) of disturbed coastal sage scrub. Additionally, two retention basins will be created on the Canyon Hills Manor site, one at the northeast corner of the project site and one at the southwest corner. The retention basins will be vegetated with mule fat habitat totaling approximately 0.2 acre as mitigation for the impacts to two drainages on the site.

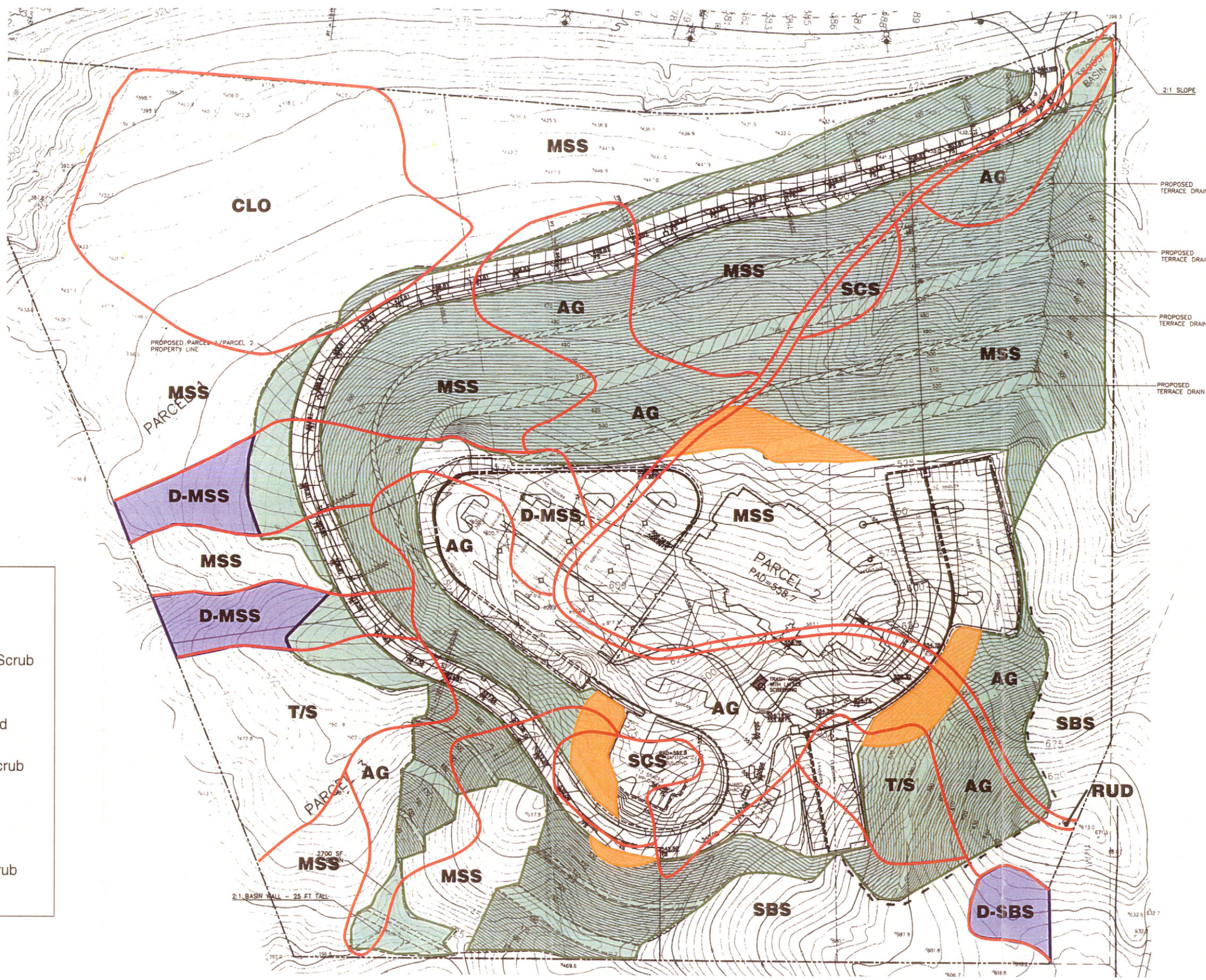
The proposed Canyon Hills Manor project places the access road to the site at a maximum of 10 percent grade with the wedding/banquet facility and three parking areas.

2.3 PROJECT DESIGN FEATURES

A number of project design features have been developed to avoid, minimize, and offset the impacts of the proposed development elements on the coastal California gnatcatcher. These features include the preservation of existing habitats, enhancement of disturbed habitats, revegetation of non-native habitats with native plant species, timing of construction, and biological monitoring during and after construction. These features are described below and are categorized as avoidance, minimization, and offsetting measures.

Table 3 lists the total acres of each of the sensitive plant communities followed by the number of acres of each community that will be affected by the Canyon Hills Manor project. The third section of the table lists the number of acres of each of these communities that will be preserved as part of the project design. The next column shows the acres that will be enhanced onsite, followed by the acres of the project site that will be revegetated as part of the proposed project. Figure 3 shows the revegetation and revegetated areas onsite that are part of the proposed project.

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LEGEND:

- = Coastal Sage Scrub Revegetation Areas
- = Disturbed Coastal Sage Scrub Enhancement Areas
- = Fuel Modification Zone
- CLO** = Coast Live Oak Woodland
- MSS** = Mixed Sage Scrub
- D-MSS** = Disturbed Mixed Sage Scrub
- T/S** = Toyon-Sumac Chaparral
- AG** = Annual Grassland
- SCS** = Southern Cactus Scrub
- SBS** = Sagebrush Scrub
- D-SBS** = Disturbed Sagebrush Scrub
- RUD** = Ruderal

**Table 3
Acres of Preserved, Enhanced, and Revegetated Areas on the Canyon Hills Manor Site**

Community	Existing		Proposed Project				Net Change (acres)
	Total Onsite (acres)	Impacts (acres)	Preservation (acres)	Onsite Revegetation (acres)	Onsite Enhancement (acres)	Total (acres)	
Coastal Sage Scrub/Cactus Scrub	18.5 ¹	11.6 ²	6.9	10.6	1.3	18.8	+0.3
Toyon-Sumac Chaparral	1.6	0.8	0.8	0.0	0.0	0.8	-0.8
Coast Live Oak Woodland	2.6	0.4	2.2	0.0	0.0	2.2	-0.4
¹ 1.9 acres of this is disturbed mixed sage scrub and disturbed California sage brush scrub. ² 1.1 acres of this is disturbed mixed sage scrub.							

2.3.1 Avoidance Measures

The primary avoidance measure is the preservation of California gnatcatcher habitat. The proposed project will completely avoid areas in the northwest and southwest portions of the site, and areas in the southeast portion of the site. The proposed project will avoid the coastal California gnatcatchers found in the southern portion of the site, adjacent to contiguous coastal sage scrub habitat on adjacent properties.

Preservation of Coastal Sage Scrub and Other Areas Suitable for Habitat Restoration

The proposed Canyon Hills Manor project design is the result of a long process that modified the project footprint. The project design includes the preservation of blocks of coastal sage scrub habitats and preservation of connectivity between areas of native habitat on the site and large native areas and restored areas in Deer Canyon. This will allow gnatcatchers to continue to survive, to move throughout the preserved habitat areas, and to move to habitat areas located outside of the site boundaries. The site currently supports 18.5 acres of disturbed and undisturbed coastal sage scrub habitat. The Canyon Hills Manor project will preserve approximately 6.9 of the 18.5 acres of coastal sage scrub on the site. In addition, approximately 10.6 acres will be revegetated as coastal sage scrub. The restorations includes the enhancement of 1.3 acre of disturbed coastal sage scrub. The total acres of coastal sage scrub/southern cactus scrub on the site after the revegetation and enhancement will be 18.8 acres. See Appendix B for more details about the CMMP.

2.3.2 Minimization Measures

Several minimization measures are incorporated into the proposed Canyon Hills Manor project design, including the timing of development, the location and timing of revegetation, and biological monitoring during grading and construction.

Functional Restoration of Jurisdictional Waters

As part of the proposed project a sedimentation/recharge basin will be constructed in the northeastern corner of the site (adjacent to and south of Santa Ana Canyon Road and adjacent to and east of the proposed road - see Figure 2) to serve as a sedimentation collection basin and recharge groundwater. The project applicant proposes to mitigate for permanent effects to 0.07 acre of ephemeral drainages by

creating an earthen retention basin that will capture and treat surface runoff from the developed area, prior to entering the Santa Ana River. This retention basin will be planted with mule fat (*Baccharis salicifolia*) and other native species to provide habitat for wildlife species, and increase the effectiveness of surface water treatment. More details of the functional restoration are provided in the CMMP (Appendix B).

Location and Timing of Revegetation

A detailed mitigation and monitoring plan has been developed for the Canyon Hills Manor project that describes the revegetation and enhancement for coastal sage scrub areas (Appendix B). The plan specifically focuses on the revegetation and enhancement of coastal sage scrub habitat in order to offset temporary and permanent effects to the coastal California gnatcatcher habitat on the site. Revegetation is intended to create a native plant community in areas that are graded for the proposed project, but not developed. The goal of the CMMP will be to create coastal sage scrub habitat that will mimic existing undisturbed coastal sage scrub habitat present at the site and to create habitat that supports the breeding and foraging activities of the coastal California gnatcatcher. The CMMP consists of various tasks designed to prepare the areas prior to planting, to salvage coastal sage scrub communities by transplanting where possible, and to install container plant and seed materials. Areas designated for revegetation will be cleared of all vegetation and will be recontoured, if necessary. Topsoil salvaged at the beginning of grading operations will be replaced after recontouring is completed.

Approximately 10.6 acres of coastal sage scrub will be created onsite in areas within the proposed project footprint. Removing non-native habitats and restoring coastal sage scrub habitats in areas outside of the project footprint will enhance approximately 1.3 acre of the site. The areas outside of the impact zone of the project that currently support non-native grasslands will be revegetated with coastal sage scrub.

Approximately 11.6 acres of coastal sage scrub will be removed during implementation of the Canyon Hills Manor project. Prior to grading and construction, pre-planting weed control will be implemented in revegetation areas. During grading and construction, coastal sage scrub habitat removed from within the project footprint will be salvaged (if possible). Areas receiving salvaged coastal sage scrub will also be hydroseeded with a native plant seed mix. If sufficient salvage materials are not available for transplantation, the affected Revegetation Areas will be planted with container plants and a seed mix.

As a result of the development and revegetation, the Canyon Hills Manor site will ultimately support 18.8 acres of coastal sage scrub which includes the 6.9 acres of preserved coastal sage scrub 10.6 acres of revegetated coastal sage scrub, and 1.3 acres of enhanced coastal sage scrub. The revegetation for the loss of coastal sage scrub resulting from grading and construction will be mitigated at a ratio of approximately 2 to 1 to address both the permanent and temporary loss of habitat.

Additional Minimization Measures

The following minimization measures are designed to protect sensitive resources during the construction phases of the project.

- **Providing a Biological Monitor** - A biological monitor will be present at all preconstruction and pregrading meetings and will be onsite during all vegetation clearing and subsequent removal. A monitor will also be onsite periodically during the grading. The biological monitor will be an individual familiar with the biology and ecology of southern California, especially sensitive breeding birds.

- **Conducting Preconstruction Surveys** - The biological monitor shall conduct a pre-construction survey in the proposed construction areas immediately prior to vegetation clearing and the monitor shall be present during vegetation clearing. If any listed species are found, the biological monitor will stop construction and the USFWS will be notified immediately. Construction will not resume until the USFWS has been contacted and has given direction regarding subsequent actions to be taken.
- **Flagging Construction Limits** - The biological monitor shall flag the limits of the construction zone and all machinery and equipment shall stay within the flagged project limits.
- **Timing of Construction** - Vegetation clearing in the proposed project areas shall be conducted outside of the coastal California gnatcatcher breeding season to the maximum extent practicable (considered to be from February 15 to August 30). If its not possible to clear vegetation in the non-breeding season, then a biological monitor shall be present during clearing to minimize impacts to the California gnatcatcher and other wildlife species.
- **Timing of Grading Activities** - Grading activities will be phased in such a manner as to encourage birds and other wildlife present on the site to move toward habitat located onsite or on adjacent properties.
- **Placing Physical Barriers** - The biological monitor will direct the placement of physical barriers to limit construction activities as may be necessary to protect onsite and adjacent habitat areas. Such barriers may include fencing, signs, or other restraints as the biological monitor deems appropriate.
- **Preventing Fires, Leakage, etc., During Construction** - The biological monitor, in conjunction with the construction manager, will institute measures to prevent fires, leakage from vehicles, etc., during construction of the project site. Such measures may include the designation of no smoking zones and parking areas.
- **Taking Monitoring Notes** - The biological monitor shall record notes during the monitoring of the vegetation clearing and site grading. These notes shall document the dates of clearing and grading, location and limits of clearing and grading, activities observed, and any wildlife species observed or moved during the monitoring. The monitoring notes shall be summarized into a letter report that shall be submitted to the USFWS at the completion of the project.
- **Controlling Erosion** - An erosion control plan will be prepared and included in the Stormwater Pollution Prevention Plan for the site. Erosion control measures may include the installation of silt fencing and/or sandbags down slope of any clearing and/or grading activities.
- **Lighting Design** - Lighting for the wedding/banquet facility, parking areas, and along the access road would be designed to prevent artificial lighting from reflecting into adjacent natural areas.
- **Identification and Salvage of Coastal Sage Scrub, Mulch, and Topsoil** - The project restoration specialist would identify appropriate salvage areas and would oversee this task.
- **Focused Gnatcatcher Surveys** - During the 5-year maintenance and monitoring period for the revegetation, focused surveys will be conducted to document the number of pairs of California gnatcatchers on the site. These surveys will be conducted by qualified biologists who are permitted to conduct gnatcatchers surveys according to the USFWS protocol. The results of the surveys will be submitted to the USFWS according to the requirements of the biologists' permits.

2.3.3 Off-Setting Measures

The project will result in a net gain of 0.3 acres of coastal sage scrub/southern cactus scrub on the Canyon Hills Manor site. All coastal sage scrub revegetation efforts will be monitored and maintained for 5 years or until the success criteria in the Mitigation Plan are met in order to ensure that the habitat becomes suitable breeding habitat for the coastal California gnatcatcher. A wildlife monitoring program will be implemented yearly during this period in order to determine when California gnatcatchers are using the revegetated habitat.

2.4 PROJECT PROPONENT

This action would be completed under the authority of the applicant:

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SECTION 3.0 – GENERAL ENVIRONMENTAL SETTING

3.1 METHODS AND PREVIOUS SURVEYS

The following sections describe the environmental setting within the proposed project area. The setting was determined based on literature searches and on surveys of the proposed project site. Existing reports reviewed included the Low Effect Habitat Conservation Plan (Michael Brandman Associates 2001). Database searches included the California Natural Diversity Database (CNDDDB) and California Native Plant Society's Electronic Inventory (CNPSEI).

Nomenclature follows Orange County's Habitat Classification System (County of Orange 1994) for vegetation communities and various field guides (Peterson 1990, Stebbins 1985) for wildlife and wildlife habitats.

Reconnaissance biological surveys were conducted at the proposed project site in July of 1999 and focused surveys for the California gnatcatcher were conducted between July and October of 1999. The technical reports that document the findings of those surveys are as follows:

- Final Biological Technical Report of Findings for Canyon Hills Manor, October 1999 (Appendix C); and
- Report of Findings for the 1999 Canyon Hills Manor Focused California Gnatcatcher Surveys, November 1999 (Appendix D).

A complete description of the existing environment is provided in these reports. The discussion below summarizes the information in those documents.

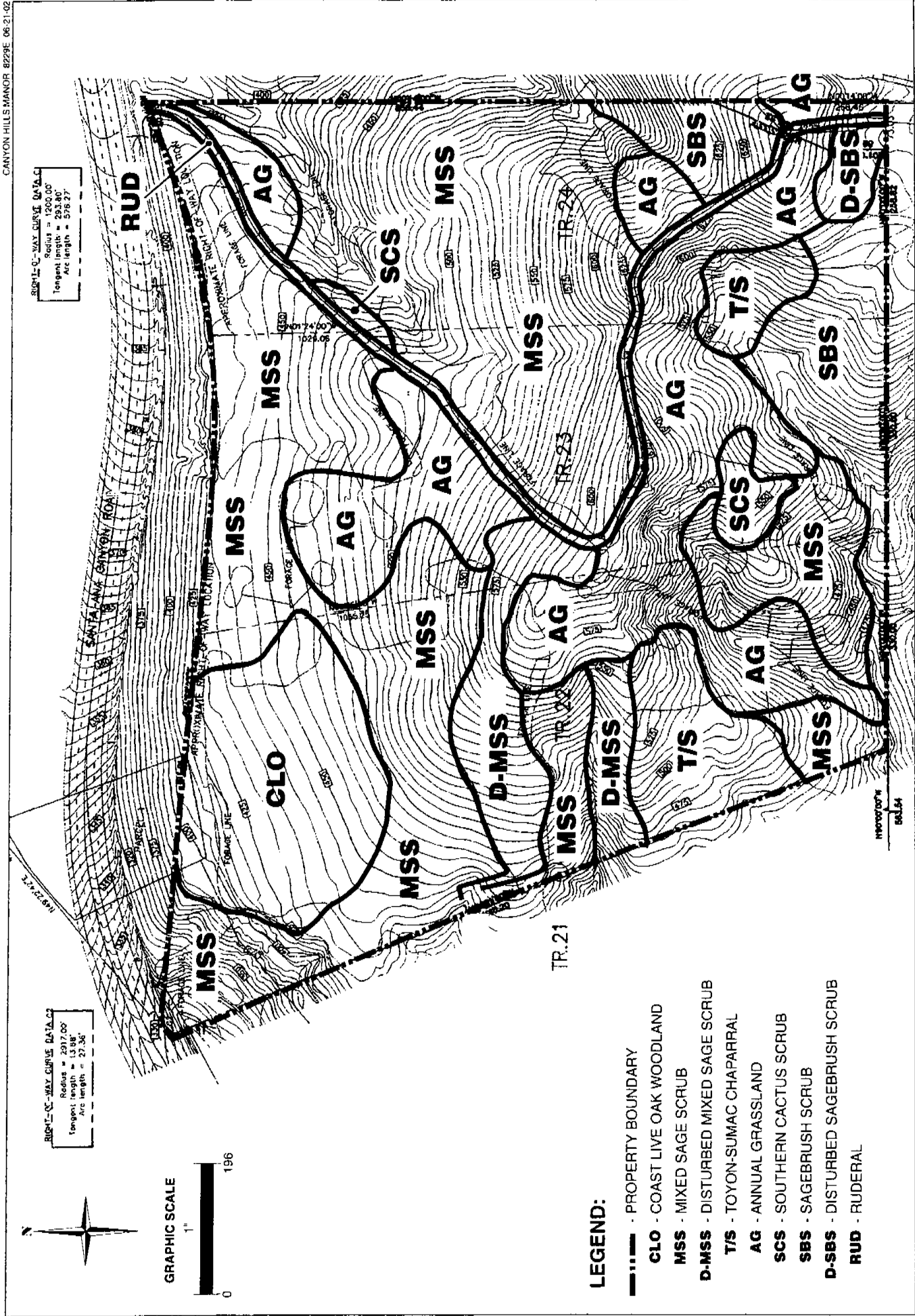
3.2 VEGETATION COMMUNITIES

Vegetation communities were mapped during general and focused wildlife surveys in 1999. Nine vegetation communities were identified on the proposed project site. The acreages of each of the vegetation communities occurring on the site are listed in Table 4 and are described below. The locations of the vegetation communities are shown on Figure 4.

Table 4
Existing Vegetation Communities at the Canyon Hills Manor Site

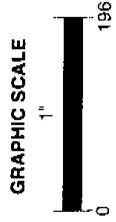
Vegetation Community	Acres
Venturan-Diegan Coastal Sage Scrub Communities	
Mixed Sage Scrub	13.8
Disturbed Mixed Sage Scrub	1.6
California Sagebrush Scrub	2.3
Disturbed California Sagebrush Scrub	0.3
Southern Cactus Scrub	0.5
Toyon-Sumac Chaparral	1.6
Coast Live Oak Woodland	2.6
Annual Grassland	5.5
Ruderal	0.8
Total	29.0

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RIGHT-OF-WAY CURVE DATA.C3
 Radius = 1200.00'
 Tangent length = 292.80'
 Arc length = 576.27'

RIGHT-OF-WAY CURVE DATA.C3
 Radius = 2917.00'
 Tangent length = 15.345'
 Arc length = 22.345'



- LEGEND:**
- - - - - PROPERTY BOUNDARY
 - CLO - COAST LIVE OAK WOODLAND
 - MSS - MIXED SAGE SCRUB
 - D-MSS - DISTURBED MIXED SAGE SCRUB
 - T/S - TOYON-SUMAC CHAPARRAL
 - AG - ANNUAL GRASSLAND
 - SCS - SOUTHERN CACTUS SCRUB
 - SBS - SAGEBRUSH SCRUB
 - D-SBS - DISTURBED SAGEBRUSH SCRUB
 - RUD - RUDERAL

CANYON HILLS MANOR
 VEGETATION COMMUNITIES MAP
 Figure 4

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3.2.1 Venturan-Diegan Coastal Sage Scrub Communities

The Venturan-Diegan transitional coastal sage scrub vegetation consists primarily of low, drought-deciduous and evergreen shrubs. It is common in Orange County and is considered to be a transitional association that contains elements of two geographical associations, the Venturan and Diegan coastal sage scrubs. Twelve sub-communities have been described within the Venturan-Diegan transitional coastal sage scrub category (County of Orange 1992). Two of these sub-communities, mixed sage scrub and California sagebrush scrub, occur on the project site. Disturbed versions of these sub-communities also occur on the property. These "disturbed" communities have a greater percentage of exotic plant species present and thus, they have been labeled as disturbed.

Mixed Sage Scrub

As defined by the County's classification system, a mixed sage scrub sub-community consists of a mix of four or more dominant scrub species. This category applies at the Canyon Hills Manor site in a community that is dominated by California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), black sage (*Salvia mellifera*), and California sagebrush (*Artemisia californica*). Other species which occur in this sub-community include coyote bush (*Baccharis pilularis*) and Mexican elderberry (*Sambucus mexicana*). The mixed sage scrub sub-community is the dominant vegetation community on the project site and covers approximately 13.8 acres.

Disturbed mixed sage scrub occurs in the western portion of the property and comprises approximately 1.6 acres. This community is characterized by the shrubs commonly found in mixed sage scrub communities, but with a high percentage (>20 percent) of invasive, non-native species present. Fennel (*Foeniculum vulgare*) is the most common non-native component in this community. Other exotic species include star thistle (*Centaurea melitensis*) and wild oats (*Avena fatua*).

California Sage Brush Scrub

This sub-community is found at two locations on the southeast corner of the property, totaling approximately 2.3 acres. It differs from other coastal sage scrub sub-communities in that it is composed of a nearly monotypic stand of California sagebrush. Vegetation is dense with few exotic species.

Disturbed California sagebrush scrub occurs in the extreme southeast corner of the property and totals approximately 0.3 acres. Star thistle and nonnative grasses including red brome (*Bromus madritensis* ssp. *rubens*) and wild oats are common in this area, altering the composition of the sub-community.

3.2.2 Southern Cactus Scrub

Southern cactus scrub occurs along a trail in the northeastern portion of the proposed project site and in a small area in the southern portion of the site. Coastal prickly pear (*Opuntia littoralis*) contributes greater than 50 percent cover in these areas. Other species occurring in this community include California sagebrush and California buckwheat. Southern cactus scrub comprises approximately 0.5 acres of the site.

3.2.3 Toyon-Sumac Chaparral

Toyon-sumac chaparral occurs in two stands on west-facing slopes in the southwest and southeast portions of the property. Large, evergreen shrubs that are adapted to occasional wildfires characterize this community. Toyon (*Heteromeles arbutifolia*), laurel sumac, and lemonadeberry (*Rhus integrifolia*) are the dominant shrubs in this community. California sagebrush and California buckwheat occur in the understory. Toyon-sumac chaparral comprises approximately 1.6 acres of the site.

3.2.4 Coast Live Oak Woodland

A small coast live oak woodland occurs in the northwest corner of the property. This plant community appears to have been planted because the trees are even-aged and occur in rows along a terraced portion of the slope. The dominant species in this community is coast live oak (*Quercus agrifolia*). The oaks form an open canopy over a sparsely vegetated understory composed of non-native grasses and occasional poison oak (*Toxicodendron diversilobum*). This community covers approximately 2.6 acres of the site.

3.2.5 Annual Grassland

Annual grassland is also a common component of the site, totaling approximately 5.5 acres. This community is composed primarily of annual grasses of Mediterranean origin. The most common species are wild oats, riggut brome (*Bromus diandrus*), and red brome. Non-native forbs found in this community include black mustard (*Brassica nigra*) and star thistle. Some areas of the grassland on the site also contain scattered elements of coastal sage scrub, primarily laurel sumac, California sagebrush, and California buckwheat. The coastal sage scrub elements provide less than 10 percent cover within this grassland community.

3.2.6 Ruderal

A graded trail ascends to the hilltop from Santa Ana Canyon Road near the center of the property and continues along the ridge top in a southeasterly direction. The plant community on and immediately adjacent to the trail is composed almost exclusively of ruderal species including black mustard, star thistle, non-native grasses, and telegraph weed (*Heterotheca grandiflora*). Ruderal areas comprise approximately 0.8 acre on the site.

3.3 WILDLIFE AND WILDLIFE HABITAT

Sage scrub communities and annual grasslands predominantly characterize the proposed project site. Wildlife species observed or expected within the project area are characteristic of these communities. A complete list of wildlife species observed during the wildlife surveys is included in the Final Biological Technical Report of Findings for Canyon Hills Manor, in Appendix B. The following paragraphs provide a brief description of the wildlife species observed or expected to occur at the site.

3.3.1 Invertebrates

Invertebrate species were not observed during the surveys. However, the vegetation communities found within the project area undoubtedly support many common insect species.

3.3.2 Amphibians

Water is an essential habitat requirement for amphibians. Various salamander species require the presence of a damp environment, loose soil, logs, leaf litter and rocks for shelter. Amphibians such as frogs and toads require standing or moving water for breeding and reproduction.

Amphibian species were not observed during the surveys. All drainages located within the project area have an ephemeral water regime and support flow only during storm events. Therefore, aquatic habitat that could be used for potential breeding habitat does not exist on the site. A modified stormwater ditch runs parallel to the proposed project site, approximately 75 feet outside of the western boundary. This

drainage is heavily disturbed and degraded. However, it supports intermittent water flow and therefore may contain suitable aquatic habitat and may act as a refuge for common amphibian species such as California chorus frog (*Pseudacris cadaverina*), pacific treefrog (*Hyla regilla*), and western toad (*Bufo boreas*).

3.3.3 Reptiles

One reptile species, the western fence lizard (*Sceloporus occidentalis*), was observed onsite during the surveys. The vegetation communities found within the project area likely support additional reptile species such as the southern alligator lizard (*Gerrhonotus multicarinatus*), side-blotched lizard (*Uta stansburiana*), western skink (*Eumeces skiltonianus*), coachwhip (*Masticophis flagellum*), California whipsnake (*Masticophis lateralis*), southern Pacific rattlesnake (*Crotalus viridis helleri*), and gopher snake (*Pituophis melanoleucus*).

3.3.4 Birds

The grassland community on the site provides suitable foraging habitat for a variety of granivorous and insectivorous bird species as well as raptor species. Birds observed in the grassland community included the mourning dove (*Zenaidura macroura*), house finch (*Carpodacus mexicanus*), and bushtit (*Psaltriparus minimus*). Raptor species, including the Cooper's hawk (*Accipiter cooperii*) and red-tailed hawk (*Buteo jamaicensis*) were observed during the surveys.

Many avian species commonly associated with coastal sage scrub habitat were also observed. These included the greater roadrunner (*Geococcyx californianus*), northern mockingbird (*Mimus polyglottos*), California thrasher (*Toxostoma redivivum*), common raven (*Corvus corax*), spotted towhee (*Pipilo maculatus*), and California towhee (*Pipilo crissalis*).

3.3.5 Mammals

Two mammal species, the California ground squirrel (*Spermophilus beecheyi*) and desert cottontail (*Sylvilagus audubonii*), were observed during the surveys. Sign (such as burrows, scat, tracks, and carcasses) of several mammal species was observed on the trails and within the vegetation communities. Tracks observed along the dirt access road were those of the mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), and gray fox (*Urocyon cinereoargenteus*). Several pocket gopher (*Thomomys bottae*) and ground squirrel burrows were also observed.

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SECTION 4.0 – SENSITIVE SPECIES AND ASSESSMENT OF HABITAT

4.1 BACKGROUND AND METHODS

Prior to performing sensitive species and habitat assessment surveys in 1999, documentation relevant to the project area was reviewed. The CNDDDB (CNDDDB 1999; Prado Dam, Black Star Canyon, Yorba Linda, and Orange quadrants) and the CNPSEI of Rare and Endangered Vascular Plants of California (CNPSEI 1999) were reviewed for the potential presence of sensitive species in the vicinity of the project site. By compiling information from these sources, lists of sensitive plant and wildlife species potentially occurring in the project area were developed. Using these lists, reconnaissance level surveys and habitat assessments were conducted to identify plant and animal species on the project site and determine the need for focused surveys for particular species. Focused surveys were conducted for the coastal California gnatcatcher. Because the coastal California gnatcatcher was the only listed species observed on the site, it is discussed in detail in this section. All other listed and sensitive species of plants and wildlife that were considered in this document are described in Appendix A.

A focused survey for coastal California gnatcatchers was completed between July 23, 1999 and October 15, 1999. The Report of Findings for the 1999 Canyon Hills Manor Focused California Gnatcatcher Surveys was published in November 1999 and is included as Appendix D in this Biological Assessment.

4.2 COASTAL CALIFORNIA GNATCATCHER

4.2.1 Status

The coastal California gnatcatcher was listed as threatened by the USFWS in 1993 and is designated as a CSC. The gnatcatcher is a nonmigratory songbird that nests and forages in moderately dense stands of coastal sage scrub occurring on arid hillsides, mesas, and washes. Habitat loss, degradation and fragmentation due to land alteration and development are considered the major threats to this species. Coastal California gnatcatchers are also subject to nest parasitism by the brown-headed cowbird. Final designation of critical habitat was published in the Federal Register on October 24, 2000.

4.2.2 Habitat Requirements

The coastal California gnatcatcher is a small, gray, insect-gleaning bird typically associated with different coastal sage scrub plant communities. The floristic composition of coastal sage scrub shows substantial geographic variation, forming at least 12 recognized subcommunities that generally are dominated by aromatic, waist-high drought-deciduous species (County of Orange 1994). California sagebrush (*Artemisia californica*) dominated stands of coastal sage scrub are preferred by the coastal California gnatcatcher. Other plant species that may be present include white sage (*Salvia apiana*), California bush sunflower (*Encelia californica*), and California buckwheat (*Eriogonum fasciculatum*). The birds do not appear to be obligately dependent on any particular plant species found in coastal sage scrub, rather they typically avoid habitats that are either very sparse or extensively invaded by taller shrubs and trees or by non-native plant species.

4.2.3 Nesting Season

The coastal California gnatcatcher is a year-round resident in southern California. Breeding pairs become highly territorial by late February or early March. Nest building begins during the second or third week of March with fledglings starting to appear around May 1. Post-breeding dispersal of fledglings

occurs between late May and late November. During the breeding season (i.e., from mid-February through July), the birds form monogamous pairs, defending a territory from other gnatcatchers. They are persistent nesters because they may make as many as 10 nesting attempts in a season.

4.2.4 Home Range/Territory Size

Home range/territory size for coastal California gnatcatchers varies depending upon the quality of the habitat, the plant species composition, and the amount of disturbance within the territory. A number of studies have determined territory and home range size for gnatcatchers. Table 5 lists the home range/territory sizes for various projects throughout Orange, San Diego, Riverside, and Los Angeles Counties. Research from previous reports indicates that home range/territory size is highly variable, possibly relating to differences in habitat quality and/or differences in methodology used by various investigators (Atwood 1990). From these studies, it appears that the home range/territory size may range from 1.6 acres at a site in Riverside County to 39.2 acres at a site in San Diego County.

Table 5
Home Range Territory Size for Coastal California Gnatcatchers

Location	County	Year	No. Pairs	Home Range/Territory Size	Reference
Lake Matthews	Riverside	1993	9	1.6 - 18.9 acres	Griffith Wildlife Biology
Perris	Riverside	1988	4	2 acres	Tattersall
South Orange County	Orange	1993	5	6.6 - 30.7 acres	Griffith Wildlife Biology
Coyote Hills East	Orange	1991	7	2.1 - 4.2 acres	Sweetwater Env. Biologists
Chiquita Canyon	Orange	1990	12	4 - 11.5 acres	Bontrager
Bonita	Orange	1986	4	2 acres	Mooney-Levine
Palos Verdes	Los Angeles	1990	1	2 acres	Impact Sciences
Palos Verdes	Los Angeles	1978	2	5 acres	Matson
Rancho San Diego	San Diego	1991	25	avg of 20.5 acres	Mock
Amber Ridge	San Diego	1990	7	13.3 - 39.2 acres	ERCE
El Cajon	San Diego	1990	7	14 acres	ERCE
Vista	San Diego	1989	1	12 acres	Jones
Jamacha	San Diego	1987	2	3 acres	WESTEC
Rancho Santa Fe	San Diego	1987	2	11 acres	RECON
Camp Pendleton	San Diego	1984	5	3 acres	Atwood

4.2.5 Habitat Edges

The California gnatcatcher is typically considered an "edge species" (Atwood 1998; Chambers Group 1996). Urbanization has resulted in the patchy distribution of the remaining gnatcatcher habitat seen in southern California. Thus, many gnatcatchers must establish their territories near the urban/wildland interface. Many wildlife species are negatively affected by this urban/wildlife interface known as "edge effect."

Despite the increase in exposure to negative edge effects, the coastal California gnatcatcher is classified as an insensitive species due to its ability to tolerate edge effects (Chambers Group 1996; Atwood 1998; Bolger 1996). No significant increases or decreases in population numbers or changes in distribution of California gnatcatchers near the edges of fragmented areas has been observed. Rather, this species appears to be indifferent to edge effects. The 1998 Atwood report for Rancho Palos Verdes study found "no evidence that areas of coastal sage scrub which occur in close proximity to landscapes dominated by non-natural vegetation types are of lower quality, at least for California gnatcatchers, than more interior

areas with less edge. In fact, the results of this analysis suggest that gnatcatchers have higher rates of reproductive success in areas that include larger amounts of edge between natural and non-natural habitats." California gnatcatcher nest monitoring studies conducted by Chambers Group along the Eastern Transportation Corridor and the San Joaquin Hills Transportation Corridor in Orange County confirmed this result. Nesting pairs were typically found in close proximity to the edges of the habitat during these surveys.

4.2.6 Habitat Fragmentation

Rates of passerine nest predation generally have been shown to increase as isolated habitat fragments decrease in size, although none of these studies have specifically examined gnatcatchers or the coastal sage scrub ecosystem (Wilcove 1985; Small and Hunter 1989). Soule et al. (1988) noted that coyotes were absent from small, isolated patches of chaparral (including coastal sage scrub) and speculated that the disappearance of such large predators may allow population levels of smaller bird predators, such as foxes, opossums, or domestic cats, to increase. These authors suggested that increased predation pressures resulting from the absence of coyotes may contribute to local extinctions of bird species that occur in small, fragmented patches of native vegetation.

4.2.7 Critical Habitat

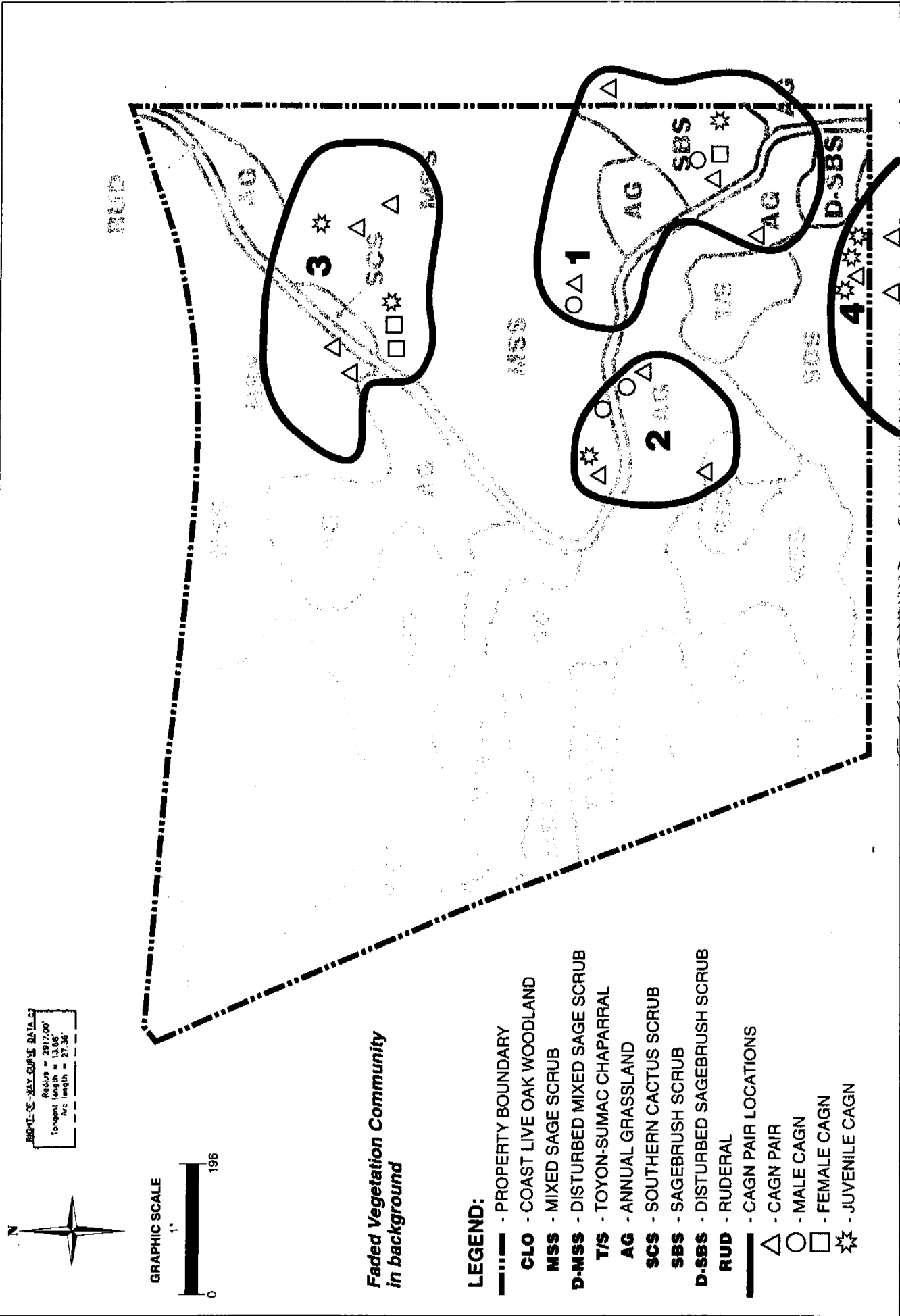
Approximately 513,650 acres in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties, California have been designated as critical habitat for the coastal California gnatcatcher (USFWS 2000). The Canyon Hills Manor project site is within the boundaries of Unit 9 - East Los Angeles County-Matrix NCCP Subregion of Orange County as designated in the USFWS Federal Register on October 24, 2000, Final Determination of Critical Habitat for the Gnatcatcher. Unit 9 encompasses approximately 33,540 acres within the Montebello, Chino-Puente Hills, East Coyote Hills, and West Coyote Hills area. The unit as a whole provides the primary connectivity between core gnatcatcher populations and sage scrub habitat within the Central/Coastal Subregions of the Orange County NCCP (Unit 7) and the Western Riverside County Multiple Species Habitat Conservation Plan (MSHSCP) (Unit 10).

4.2.8 Status on the Site

Focused protocol surveys for the coastal California gnatcatcher, a federal-listed threatened species, were conducted on the site in 1999. Based on the findings of the 1999 focused gnatcatcher surveys, the topography, the distribution of suitable coastal sage scrub habitat on the site, and Chambers Group's experience with coastal California gnatcatcher breeding behavior, we estimate that there may be up to four pairs of coastal California gnatcatchers occupying the project site. One pair was observed along the boundary between the project site and the open space to the south of the site. Figure 6 shows the areas on the site where pairs and lone males were repeatedly found during the surveys.

Follow-up focused survey for gnatcatchers in 2000 and 2001 were not conducted after consulting with Mr. Jonathan Snyder of the U.S. Fish and Wildlife Service. Based on Chambers Group's 1999 survey results, it was determined that the habitat on the site supports as many pairs as it can so we are assuming that no additional pairs will be found.

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CANYON HILLS MANOR
COASTAL CALIFORNIA GNATCATCHER LOCATIONS
Figure 5

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SECTION 5.0 – EFFECTS ASSOCIATED WITH THE PROPOSED PROJECT

The following sections describe the direct, indirect, and cumulative effects of the proposed Canyon Hills Manor project (wedding chapel and banquet facility parking, and access road). In early 2002 a new alternative, referred to as the 14 percent Grade Minimized Alternative, was developed in response to the USFWS's verbal comments on the Proposed Project. This new alternative and its effects are discussed in Appendix E.

5.1 DIRECT EFFECTS

Direct effects consist of any ground-disturbing activity (e.g., vegetation removal, grading, paving, or keeping access roads clear) and any other activities that could directly remove the resources.

5.1.1 Vegetation Communities

Table 6 lists the acres of each vegetation community affected by the Proposed Project. In addition, the table also includes the acres of the existing vegetation communities on the site.

**Table 6
Existing Vegetation Communities and Impacts of the Proposed Project**

Vegetation Community	Existing Plant Communities (Acres)	Proposed Project (Acres)
Venturan-Diegan Coastal Sage Scrub Communities	18.0	11.1
Southern Cactus Scrub	0.5	0.5
Toyon-Sumac Chaparral	1.6	0.8
Coast Live Oak Woodland	2.6	0.4
Annual Grassland	5.5	5.3
Ruderal	0.8	0.8
Total	29.0	18.9

Venturan Diegan Coastal Sage Scrub Communities

Implementation of the Proposed Project would affect approximately 11.1 acres of Venturan-Diegan coastal sage scrub communities. Approximately 6.9 acres of coastal sage scrub vegetation will be preserved and avoided by the Proposed Project. The proposed mitigation for impacts of this project includes the revegetation of approximately 10.6 acres of coastal sage scrub vegetation on the graded slopes and in areas that are currently covered by non-native annual grasslands. In addition, it also includes the enhancement of 1.3 acre of disturbed mixed sage scrub. The total acres of coastal sage scrub/southern cactus scrub present on the site after the implementation of the Proposed Project and the revegetation/enhancement program will be 18.8 acres (Table 7). This will result in a net gain of 0.3 acres of coastal sage scrub over what is present on the site prior to project implementation.

**Table 7
Proposed Project Onsite Acres of Preserved, Revegetated, and
Enhanced Native Plant Communities**

Vegetation Community	Existing Plant Communities (Acres)	Preserved Areas	Revegetated Areas	Enhanced Areas	Total Acres
Venturan-Diegan Coastal Sage Scrub/Southern Cactus Scrub Communities	18.5	6.9	10.6	1.3	18.8
Toyon-Sumac Chaparral	1.6	1.4	0.0	0.0	1.4
Coast Live Oak Woodland	2.6	2.3	0.0	0.0	2.3
* Cactus will be included in the plant palette for the coastal sage scrub revegetation and enhancement					

Southern Cactus Scrub

Implementation of the Proposed Project will affect all of the southern cactus scrub present on the site. As part of the mitigation for this alternative, cactus will be included in the plant palette for the revegetated and enhanced areas. Following the implementation of the revegetation/enhancement program, the site will support large patches of cactus located within the coastal sage scrub revegetation and enhancement areas.

Toyon-Sumac Chaparral

Approximately 0.8 acres of the existing 1.6 acres of toyon-sumac chaparral will be affected by the Proposed Project. This community is not considered sensitive so it will not be included as part of the revegetation/enhancement program. Approximately 0.8 acres of this community will be preserved with the implementation of this project.

Coast Live Oak Woodland

Implementation of the Proposed Project will affect approximately 0.4 acres of the 2.6 acres of coast live oak woodland located on the project site. The minimal impacts to this community should not diminish the value of the trees on the site, particularly because this oak woodland community was obviously planted by humans. Approximately 2.2 acres of this community will remain on the site following the construction of this project.

Annual Grassland and Ruderal Areas

The implementation of the Proposed Project will result in the loss of 5.3 acres of non-native annual grasslands and 0.8 acres of ruderal areas. The remaining annual grassland and ruderal areas will be included as part of the revegetation areas and will be replaced with coastal sage scrub vegetation.

5.1.2 Wildlife

Implementation of the Proposed Project will result in a loss of habitat for common wildlife species that are currently occupying the site. The less mobile species will likely be lost as a result of the construction activities. Those species that are able to move out of the area will likely move to areas in the general vicinity of the site. The presence of a biological monitor during clearing of the site will serve to minimize a portion of the impacts of construction because the biologist will be able to move some species out of harm's way. Following the revegetation/enhancement of the project area with coastal sage scrub/southern cactus scrub, common wildlife species will likely move in and repopulate the area.

5.1.3 Endangered, Threatened, or Proposed Species

Plant Species

Implementation of the Proposed Project is not expected to affect any listed or otherwise sensitive plant species. Listed species with a potential to occur on the proposed project site either were not observed during surveys of the site, or no habitat exists on the site for the species. The revegetation and enhancement of vegetation communities onsite could benefit these species by providing a regional increase in the amount of suitable coastal sage scrub habitats available.

Wildlife Species

Because habitat for the least Bell's vireo and the Quino checkerspot butterfly does not occur on the project site, these species would not be affected by the implementation of the Proposed Project. The Proposed Project would only affect one listed species, the California gnatcatcher.

The Proposed Project will affect approximately 11.1 acres of designated critical habitat for the California gnatcatcher and 0.5 acres of southern cactus scrub that occurs within the critical habitat. The project will preserve 6.9 acres of the critical habitat on the site. As discussed in Section 4 of the Biological Assessment, a territory/home range study was not conducted on the site, so it would be inappropriate to discuss impacts to gnatcatcher territories. Rather, it would be more appropriate to say that 11.1 acres of occupied habitat that potentially supports 3 pair of gnatcatchers will be removed by the Proposed Project. The revegetation/enhancement plan for this alternative will revegetate 10.6 acres of coastal sage scrub after grading is completed and will enhance 1.3 acres of disturbed coastal sage scrub areas. As a result, the site will ultimately support 18.8 acres of coastal sage scrub following the implementation of Proposed Project and the associated revegetation/enhancement plan.

5.2 INDIRECT EFFECTS

5.2.1 Vegetation

Indirect effects of the Proposed Project on the preserved vegetation communities are expected to be minimal. These effects include erosion, dust, and potential invasion by non-native plant species. The project design features include measures to minimize the indirect impacts of the implementation of the Proposed Project. These measures include biological monitoring during clearing and grading, flagging construction limits and blocking off access to sensitive habitat areas, and controlling erosion.

5.2.2 Wildlife

Indirect effects of the Proposed Project on the common species of wildlife are expected to occur as a result of the construction. These impacts will be related to noise, dust, erosion, and the increased presence of humans. These impacts are expected to be temporary and short-term because once the construction is completed and the site is being used for banquet/wedding activities, the disturbance factor will likely be minimal. The minimization measures included as part of the Proposed Project will serve to limit the indirect impacts on resident wildlife species in areas adjacent to the construction.

5.2.3 Endangered, Threatened, and Proposed Species

Plant Species

Indirect effects on listed plants would not be expected to occur as a result of the Proposed Project because no listed species of plants occur on the project site.

Wildlife Species

The grading and construction activities associated with the construction of this alternative could indirectly affect gnatcatchers on the site. These effects could result from increased noise, traffic, and dust. These effects would be short-term and temporary. Once the construction is complete, and the facility is used by the public, the effects on gnatcatchers are expected to be minimal. The minimization measures proposed as part of the project design will serve to limit the indirect impacts on gnatcatchers located in areas adjacent to the construction activities.

5.3 CUMULATIVE EFFECTS

Cumulative impacts for the purpose of Section 7 Consultations are limited to those future impacts of local and state projects that would not undergo a subsequent consultation with the USFWS.

The listed species considered in this Biological Assessment include the California gnatcatcher. Cumulatively, the Canyon Hills Manor population of gnatcatchers appears to represent only a small percentage of the known population of gnatcatchers in the Chino-Puente Hills and in the northeast Orange County area (Weir Canyon, Gypsum Canyon, Coal Canyon, Deer Canyon, Anaheim Hills, and Orange). Based on the fact that the coastal sage scrub habitats in Deer Canyon Park and adjacent areas, as well as in Coal Canyon and portions of Gypsum and Weir Canyon, are still present and may not be disturbed prior to the implementation of the revegetation/enhancement program on the Canyon Hills Manor site, this project may only contribute to a short-term temporal loss of gnatcatcher habitat. At the completion of the revegetation/enhancement program, there will be a net gain in gnatcatcher habitat on the site. In the period between habitat clearing and habitat revegetation, the gnatcatchers will likely disperse into surrounding habitat areas. The minimization measures coupled with the revegetation/enhancement of the site should offset the impacts to this species and ensure the long-term survival of this species in this portion of north Orange County.

These species may be associated with waters of the United States. For example, coastal California gnatcatchers have been observed foraging in the jurisdictional drainages. Activities in these areas are regulated by the Corps. Authorization by the Corps of any work in these areas that may affect a listed species would also require a Section 7 Consultation with the USFWS. If the future impacts to upland listed wildlife species are not tied to a federal permit or action, the activity should be considered in a subsequent Section 7 Consultation if the impact would require "take" of that species. Take is broadly defined and may include habitat alteration. The permission to take an individual of a listed wildlife species would be through a Section 10(a) permit process, which includes an internal consultation regarding issuance of that permit.

SECTION 6.0 – DETERMINATION AND CONCLUSIONS

6.1 DETERMINATION

The Proposed Project for the Canyon Hills Manor Project includes grading and construction and the revegetation/enhancement of native coastal sage scrub habitats that will be suitable for use by the coastal California gnatcatcher and other sensitive species. Implementation of this alternative could result in a "may effect" determination to the coastal California gnatcatcher due to the temporary loss of 11.1 acres of coastal sage scrub/southern cactus scrub habitat that is also designated critical habitat for the species. The project includes preserving 6.9 acres, revegetating 10.6 acres, and enhancing 1.3 acre on the site with coastal sage scrub/southern cactus scrub habitat. Once the habitat revegetation/enhancement program is completed on the site, the site will support 18.8 acres of coastal sage scrub/southern cactus scrub. This will result in a 0.3 acre net gain in the amount of coastal sage scrub/southern cactus scrub on the site following implementation of the project.

Implementation of the Proposed Project may result in direct impacts to three pairs of gnatcatchers that may possibly be displaced prior to the completion of the coastal sage scrub revegetation/enhancement program. The impacts will result from the temporary loss of 11.1 acres of habitat. The remaining 6.9 acres of preserved habitat will continue to provide habitat for the resident gnatcatchers. The project may also indirectly impact one additional pair of gnatcatchers located along the southern boundary of the site as a result of noise, dust, and increased presence of humans. The indirect impacts associated with the construction activities will be temporary and short-term.

6.2 CONCLUSIONS

Upon completion of the revegetation/enhancement program, approximately 18.8 acres of coastal sage scrub/southern cactus scrub will exist within the boundaries of the project site. The preservation of native habitat combined with the ultimate revegetation of the site will likely result in gnatcatchers occupying all of the available habitat on the site. In addition, the low level of disturbance on the site following the completion of construction (periodic usage for wedding/banquet activities) will likely be compatible with the continued breeding and foraging activities of the gnatcatchers.

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SECTION 7.0 – REFERENCES

- Atwood, J.L.
1998 Analysis of Edge Effects on California Gnatcatcher Reproductive Success.
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Yorba Linda, Orange, Black Star Canyon, and Prado Dam 7.5-minute topographic quadrangles.

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APPENDIX A

SUPPORTING BIOLOGICAL INFORMATION

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APPENDIX A - SUPPORTING BIOLOGICAL INFORMATION

A-1 LISTED SPECIES REMOVED FROM CONSIDERATION

The primary reasons listed species were removed from consideration were lack of suitable habitat or because they were not observed during focused surveys. The species and the reasons they were removed from consideration are discussed below.

Braunton's Milk-Vetch (*Astragalus brauntonii*)

Braunton's milk-vetch occurs in gravelly clay soils overlying granite or limestone in chaparral, coastal sage scrub, native grasslands, and coniferous forests. It generally remains dormant until openings are formed, usually from human-caused disturbance or fires. Known occurrences in the vicinity of the project site include a 1994 sighting in Coal Canyon approximately 3 miles east of the site (CNDDDB 2001).

A focused survey for this species was not conducted, however, the potential for Braunton's milk-vetch to occur on the project site is considered low to moderate. Most of the disturbed areas on the project site were walked during reconnaissance surveys, and this species was not observed. It is unlikely that it would have been overlooked because the plant is large and conspicuous, and the surveyors had recently observed a population of Braunton's milk-vetch in Ventura County. The Ventura County population was visited on July 16, 1999, just prior to conducting the survey on the proposed project site.

Santa Ana River Woollystar (*Eriastrum densifolium* ssp. *sanctorum*)

Santa Ana River woollystar occurs in sandy soils in river floodplain (*alluvial*) habitats. Its known range is the Santa Ana River in Riverside and San Bernardino Counties below 500 meters above mean sea level. Santa Ana River woollystar has historically occurred in the region of the proposed project site, but has not been observed locally (near Weir Canyon) since 1927 (CNDDDB 2001). This species has a low potential to occur on the site because no suitable habitat exists on the site.

Least Bell's Vireo (*Vireo bellii pusillus*)

The least Bell's vireo typically occurs in moist thickets and riparian areas comprised of willow, mule fat, and mesquite. Recent sighting of the least Bell's vireo have been recorded within 1.0 mile of the proposed project site along the Santa Ana River. Suitable willow riparian habitat does not occur on the project site. Because no suitable habitat occurs onsite, this species is considered to have a low potential to occur onsite.

Quino Checkerspot Butterfly (*Euphydryas editha quino*)

The Quino checkerspot butterfly is generally associated with coastal sage scrub where openings in the vegetation allow various host plants and nectar sources to grow and in areas with clay soils. It prefers open areas with clay soils where its larval host plant, western plantain (*Plantago erecta*), and various plants that act as nectar sources can grow. The site is located outside of the focused survey areas and no focused surveys were conducted for this species. The potential for the Quino checkerspot to occur on the site is low, based on the fact that the site is located a great distance from any known populations of this species.

Other Sensitive Species

Thirteen other sensitive species that are not listed as threatened or endangered species by the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Game (CDFG) were also considered in this document (Table A-1). The following sensitive species were either observed onsite, or have the potential to occur onsite based on existing habitat.

**Table A-1
Sensitive Species Potentially Present at the
Canyon Hills Manor Project Site**

Scientific Name Common Name	Federal Status¹	California State Status or CNPS Ranking
<i>Atriplex coulteri</i> Coulter's saltbush	None	1B ²
<i>Calochortus plummerae</i> Plummer's mariposa lily	FS	1B
<i>Calochortus weedii</i> var. <i>intermedius</i> intermediate mariposa lily	FS	1B
<i>Dudleya multicaulis</i> many-stemmed dudleya	FS	1B
<i>Phrynosoma coronatum blainvillei</i> San Diego horned lizard	Sensitive	CSC
<i>Cnemidophorus hyperythrus</i> Orange-throated whiptail	Sensitive	CSC
<i>Elanus caeruleus</i> white-tailed kite	None	Fully Protected Species
<i>Accipiter striatus</i> sharp-shinned hawk	None	CSC
<i>Accipiter cooperii</i> Cooper's hawk	None	CSC
<i>Aquila chrysaetos</i> golden eagle	None	CSC
<i>Campylorhynchus brunneicapillus</i> <i>sandiegoense</i> coastal cactus wren	None	CSC
<i>Antrozous pallidus</i> pallid bat	None	CSC
<i>Eumops perotis</i> California mastiff bat	Sensitive	None
¹ Federal Sensitive species are those animal species formerly listed as Federal Species of Concern. ² 1B - Plants rare, threatened, or endangered in California and elsewhere. FS = Federal Species of Concern. CSC = California Species of Special Concern.		

A-2 SENSITIVE SPECIES

The following sections describe the presence or potential presence of sensitive plant communities, sensitive plants, sensitive wildlife species, and listed critical habitat within the proposed project area. In this discussion a "listed" species refers to a species listed by the federal or California state agencies as endangered, threatened, or proposed for endangered or threatened status. This discussion is based on literature and database searches, and on surveys of the proposed project site. Existing reports reviewed included the Low Effect Habitat Conservation Plan (Michael Brandman Associates, 2001). Database searches included the California Natural Diversity Database (CNDDDB 1997, 2001) and California Native Plant Society's Electronic Inventory (CNPSEI 1996, 2001) for areas on and adjacent to the proposed project site (Prado Dam, Black Star Canyon, Yorba Linda, and Orange). Nomenclature follows the CNPSEI or The Jepson manual: Higher Plants of California (Hickman 1993) for plants and the CNDDDB for wildlife.

Sensitive Plant Species

Other sensitive species (those having a listing other than endangered, threatened, or proposed endangered or threatened) are shown on Table A-2. No listed plant species were observed on the site during the reconnaissance-level botanical surveys. Descriptive text of the two listed plant species with the potential to occur on the project site is provided below.

Braunton's Milk-Vetch

Status: Braunton's milk-vetch is a federal-listed endangered species.

Biology of the Species: It occurs in gravelly clay soils overlying granite or limestone in chaparral, coastal sage scrub, native grasslands, and coniferous forests. It generally remains dormant until openings are formed, usually from human-caused disturbance or fires. Known occurrences in the vicinity of the project site include a 1994 sighting in Coal Canyon approximately 3 miles east of the site.

Status on the Site: A focused survey for this species was not conducted, however, the potential for Braunton's milk-vetch to occur on the project site is considered low to moderate. Most of the disturbed areas on the project site were walked during the reconnaissance survey, and this species was not observed. It is unlikely that it would have been overlooked because the plant is large and conspicuous, and the surveyors had recently observed a population of Braunton's milk-vetch in Ventura County. The Ventura County population was visited on July 16, 1999, just prior to conducting the survey on the proposed project site.

Santa Ana River Woollystar

Status: Santa Ana River woollystar is a federal- and state-listed endangered species.

Biology of the Species: Santa Ana River woollystar occurs in sandy soils in river floodplain (*alluvial*) habitats. Its known range is the Santa Ana River in Riverside and San Bernardino Counties below 500 meters elevation. Santa Ana River woollystar has historically occurred in the region, but has not been observed locally since 1927 (near Weir Canyon).

Status on the Site: This species has a low potential to occur on the site because no suitable habitat exists on the site.

Sensitive Wildlife Species

Other sensitive species (those having a listing other than endangered, threatened, or proposed endangered or threatened) are shown on Table A-3. Descriptive text of the two other listed wildlife species with the potential to occur on the project site is provided below.

Least Bell's Vireo

Status: The least Bell's vireo was federally listed as endangered in 1986 and California state-listed as endangered in 1980. Critical habitat (approximately 38,000 acres) was designated for this species on February 2, 1994. There are 10 areas that make up this critical habitat designation in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, and San Diego Counties. No critical habitat for this species is found on or adjacent to the proposed project site.

Habitat Requirements: The least Bell's vireo typically occurs in moist thickets and riparian areas comprised of willow, mulefat, and mesquite. The least Bell's vireo is a migratory species, which inhabits southern California from mid-March or early April through July or August.

Table A-2
Sensitive Plant Species Potentially
Occurring at the Canyon Hills Manor Proposed Project Site

Family Scientific Name Common Name	Habitat and Distribution	Flower Season	Status Designation	Probability of Occurrence
Nyctaginaceae <i>Abronia villosa</i> var. <i>aurita</i> chaparral sand-verbena	Annual herb Chaparral and coastal scrub plant communities. Typically in sandy soils. Occasional on roadsides in sandy soil. Open dry fields with sandy soils. 80 - 1,600 m elevation.	January - August	Fed: None CA: None CNPS: List 1B R-E-D: 2-3-3	Low No suitable habitat is present onsite.
Fabaceae <i>Astragalus brauntonii</i> Braunton's milk-vetch	Perennial shrub, flowering March-July; occurs in brushy places, firebreaks, recent burns and other disturbed areas, in chaparral, coastal sage scrub, valley and foothill grasslands. Known range is the hills and basin of Ventura, Los Angeles, and Orange Cos., < 450 m elevation.	March - July	Fed: Endangered CA: None CNPS: List 1B R-E-D: 3-3-3	Moderate Suitable habitat present on the site but it was not observed during the surveys.
Chenopodiaceae <i>Atriplex coulteri</i> Coulter's saltbush	Shrub species flowering March-October; occurs in coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland, especially on ridgetops, ocean bluffs, and alkaline low places from 10-440 m in elevation.	March - October	Fed: None CA: None CNPS: List 1B R-E-D: 2-2-2	Moderate Suitable habitat present on the site.
Chenopodiaceae <i>Atriplex serenana</i> var. <i> davidsonii</i> Davidson's saltscale	Annual herb. Typically found in coastal bluff scrub and coastal scrub communities containing alkaline soils. 3 - 250 m elevation.	April - October	Fed: None CA: None CNPS: List 1B R-E-D: 3-2-2	Low No suitable habitat is present onsite.
Liliaceae <i>Calochortus plummerae</i> Plummer's Mariposa lily	Perennial herb flowering May-July; occurs in dry, rocky areas in coastal sage scrub, chaparral, yellow pine forest; known range is Santa Monica Mountains to San Janice Mountains. At < 1,700 m. elevation.	May - July	Fed: FSOC CA: None CNPS: List 1B R-E-D: 2-2-3	High Suitable habitat present on the site.
Liliaceae <i>Calochortus weedii</i> var. <i>intermedius</i> intermediate Mariposa lily	Spring blooming (May-July) perennial herb; occurs in dry, rocky, open slopes in chaparral, coastal scrub, and grassland habitats; known range is Orange Co. at < 680 m elevation.	May - July	Fed: FSOC CA: None CNPS: List 1B R-E-D: 2-2-3	High Suitable habitat present on the site.
Asteraceae <i>Centromadia pungens</i> ssp. <i>laevis</i> smooth tarplant	Annual herb. Typically grows in valley and foothill grasslands, alkali meadows, alkali scrub, chenopod scrub, meadows, playas, and riparian woodland communities. Also found in disturbed, ruderal, and agricultural areas. 0 - 480 m elevation.	April - September	Fed: SOC CA: None CNPS: List 1B R-E-D: 2-3-3	Low No suitable habitat is present onsite.

Family Scientific Name Common Name	Habitat and Distribution	Flower Season	Status Designation	Probability of Occurrence
Polygonaceae <i>Chorizanthe parryi</i> var. <i>ferdandina</i> San Fernando Valley spineflower	Annual herb. Typically found in coastal scrub communities. Formerly known from southern California. Occurs in areas containing sandy soils including sandy washes. 3 - 1,035 m elevation.	April - June	Fed: Candidate CA: Candidate CNPS: List 1B R-E-D: 3-3-3	Low No suitable habitat is present onsite.
Cupressaceae <i>Cupressus forbesii</i> Tecate cypress	Evergreen tree occurring on dry slopes in closed-cone coniferous forest and chaparral.	Not Applicable	Fed: FSO CA: None CNPS: List 1B R-E-D: 3-3-2	Low No suitable habitat is present onsite.
Crassulaceae <i>Dudleya multifida</i> many-stemmed dudleya	Perennial herb flowering: May-July; occurs on rocky outcrops in clay soil in chaparral, coastal sage scrub, valley and foothill grassland.	April - July	Fed: FSO CA: None CNPS: List 1B R-E-D: 1-2-3	High Suitable habitat present on the site.
Polemoniaceae <i>Eriastrum densifolium</i> ssp. <i>sanctorum</i> Santa Ana River woollystar	Perennial herb flowering: June-August; occurs in gravelly river beds in chaparral and coastal scrub (alluvial fan); known range is Santa Ana River, San Bernardino & Riverside Cos. at < 500 m elevation. Believed extirpated from Orange Co.	June - September	Fed: Endangered CA: Endangered CNPS: List 1B R-E-D: 3-3-3	Low No suitable habitat is present onsite.
Poaceae <i>Hordeum intercedens</i> vernal barley	Annual herb. Valley and foothill grasslands, vernal pools, dry and saline streambeds, alkaline flats. 10 - 1,000 m elevation.	March - June	Fed: None CA: None CNPS: List 1B R-E-D: ?-2-2	Low No suitable habitat is present onsite.
Lamiaceae <i>Lepechinia cardiophylla</i> heart-leaved pitcher sage	Shrub flowering April-July; occurs in dry areas and slopes in chaparral, closed-cone coniferous forest, and cismontane woodlands; Known range is the Santa Ana Mountains, Orange Co. at 600 - 1,200 m elevation.	April - July	Fed: FSO CA: None CNPS: List 1B R-E-D: 3-2-2	Low No suitable habitat is present onsite.
Liliaceae <i>Nolina cismontana</i> chaparral nolina	Shrub (evergreen) typically found in chaparral and coastal scrub communities. Primarily grows on shale and sandstone substrates. 140 - 1,275 m elevation.	May - July	Fed: SOC CA: None CNPS: List 1B R-E-D: 3-2-3	Low No suitable habitat is present onsite.
<p>General references: CDFG 1997; Hickman 1993; Munz 1974; CNDDDB 2001; Skinner and Pavlik 1994; USFWS 1993, 1996; California Native Plant Society Electronic Inventory (CNPSEI), Black Star Canyon, Orange, Yorba Linda, Prado Dam quads, 1999; California Natural Diversity Data Base (CNDDDB), Black Star Canyon Orange, Yorba Linda, Prado Dam quads, 2001.</p> <p>Federal designations: (Federal Endangered Species Act, USFWS) Endangered: Federally listed; Endangered. FSOC: Federal Species of Concern.</p> <p>CA State designations: (California Endangered Species Act, CDFG) Endangered: State listed; Endangered.</p>				

California Native Plant Society (CNPS) designations: (Note: According to CNPS [Skinner and Pavlik 1994], plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions; see text.) List 1B: Plants rare and endangered in California and throughout their range.

Potential for Occurrence (PFO)

- A = Absent** – There is no habitat for the species onsite or recent focused surveys have not detected the species.
- L = Low potential for occurrence** – No recent or historical records exist of the species occurring in the project area or its immediate vicinity (within approximately 5 miles) and the diagnostic habitat requirements strongly associated with the species do not occur in the project area or its immediate vicinity.
- M = Moderate potential for occurrence** – Either a historical record exists of the species in the project area or its immediate vicinity or the diagnostic habitat requirements associated with the species do occur in the project area or its immediate vicinity.
- H = High potential for occurrence** – Both a historical record exists of the species in the project area or its immediate vicinity and the diagnostic habitat requirements strongly associated with the species do occur in the project area or its immediate vicinity.
- P = Species present** – The species was observed in the project area at the time of the survey.

CNPS R-E-D Code:

- Rarity:**
- 1: Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low at this time.
 - 2: Occurrence confined to several populations or one extended population.
 - 3: Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

Endangerment

- 1: Not endangered.
- 2: Endangered in a portion of its range.
- 3: Endangered throughout its range.

Distribution

- 1: More or less widespread outside California.
- 2: Rare outside California.
- 3: Endemic to California (i.e., does not occur outside California).

Table A-3
 Potential for Occurrence of Sensitive Wildlife Species at the Canyon Hills Manor Site, California

Scientific Name Common Name	Habitat	Status Designation	Probability of Occurrence
CLASS LEPIDOPTERA (MOTHS AND BUTTERFLIES)			
<i>Euphydryas editha quino</i> Quino checkerspot butterfly	Generally associated with coastal sage scrub where openings in the vegetation allow various host plants and nectar sources to grow and in areas with clay soils.	Fed: Endangered CA: CSC	Low Site does not fall within the Quino survey area. Suitable topographic features and disturbed areas are present onsite.
CLASS OSTEICHTHYES (BONY FISH)			
CATASTOMIDAE (SUCKERS)			
<i>Catostomus santaanae</i> Santa Ana sucker	Occur in southern coastal streams and prefers sand, rubble, and/or boulder bottoms with cool, clear water and algae.	Fed: Threatened CA: CSC	Absent No suitable water source onsite. Closest known occurrence is Santa Ana River within 0.5 miles of site.
CLASS AMPHIBIA (AMPHIBIANS)			
SALAMANDRIDAE (NEWT)			
<i>Taricha torosa torosa</i> coast range newt	Lives in terrestrial habitats in coastal drainages from Mendocino County to San Diego County. Requires ponds, reservoirs or slow moving streams for breeding.	Fed: None CA: CSC	Low No suitable permanent water source onsite.
CLASS AMPHIBIA (AMPHIBIANS)			
PELOBATIDAE (SPADEFoot TOADS)			
<i>Scaphiopus hammondi</i> western spadefoot toad	Lives in deep burrows primarily in grassland habitat, breeds in shallow pools formed by heavy winter rains.	Fed: None CA: CSC	Low Suitable grassland habitat in northwestern portion of site. Closest known occurrence is 4.5 miles south of site.
CLASS REPTILIA (REPTILES)			
EMYDIDAE (WATER TURTLES)			
<i>Clemmys marmorata pallida</i> southwestern pond turtle	Occurs in aquatic sites that contain suitable basking sites within woodlands, grasslands, and open forests.	Fed: FS CA: CSC	Low No suitable water source onsite.
IGUANIDAE (IGUANID LIZARDS)			
<i>Phrynosoma coronatum blainvilliei</i> San Diego horned lizard	Occurs in coastal sage scrub, open chaparral, riparian woodland, annual grassland habitats that support adequate prey species.	Fed: FS CA: CSC	High Suitable coastal sage scrub habitat located throughout site. Closest known occurrence is 1.5 miles east of the site.

Scientific Name Common Name	Habitat	Status Designation	Probability of Occurrence
TEIIDAE (WHIPTAIL LIZARDS)			
<i>Cnemidophorus hyperythrus</i> orange-throated whiptail	Frequents sandy washes, rocky hillsides, and coastal sage scrub that support adequate prey species.	Fed: FS CA: CSC	High Suitable coastal sage scrub habitat present throughout site. Closest records are 1.5 miles east and south of site.
CLASS AVES (BIRDS)			
ACCIPITRIDAE (HAWKS)			
<i>Elanus leucurus</i> white-tailed kite	Nesting and foraging habitat of the white-tailed kite includes riparian woodland, emergent wetland and open grassland.	Fed: None CA: CSC *	High Suitable foraging and nesting habitat present throughout the site.
<i>Accipiter striatus</i> sharp-shinned hawk	Nests and forages in mixed woodland.	Fed: None CA: CSC	Moderate Suitable foraging habitat present onsite. Nesting habitat is limited to oak woodland in northwest portion of site.
<i>Accipiter cooperii</i> Cooper's hawk	Nests and forages in broken woodlands or streamside groves, especially deciduous.	Fed: None CA: CSC	Present Observed foraging over site. Nesting habitat is limited to oak woodland in northwest portion of site.
<i>Aquila chrysaetos</i> golden eagle	Found along rolling foothills or coats-range terrain with large trees (scattered oaks, sycamores, digger pines) in open areas with cliff-walled canyons.	Fed: None CA: CSC	Moderate Suitable foraging habitat occurs throughout the site. No suitable nesting habitat located onsite. Has been observed in Coal Canyon 3 miles east of the site.
TROGLODYTIDAE (WRENS)			
<i>Campylorhynchus brunneicapillus</i> coastal cactus wren	Typically occurs in coastal sage scrub and nests within cholla or prickly pear cactus.	Fed: None CA: CSC	Present Observed within southern cactus scrub in southern portion of site on southeast-facing slopes.
MUSCICAPIDAE (KINGLETS, GNATCATCHERS, AND BABBLERS)			
<i>Poliophtila californica californica</i> coastal California gnatcatcher	Occurs in coastal sage scrub vegetation on mesas, arid hillsides, and in washes and nests almost exclusively in California sagebrush.	Fed: Threatened CA: CSC	Present Suitable coastal sage scrub habitat throughout site. 4 pairs observed onsite.
VIREONIDAE (VIREOS)			
<i>Vireo bellii pusillus</i> least Bell's vireo	Occurs in moist thickets and riparian areas that are predominately comprised of willow and mule fat.	Fed: Endangered CA: Endangered	Low No suitable willow riparian habitat occurs onsite. Closest known occurrence is along Santa Ana River within 1 mile of the site.

Scientific Name Common Name	Habitat	Status Designation	Probability of Occurrence
CLASS MAMMALIA (MAMMALS)			
VESPERTILIONIDAE (PLAINNOSE BATS)			
<i>Antrozous pallidus</i> pallid bat	Occurs in grassland, shrub-lands, woodlands, and forests, requires rocky outcrops, cliffs, and crevices with access to open habitats for foraging.	Fed: None CA: CSC	Moderate No suitable rocky outcrops or cliffs onsite. Closest record is 3 miles southeast of site.
MOLOSSIDAE (FREETAIL BATS)			
<i>Eumops perotis</i> California mastiff bat	Inhabits semi-arid habitats including coastal sage scrub, grassland, and chaparral communities with rocky crevices and hollow trees. Has been sighted within 5 miles of the site.	Fed: FS CA: None	Moderate No suitable rocky outcrops or cliffs onsite. Closest record is 3.5 miles southeast of the site.
Status Codes			
Federal			
FE = Endangered			
FT = Threatened			
FS = Federal Sensitive - wildlife species formerly listed as Federal Species of Concern			
State			
SE = Endangered			
CSC = California Species of Special Concern			
Potential for Occurrence (PFO)			
A = Absent - There is no habitat for the species onsite or recent focused surveys have not detected the species.			
L = Low potential for occurrence - No recent or historical records exist of the species occurring in the project area or its immediate vicinity (within approximately 5 miles) and the diagnostic habitat requirements strongly associated with the species do not occur in the project area or its immediate vicinity.			
M = Moderate potential for occurrence - Either a historical record exists of the species in the project area or its immediate vicinity or the diagnostic habitat requirements associated with the species do occur in the project area or its immediate vicinity.			
H = High potential for occurrence - Both a historical record exists of the species in the project area or its immediate vicinity and the diagnostic habitat requirements strongly associated with the species do occur in the project area or its immediate vicinity.			
P = Species present - The species was observed in the project area at the time of the survey			
Sources:			
California Natural Diversity Data Base (CNDDB), Orange, Black Star Canyon, Prado Dam, and Yorba Linda quads, 2000.			

Status on the Site: Recent sighting of the least Bell's vireo have been recorded within 1.0 mile of the proposed project site along the Santa Ana River. Suitable willow riparian habitat does not occur on the project site and this species is considered to have a low potential to occur onsite.

Quino Checkerspot Butterfly

Status: The Quino checkerspot butterfly was federally listed as endangered in 1996. Drought, loss of habitat, and displacement of the species' primary larval host plant, western plantain (*Plantago erecta*), by invasive non-native grasses and other weedy annuals have contributed heavily to the decline of this once abundant southern California butterfly species. Proposed critical habitat for the Quino checkerspot was designated on February 8, 2001 by the USFWS. The Canyon Hills Manor site is not located within the proposed critical habitat for this species.

Habitat Requirements: The Quino checkerspot butterfly is a small butterfly having about a 1-inch wingspan checked with dark brown, reddish and yellowish spots. The Quino checkerspot is primarily found in Riverside, Orange, and San Diego counties in areas with clay soils, which support *Plantago*. In addition to the presence of its primary larval host plant, the Quino checkerspot requires certain topographic features and plants that serve as a nectar source for the adult butterflies. Quino checkerspots are associated with sage scrub, open chaparral, grasslands, and vernal pools and are typically active from mid-February to mid-May.

Status on the Site: The biological reconnaissance survey was conducted after the blooming period of the host plant, so a focused habitat assessment could not be conducted. The site falls within the potential habitat area for the butterfly, based on the USFWS 1997 Survey Protocol (USFWS 1997). But the site does not fall within any of the focused survey areas for the Quino checkerspot butterfly based on the revised USFWS 2000 Survey Protocol (USFWS 2000). Therefore, because the site is located outside of the focused survey areas, no focused surveys were conducted for this species. The potential for the Quino checkerspot to occur on the site is low, based on the fact that the site is located a great distance from any known populations of this species.

APPENDIX B

**REVEGETATION AND MITIGATION PLAN
FOR CANYON HILLS MANOR**

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**REVEGETATION AND MITIGATION PLAN
FOR CANYON HILLS MANOR**

Prepared for:

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January 2002

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SECTION 1.0 - INTRODUCTION

1.1 PROJECT LOCATION

The Canyon Hills Manor project site is located in the Anaheim foothills just south of the 91 Freeway in the city of Anaheim, Orange County, California (Figure 1). The site can be accessed via Santa Ana Canyon Road from the north, a Southern California Edison right-of-way from the east, and a dirt access road from the west which crosses the mid- and eastern portions of the site and follows the main ridgeline onsite (Figure 2). Canyon Hills Manor is located on non-reserve land within the central and coastal subregion of the Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) and can be found on the U.S. Geological Survey (USGS) Orange 7.5-minute topographic quadrangle. The site is continuous with undeveloped, planned residential lands to the immediately to the south and is otherwise surrounded by commercial uses and the 91 Freeway to the north, commercial uses to the east, and residential or planned residential to the west and southeast. The nearby land uses include the commercial "Anaheim Hills Festival" located east of the site along the east side of Festival Drive. A self storage facility is located northwest of the project site, bordering the north side of Santa Ana Canyon Road. Single family residential units are located to the west off Eucalyptus Drive, and to the south. A 10-acre vacant parcel is located immediately west of the project site and a Southern California Edison easement and a commercial center are located east of the site. A parcel along the west side of Festival Drive, south of Santa Ana Canyon Road, is graded and appears to be the future site of a Senior Apartment complex.

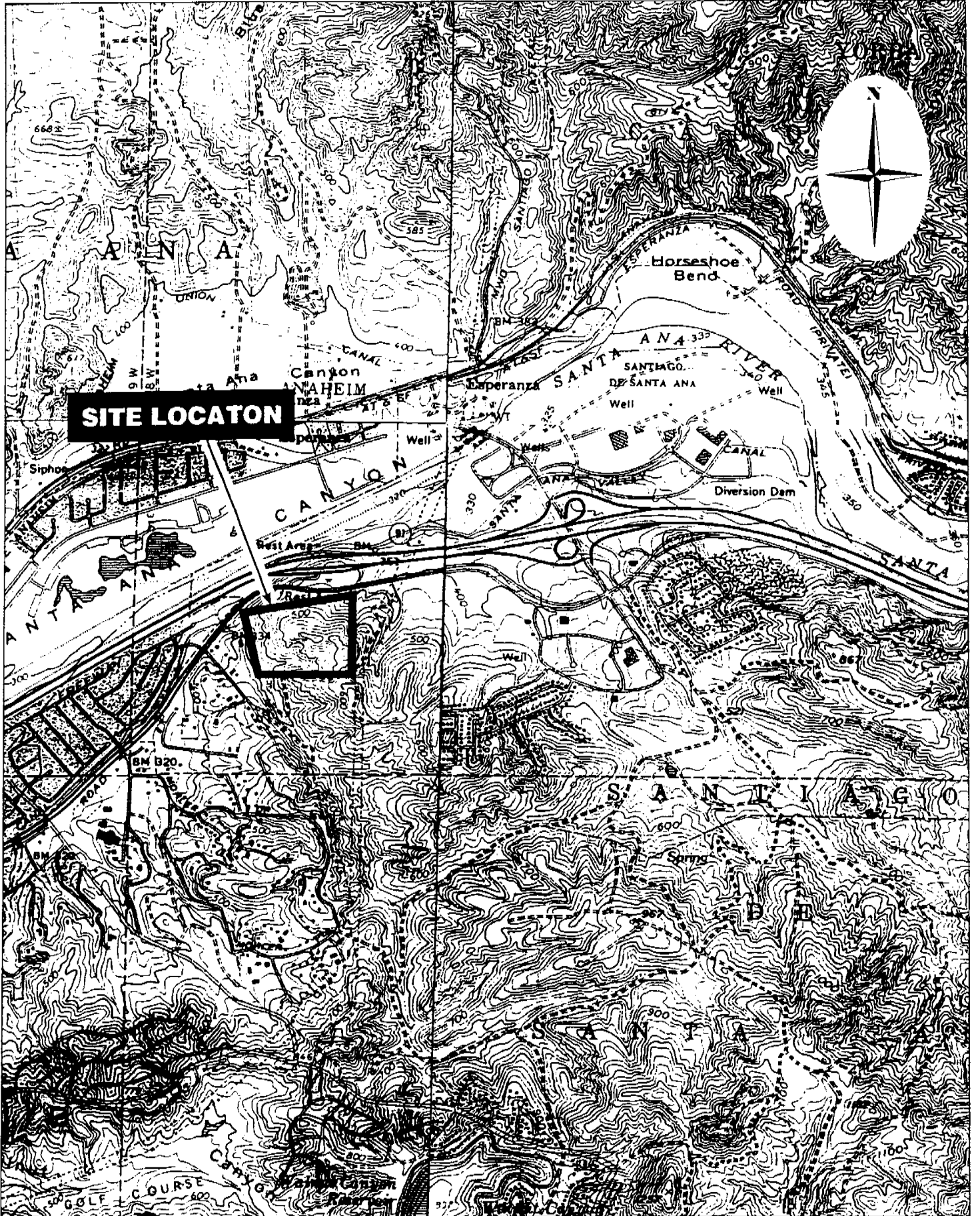
1.2 BRIEF SUMMARY OF OVERALL PROJECT

The proposed Canyon Hills Manor project consists of an approximately 25,000 square foot 2-story structure that would house a wedding and banquet facility and a 2,000 square foot maintenance building. The main building would contain two wedding chapels, two banquet rooms, restrooms, two bars, lounges, dressing rooms, and one central kitchen. The area surrounding the facility would include landscaping, a gated access road, and two parking areas.

Project construction is anticipated to take approximately 12 months. Grading of the site would take approximately 6 months, and construction of the facilities is anticipated to take another 6 months. Grading for the building pads, parking area, and road would move 350,000 cubic yards of earth, including 100,000 cubic yards of fill and 250,000 cubic yards of export. Approximately 18 acres of the project site will be disturbed during grading and construction activities, including 11.6 acres of coastal sage scrub/southern cactus scrub.

The Conceptual Mitigation and Monitoring Plan (CMMP) proposes to mitigate for impacts to the site by revegetating approximately 10.6 acres of coastal sage scrub onsite and enhancing 1.3 acres (Figure 3) of disturbed coastal sage scrub. Additionally, two retention basins will be created, one at the northeast corner of the project site and one at the southwest corner. The retention basins will be vegetated with mule fat habitat totaling approximately 0.2 acre as mitigation for the impacts to two drainages on the site.

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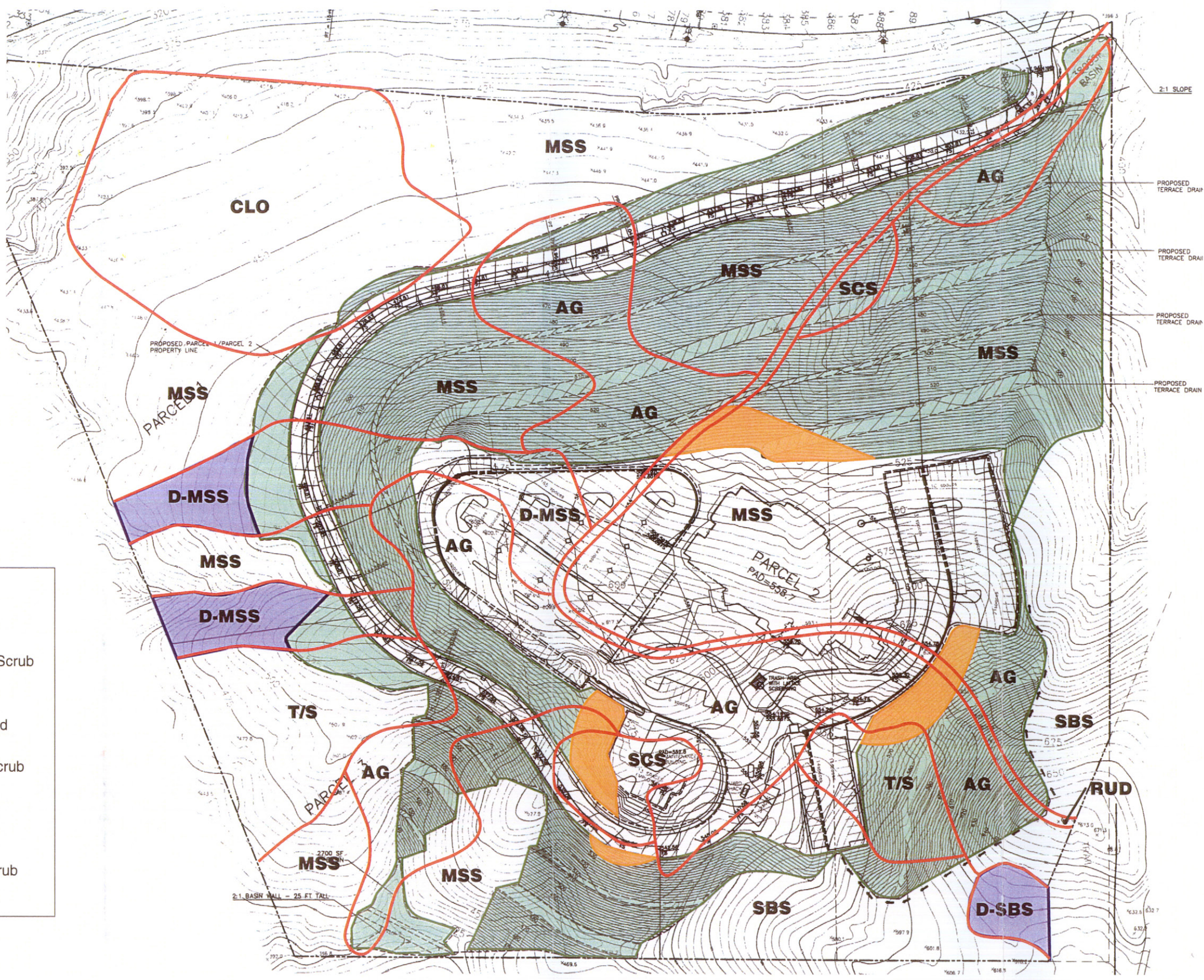


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CONCEPTUAL PLAN
Figure 2

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LEGEND:

- = Coastal Sage Scrub Revegetation Areas
- = Disturbed Coastal Sage Scrub Enhancement Areas
- = Fuel Modification Zone

CLO = Coast Live Oak Woodland
MSS = Mixed Sage Scrub
D-MSS = Disturbed Mixed Sage Scrub
T/S = Toyon-Sumac Chaparral
AG = Annual Grassland
SCS = Southern Cactus Scrub
SBS = Sagebrush Scrub
D-SBS = Disturbed Sagebrush Scrub
RUD = Ruderal

1.3 RESPONSIBLE PARTIES

Party Pantry Catering will be responsible for the implementation of this CMMP. The contact person is:

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1.4 SUMMARY OF RESOURCES AND IMPACTS

Chambers Group conducted several biological surveys on the site in 1999 including focused surveys for California gnatcatcher (*Polioptila californica californica*) and a jurisdictional delineation (Chambers Group 1999; 2001). Three sensitive animal species were identified on the site: the coastal California gnatcatcher, coastal California cactus wren (*Campylorhynchus brunneicapillus*), and Cooper's hawk (*Accipiter cooperii*). No special status plant species were observed on the site during any of the surveys. A complete description of the vegetation and wildlife observed on the site is included in the Revised Biological Technical Report of Findings for the Canyon Hills Manor Property (Chambers Group 2001). The following section provides a brief summary of the resources present on the site.

Mixed sage scrub comprises the dominant vegetation community type throughout most of the property. Small patches of other scrub communities occur including California sagebrush scrub and southern cactus scrub. Portions of the scrub communities have been disturbed, most likely by motorized vehicles and natural erosion. The dominant shrubs in these areas include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), and laurel sumac (*Malosma laurina*). Annual grassland occurs over less than a quarter of the site and is composed of mostly non-native species, including wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), and black mustard (*Brassica nigra*). A coast live oak woodland community occurs in the northwest corner of the property, dominated by coast live oak (*Quercus agrifolia*) with a sparse understory primarily composed of non-native annual grasses. This oak woodland is not naturally occurring, but was apparently planted. A toyon-sumac chaparral community dominated by toyon (*Heteromeles arbutifolia*), laurel sumac, and lemonadeberry (*Rhus integrifolia*) also occurs on the project site. Table 1 lists the vegetation communities, approximate existing acreage on the site, and impacts.

In addition to the sensitive species observed on the site, several common wildlife species were observed during the surveys. The wildlife species include the western fence lizard (*Sceloporus occidentalis*) as the only reptile observed. Bird species observed included mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), bushtit (*Psaltriparus minimus*), common raven (*Corvus corax*), greater roadrunner (*Geococcyx californianus*), northern mockingbird (*Mimus polyglottos*), California thrasher (*Toxostoma redivivum*), common raven (*Corvus corax*), spotted towhee (*Pipilo maculatus*), and California towhee (*Pipilo crissalis*). Raptor species include red-tailed hawk (*Buteo jamaicensis*). Two mammal species, the California ground squirrel (*Spermophilus beecheyi*) and desert cottontail (*Sylvilagus audubonii*), were observed during the surveys. Sign, such as burrows, scat, tracks, and carcasses, of several mammal species was detected. Tracks were observed along the dirt access road for the mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), and gray fox (*Urocyon cinereoargenteus*). Several pocket gopher (*Thomomys bottae*) and ground squirrel burrows were also observed.

Table 1
Impacts to Vegetation Communities
Occurring at the Canyon Hills Manor Site

Vegetation Community	Existing Acres	Affected Acres
Mixed Sage Scrub	13.8	9.5
Disturbed Mixed Sage Scrub	1.6	1.0
California Sagebrush Scrub	2.3	0.5
Disturbed California Sagebrush Scrub	0.3	0.0
Southern Cactus Scrub	0.5	0.5
Toyon-Sumac Chaparral	1.6	0.7
Coast Live Oak Woodland	2.6	0.0
Annual Grassland	5.5	5.1
Ruderal	0.8	0.5
Total	29.0	17.8

SECTION 2.0 - PROJECT GOALS AND SUCCESS CRITERIA

2.1 PROJECT GOALS

This CMMP provides the design and specifications for materials and methods required for the revegetation of coastal sage scrub habitat. The principal management concerns described in this section include monitoring and managing sensitive biological resources. The management guidelines presented here are chiefly concerned with the creation and enhancement of wildlife habitats, and the general biological resource areas. Recommended actions include subsequent monitoring of biological resources within the revegetation areas.

2.1.1 Revegetation/Restoration Definitions

Restoration is a general term for habitat restoration that is often used interchangeably with enhancement, revegetation, and management. The term "restoration" is used as a specific strategy as defined below. For purpose of this document, these terms are defined as they are generally used by restoration professionals in California and by the Society for Ecological Restoration (SER).

- **Creation** establishes a historical ecosystem on lands that did not previously support that ecosystem or on severely altered sites.
- **Restoration** is the process of intentionally altering a site to establish a defined, indigenous, historic ecosystem. The goal of this process is to emulate the structure, function, diversity, and dynamics of the specified ecosystem.
- **Revegetation** establishes vegetation on disturbed lands. Ideally, revegetation uses plant material previously located on the site or adjacent to it, to maintain local genetic diversity.
- **Enhancement** alters a site for improvement of a specific value (for example: non-indigenous species eradication within an existing habitat or increasing species diversity of an area).
- **Long-term management** is an integral part of preserving and increasing native plant communities. Long-term management occurs on intact or restored habitats and encompasses actions to ensure that the project goals are met. Control of weeds and erosion is the most common management practice. Additional long-term management features include fencing and signing for site protection, prescribed fire, and conducting ecological studies on habitat characteristics or usage.

2.2 TYPES OF HABITATS TO BE RESTORED

This Plan includes programs that will enable the site and detention basins to sustain native vegetation and provide suitable habitat for wildlife. Approximately 10.6 acres of coastal sage scrub will be installed on the graded slopes of the project site, and an additional 1.3 acres of existing disturbed coastal sage scrub onsite will be enhanced by removing invasive non-native species. Revegetation of the coastal sage scrub communities entails the planting of several native species endemic to coastal sage scrub to improve the wildlife value of the habitat. A mule fat riparian community will also be created in each of the retention basins. Once revegetation is implemented and becomes established, erosion will be minimized, invasion by non-native plant species will become negligible, and biotic interactions between micro- and macroorganisms will increase. Thus, a closed nutrient system in which organic matter and nitrogen are cycled in a self-sustaining system will be created.

2.3 SUCCESS CRITERIA

The success criteria for the revegetation effort are described below. If at any time the plantings do not appear to be meeting the performance standards set forth in the CMMP, Party Pantry Catering will be responsible for taking timely remedial actions (as determined in consultation with the Project Biologist) to ensure the performance standards are met. Performance monitoring will occur for a minimum period of 5 years or until the performance standards are achieved. If the vegetation performance standards are not achieved after 5 years, the site will be reevaluated for the causes, and recommendations made for remedial action.

2.3.1 Vegetation Survival, Cover, and Height Performance Standards

Mitigation plantings shall have a minimum of 70 percent survival by species the first year and 100 percent survival thereafter, and/or shall attain 60 percent cover after 3 years and 80 percent cover after 5 years for the life of the project. During performance monitoring, survival and percent cover will be quantified by transect data collected in the revegetation area. Representative areas within the revegetation sites will be also photographically documented from fixed stations. If the survival and cover requirements have not been met, replacement plantings shall be implemented, as necessary, to achieve the required standards. The reason for failure will be determined, if possible, and appropriate measures taken to remedy the cause. Contingency measures, rather than plant replacement, may be implemented if replacement planting is determined to be inappropriate by the Project Biologist. Replacements will be monitored with the original plantings during the 5-year monitoring period with the same survival and growth requirements as the plantings.

The survival and cover standards for the plantings are summarized in Table 2.

**Table 2
Performance Standards for Plantings**

Species	1st Year	3rd Year	5th Year¹
Shrubs	70% survival	100% survival or 60% cover	100% survival or 80% canopy cover
Seed Mixes ²	None	60% cover	80% Cover
Total Cover	None	60% cover	80% overall cover
¹ Performance standards during Year 5 must be attained without human interference (irrigation, rodent control).			
² If adequate germination is not attained to prevent erosion or exclude weed infestations, reseeded may be necessary.			

2.3.2 Non-Native Species

Weeds will be controlled in the revegetation areas as needed through the life of the project to prevent detrimental competition between the nonnative, invasive species with the revegetation plantings for water, nutrients, light, and space. The percent cover measurements will be based on native plant species only; non-native plant species will not be counted as cover in the percent cover measurements. Weeds will not be allowed to reach cover greater than 10 percent in any year.

SECTION 3.0 - APPROACH, RATIONALE, AND METHODS FOR PROGRAMS

3.1 RATIONALE FOR EXPECTING IMPLEMENTATION SUCCESS

Soils on the project site range from loamy to clay, and are occasionally rocky. The native vegetation that is found in this area is well adapted to these conditions. Deep-rooted chaparral species occupy steep slopes, while scrub species occur on mid- and lower slopes.

The slopes of the graded hillsides on the project site will be terraced. A coastal sage scrub community will be installed along the graded slopes, consisting of appropriate species. Two retention basins will be created and planted with vegetation consisting of riparian species. The restoration areas of Deer Canyon Park are generally flat to gently sloping. The non-native grassland will be removed and revegetated with coastal sage scrub. The selection of plant materials for the restoration sites was based on the degree of slope, substrate materials, and the expected ecological conditions. Species known to develop deep roots were included to provide cover and stability over inclined shallow soils, and species with rapid lateral root development were included to provide surface erosion control. Coastal sage scrub species selected for the restoration include those presently existing on the project site and in Deer Canyon Park. Riparian species selected for restoration include those presently found in riparian areas adjacent to the project site.

Success of the Plan is expected based on the following rationale:

- Plant material (seeds, container plants and cuttings) to be used for the revegetation site have been carefully selected for their adaptability to the site conditions. Cutting stock collected from the existing habitat immediately adjacent to the site will preserve the genetic integrity of mule fat populations.
- The site is located within a system that supports sage scrub habitat. The existence of this habitat supports the premise that the restored community can sustain itself and support native species.
- The revegetation site will be planted with cuttings and container plants at a relatively high density and seeded with a native herbaceous seed mix that would inhibit the recolonization of invasive non-native plant species.

3.2 RESPONSIBLE PARTIES

The Project Biologist is responsible for monitoring implementation of the project specifications and mitigation measures. This individual (or team of individuals) will be responsible for tracking and preparing all progress reports for submittal to Party Pantry Catering. A qualified revegetation contractor experienced in the installation and maintenance of native restoration projects will be responsible for actual implementation of the specifications of revegetation/restoration plans and will direct all the activities associated with the plans. The Project Biologist will coordinate closely with the revegetation contractor to ensure that the specifications of the restoration plan are properly implemented.

The landscape contractor will be responsible for maintenance and survival of the plantings throughout the monitoring periods specified in the Plan (i.e., 1 year after installation is completed) after which Party Pantry Catering will assume responsibility for maintaining the site.

3.3 GENERAL CONSTRUCTION GUIDELINES

3.3.1 Trash and Debris Removal

The removal of dead or downed wood will eliminate important microhabitats for small vertebrates and invertebrates, and reduce the reintroduction of organic materials into the soil. Therefore, dead or downed wood will be salvaged except as required for safety reasons, flood control or fuel modification (i.e., fire prevention). Garbage, debris and noxious weed biomass will be removed from all areas of the site.

3.3.2 Erosion Control

Only nonvegetative erosion control measures will be used in areas with native vegetation. Such erosion control measures may include sandbags, silt fencing, slope breakers, trenches, or dissipaters. These measures preclude the introduction of non-native weedy species into the seed bank of areas with native vegetation.

Drainage and sedimentation control devices will be routinely cleaned, maintained, and repaired prior to and during the rainy season. All repairs to these systems will be immediately executed to minimize erosion problems.

3.4 ONSITE REVEGETATION PLAN

3.4.1 Overview

Revegetation is intended to reestablish a plant community where it had previously existed. The revegetation plan consists of various tasks designed to prepare the areas prior to planting and to install container plants and seed materials.

3.4.2 Protection of Existing Habitat and Sensitive Species

The following recommendations are presented to protect the biological and aesthetic values of the natural habitats on the site:

- A start date delayed until after the breeding season will negate impacts to nesting birds species and avoid violation of the Migratory Bird Treaty Act. This would also allow the salvaging/collection of native materials from the site such as mule fat cuttings.
- Erosion control measures including silt fencing will be installed at the discretion of the Project Biologist to contain sediments within graded or restoration areas. Silt fencing will be semi-permanently installed at the boundary between revegetation areas and existing habitat until sufficient vegetation is established in the revegetation zone to prevent erosion. Maintenance of the erosion control measures is included as part of the maintenance program.
- Maintenance and refueling of construction equipment will be limited to areas specified by the Project Biologist. Storage of potentially hazardous materials, including but not limited to fuel, paint, stains, pesticide, herbicides, solvents, oils, and solvents, will not be permitted within 50 feet of any riparian vegetation. During construction, disposal of such materials will occur in a controlled area that is physically separated from potential stormwater runoff.

3.4.3 Salvage and Protection of Topsoil

Topsoil provides a desirable growing medium with greater water and nutrient holding capacity, and contains beneficial microorganisms that underlying subsoils cannot provide. These characteristics greatly contribute to quick establishment of high-quality, long-lived restoration plantings. The rebuilding of soil structure is an important process in natural plant succession and the establishment of self-sufficient communities.

Topsoil Segregation Methods

In grading areas vegetated with coastal sage scrub, topsoil will be stripped to a depth not less than 12 inches. Stripped topsoil will be placed aside in a predetermined location in a manner that assures that mixing of topsoil and subsoils is avoided. The topsoil will be stored in elongated piles to a height no greater than 6 feet and protected from excessive erosion. Stockpiles will be marked and protected to distinguish them from waste piles. Topsoils will be stored for the shortest time possible (maximum of 6 months) because soil microorganisms begin to die when soils are stockpiled, which can result in a sterile growth medium (Franson 1995).

Soil Testing and Amendments

Surface soils will be disturbed during grading operations. A sample of these soils will be tested by a qualified agronomist to determine its fertility and suitability as a growth medium. The test sample will be composed of an aggregate of soils taken from the site in three different areas. The physical nature of this material is expected to be suitable for plant growth, however, it may require amendments to correct any nutrient deficiency. Amendments will be incorporated based on the results of the soil analysis. If the soils are determined to be unsuitable for use, topsoil will be procured from an offsite source. Topsoil purchased offsite for use in the project will also be tested for suitability before construction. Approximately 8 to 12 inches of topsoil (salvaged, amended, or purchased) will be spread on the constructed slopes prior to revegetation.

If the Project Biologist determines that excessive soil compaction has occurred during grading, the affected soils will be cross ripped prior to replacing topsoil to a depth of 12 inches to prepare an adequate seed bed.

Top Soil and Plant Community Salvage

Salvage of plant communities is a relatively new practice that has proven to be a viable means of restoration of disturbed sites (Franson 1995). Salvage of plants and topsoil serves multiple beneficial purposes:

- Salvages plant material (root materials and other propagules) adapted to the growing conditions of the local area,
- Salvages topsoil with an intact community of beneficial microorganism important to plant health and growth,
- Transplanted communities provide vertical structure important to plant health and wildlife habitat considerations, and
- Retains the existing seed bank in the plant community.

The survival and reestablishment of transplanted communities is dependent on several factors including the techniques used in transplanting, suitability of the environment in the new location, maintenance, and monitoring. The probability of success can be increased if transplanting is done in late fall or early winter to take advantage of winter rainfall. Temperatures on the day of transplanting should be no more than 80°F. Strict adherence to irrigation and weed control procedures is also essential.

Salvage Methods

Prior to construction, the Project Biologist and Construction Manager will identify areas within the project footprint where salvage of plant material is desirable. Removal of salvage materials will begin prior to grading activities. Under the direction of the Project Biologist, the areas receiving the transplants will be prepared by creating depressions in the finish grade surface in random patterns. Each depression should measure approximately 3 to 10 feet in diameter and 2 to 3 feet deep. The depressions will be spaced on approximate 50- to 75-foot centers. Each depression will be saturated with water prior to receiving the transplant.

The selection of transplant material will include coastal sage scrub from areas within the project grading limits. Prior to transplanting, any shrubs in the salvage community will be cut back by 50 percent to reduce transpiration pressure on roots damaged during the transplantation process. A tractor-mounted bucket or similar equipment will be used to remove each section of material to be salvaged. The greatest amount of root mass possible will be taken along with at least 2 feet of topsoil with each load. Each load of material will be placed into a prepared depression in the restoration area. Hand crews will assist in the placement and proper orientation of each transplant load (i.e., roots down and stems up). Water supplied from a water truck will be applied to all transplanted sections at the time of transplant.

If the grading schedule precludes salvaging the existing plant community, all salvageable topsoil will be removed as a separate layer from areas disturbed by grading operation. The topsoil will be stored on the site in an appropriate area where it will be protected from water and/or wind erosion. The salvaged topsoil will be spread over the rough graded slopes to a depth of approximately 12 to 18 inches in areas designated for revegetation, and bound to the subsurface with a sheepsfoot roller. The finish surface will be left in as rough of condition as possible.

3.4.4 Post-Grading Site Preparation

Erosion Control and Bank Stabilization

Only nonvegetative erosion control measures will be used in areas with native vegetation. Such erosion control measures may include sandbags, silt fencing, slope breakers, trenches, or dissipaters. These measures preclude the introduction of non-native weedy species into the seed bank of areas with native vegetation.

Drainage and sedimentation control devices will be routinely cleaned, maintained, and repaired prior to and during the rainy season. At a minimum, control devices will be inspected monthly. In addition to the monthly inspection, control devices will be inspected within 24 hours of a significant rain event (0.5 inch of rainfall or greater). All repairs to these systems will be immediately executed to minimize erosion problems.

Pre-Planting Weed Control

Prior to planting, the Project Biologist (in coordination with the landscape contractor) will determine whether undesirable vegetation is present in any of the planting areas and whether eradication is necessary. Mechanical clearing, mowing, and non-residual herbicides (Rodeo[®] or Round-up[®]) may also be used to remove weed and exotic species. Cut vegetation shall be removed from the site and disposed of at an appropriate offsite location.

3.4.5 Planting Plan

Composition of the coastal sage scrub community and riparian community palettes and planting densities are based primarily on the species composition of naturally occurring habitats present on the project site. A shrub canopy comprised of coastal sage scrub species will be created, with an understory of herbaceous species, while the riparian community will have a shrub canopy of mule fat and an

herbaceous understory of riparian species. A portion of the shrubs will be installed as 1-gallon specimens. The species comprising the complex understory will be seeded throughout the revegetation areas as specified.

Plant Materials

Plant materials for container and seed planting within the revegetation areas will be collected from designated sites in north Orange County as close to the project site as possible.

Container Plant Materials

Installation of container plants provides the following four important functions in revegetation:

- Allows established plants that are past the vulnerable sapling stage to be introduced onsite,
- Provides the means to introduce species that do not establish well from seed and are best propagated from cuttings,
- Provides diversity of age structure and thus speeds natural regeneration, and
- Provides an efficient method to introduce beneficial soil fungi (mycorrhizae) onsite.

Mycorrhizae can be reintroduced onsite by providing inoculated host plants. This recolonization is often very slow (Miller 1985). Container plants that have been inoculated with mycorrhizae will be used as the prime method for spreading these beneficial fungi. In addition to spreading the mycorrhizae onsite, inoculation of container-grown plants may increase transplant success, growth, and reproductive success.

Materials to be planted at the site will include sapling (1-gallon) containers and cuttings. The shrubs will be obtained from local supplier experienced in the propagation of native plant species. Prior to delivery, the root systems of the plants will be inspected by the Project Biologist to ensure that roots are straight and well established. Plants with coiled roots (rootbound) will not be accepted.

The following specifications will be included in the commercial collector/supplier's growing contract for the plantings:

- All plants shall be hardened to frost/drought.
- All plant species that would normally host mycorrhizal fungi will be inoculated.
- Plants shall not be grown with excessive fertilization.
- Plant root systems must fill the containers, but not be root-bound at time of delivery.
- Plant materials shall be properly labeled as to genus, species, subspecies, and source.
- Plant materials shall be provided in quantities and sizes specified.
- Plants shall be ready for planting during specified planting period.
- No plants showing signs of serious pest infestation or disease shall be accepted.
- All plant substitutions shall require written approval from the Project Biologist.
- Plants shall not be subjected to breakage or desiccation during transport. Any broken or desiccated plants will be rejected.
- Plant materials shall be approved by the Project Biologist prior to delivery.

- Upon delivery to the mitigation sites, plants shall be stored in a shaded location, evenly spaced, and upright; and watered as needed until planting. All materials shall be protected from adverse weather, vandalism, or other conditions that may be detrimental to the plants.

The plant materials for the revegetation plan were developed from surveys of the Canyon Hills Manor Property area conducted by Chambers Group and from botanical resources compiled for the area. Table 3 shows the container plant palette for the proposed coastal sage scrub habitat. Table 4 shows the container plant palette for the proposed riparian retention basin habitat.

**Table 3
Container Plant Palette for the Coastal Sage Scrub Community**

Scientific Name	Common Name	Minimum Density	Distribution	Plant Material	Spacing (feet)*
<i>Artemisia californica</i>	California sagebrush	40/acre	Groups: 3-5	1 gal.	4
<i>Baccharis pilularis</i>	coyote brush	10/acre	Scattered	1 gal.	-
<i>Encelia californica</i>	California bush sunflower	30/acre	Groups: 3-4	1 gal.	4
<i>Eriogonum fasciculatum</i>	California buckwheat	35/acre	Groups: 3-5	1 gal.	5
<i>Heteromeles arbutifolia</i>	toyon	20/acre	Scattered	1 gal.	-
<i>Malosma laurina</i>	laurel sumac	15/acre	Scattered	1 gal.	-
<i>Mimulus auranticus</i>	bush monkeyflower	35/acre	Groups: 2-4	1 gal.	3
<i>Opuntia littoralis</i>	coastal prickly pear	10/acre	Groups: 3-5	cutting	2
<i>Rhamnus ilicifolia</i>	holly-leaf redberry	15/acre	Groups: 2-3	1 gal.	5
<i>Rhus integrifolia</i>	lemonadeberry	15/acre	Scattered	1 gal.	-
<i>Sambucus mexicana</i>	Mexican elderberry	15/acre	Scattered	1 gal.	-
*Distance (on-center) between plants of the same species; only applicable to species planted in groups.					

**Table 4
Cuttings Plant Palette for the Riparian Retention Basin Habitat**

Scientific Name	Common Name	Minimum Density	Distribution	Plant Material	Spacing (feet)*
<i>Baccharis salicifolia</i>	mule fat	400/acre	Scattered	Cuttings	3

Seed Collection

Seeds collected from southern California counties will be supplied by a qualified commercial seed collector/supplier with experience in native seed collections. Wherever possible, the supplier will provide seeds collected from populations in the immediate area. Seeds will be cleaned to a commercially acceptable grade, tested, and labeled with the species name, weight, purity and germination rate. Seeds will be stored in a cool, dry environment until delivery for hydroseeding.

Because availability of seed may be limited, flexibility in species selection and application rates will be necessary. Actual amounts of seed necessary for the revegetation plan will ultimately be determined by the purity and germination rates of the available seed. Seed will not contain more than 0.5 percent weed seed by volume. Seed types will be as specified in the seed palette and will be applied at the rates indicated. Seed will be received by the revegetation contractor in separate containers specifying kind, quality, purity, germination, and source. The revegetation contractor will provide the Project Biologist with each seed bag label used in the installation. Seed suppliers will be experienced in native plant seed

propagation and collection, and will be approved by the Project Biologist. Table 5 lists the understory seed palette for the coastal sage scrub revegetation area. Table 6 lists the seed palette for the riparian retention basin habitat.

**Table 5
Coastal Sage Scrub Understory Seed Mix**

Scientific Name	Common Name	Minimum Purity/Germination	Pounds of Seed per Acre ¹
<i>Aristida purpurea</i>	three-awned bunch grass	60/40	2
<i>Artemisia californica</i>	California sagebrush	15/50	5
<i>Dichelostemma capitatum</i>	blue dicks	95/50	2
<i>Encelia californica</i>	California bush sunflower	40/60	2
<i>Eriogonum fasciculatum</i>	California buckwheat	10/65	3
<i>Eriophyllum confertiflorum</i>	golden yarrow	30/60	3
<i>Gilia capitata</i>	globe gilia	98/80	2
<i>Leymus condensatus</i>	giant wild rye	70/80	2
<i>Lotus scoparius</i>	deerweed	90/60	5
<i>Lupinus bicolor</i>	dwarf lupine	98/80	1
<i>Malcothamnus fasciculatus</i>	chaparral mallow	15/60	1
<i>Mimulus aurantiacus</i>	bush monkeyflower	5/70	2
<i>Nassella lepida</i>	small flowered needle grass	60/60	3
<i>Penstemon spectabilis</i>	showy penstemon	95/75	2
<i>Phacelia cicutaria</i>	caterpillar phacelia	95/80	1
<i>Salvia mellifera</i>	black sage	70/50	2
¹ Final specifications for the seed mix will be developed after tests for purity and seed germination for each species.			

**Table 6
Riparian Retention Basin Understory Seed Mix**

Scientific Name	Common Name	Minimum Purity/Germination	Pounds of Seed per Acre ¹
<i>Ambrosia psyllostachia</i>	ragweed	20/30	3
<i>Artemisia douglasiana</i>	mugwort	10/50	2
<i>Hordeum brachyantherum</i>	meadow barley	90/80	2
<i>Leymus triticoides</i>	creeping wildrye	90/80	2
<i>Pluchea purpurascens</i>	marsh fleabane	35/50	3
¹ Final specifications for the seed mix will be developed after tests for purity and seed germination for each species.			

Planting Methods

Container Plant Methods

The Project Biologist shall oversee and supervise placement of the larger container specimens in accordance with the planting plan. Container plantings will be installed in clusters of mosaics.

Container shrub species will be planted after salvage materials have been placed and before seeding. No pruning of plant materials will be allowed unless specified by the Project Biologist. The roots of the container stock will be protected from drying during planting. Prior to planting, the holes will be filled with water, backfilled with native soil, and refilled with water to create a moisture reserve in the soil.

Containers will be gently cut or slid away from the rootball. Plants will be placed in the premoistened holes with the root crown 1 to 2 inches above the surrounding soil. Backfill of native soil will be gently tamped in around the rootball.

A small berm will be constructed around the perimeter of the plant, effectively forming a watering basin. In level areas, excavated material will be used to form a berm, creating an 18- to 24-inch diameter watering basin around the plant. The basin will be filled with water, allowed to drain, and filled again.

Seeding Methods

The seed mix will be planted using hydroseed/hydromulch methods. Hydroseeding/ hydromulching will take place after the container plants have been installed to avoid disturbing the seeds. Container plants will be avoided or otherwise protected during hydroseeding to prevent potential damage.

Hydroseeding will consist of a hydraulic application of a slurry mixture containing water, organic soil stabilizer, cellulose wood fiber, mycorrhizae, and seed. Hydroseed mulch will be manufactured from 100 percent virgin wood fiber and will not contain growth or germination inhibitors. When mixed with water, the mulch shall remain in uniform suspension and when blended with the seed and other approved additives, form a homogeneous slurry. A non-phytotoxic wetting agent will be added to the slurry mixture. A water-soluble, non-toxic green dye shall be added in sufficient quantity to clearly delineate the planted areas. The following materials will be applied in a one-step hydroseed/hydromulch operation:

- Virgin cellulose wood fiber: 2,000 pounds per acre;
- Organic soil stabilizer: 160 pounds per acre;
- Seed mix as shown on Table 4 or Table 5, as appropriate.

Cuttings Methods

Cuttings of mule fat taken from populations adjacent to the project area will be spaced throughout the retention basin in random patterns. The following steps describe the methods used to collect and install cutting material:

- Cuttings will be taken from the surrounding native vegetation at the direction of the Project Biologist. Each cutting will be 1 to 2 feet in length with a diameter not greater than 2 inches at the largest end. The butt end will be cut at an appropriate angle and the tip cut square. The cuttings will be immediately placed butt end down in a bucket with a sufficient amount of water to cover the lower inch of the cutting.
- Planting holes will be prepared in the areas to be planted. Each planting hole will be approximately twice as wide as the cutting.
- The cuttings will be planted the same day they are taken. Prior to placing each individual cutting, the butt end will be treated with a commercial hormone to stimulate root development (Root-tone® or equivalent).
- The cutting will be placed in the planting hole with at least two nodes above the ground level. The hole will be filled with native soils, and firmly tamped down.

Installation of Temporary Irrigation

Because the goal of revegetation is to create a self-sustaining site, no permanent irrigation system will be maintained in the native plant communities at the revegetation site. Supplemental irrigation will be necessary, however, during the establishment period.

Water should be provided only to container plants during the initial installation and subsequent establishment period. Irrigation will be accomplished in such a manner as to encourage deep root growth (i.e., periodic, deep irrigation as opposed to frequent, light irrigation). This supplemental irrigation will be tapered back and the plants weaned over the first 2 years following planting. The native plants will adapt to site conditions after establishment and will survive on rainfall as a source of moisture.

A temporary, above-ground drip irrigation system will be installed to provide supplemental irrigation in sufficient amounts, as conditions require, to keep the container plants healthy and growing. Container plants will be installed in clusters of mosaics. This method of planting and irrigation is both efficient and cost effective. During the maintenance period, the Project Biologist will monitor soil moisture conditions to ensure sufficient water is delivered to the container plants. The supplemental irrigation will be discontinued when the Project Biologist determines the revegetation plantings are established and self-sustaining.

3.4.6 Maintenance

The maintenance period will begin when the installation work has been accepted as completed by Party Pantry Catering. During the first-year maintenance period, the revegetation contractor will furnish sufficient personnel and equipment to perform landscape maintenance of all planted areas. Maintenance visits will be conducted at a minimum of once monthly during the first year. The need for additional maintenance visits will be determined by the revegetation contractor and Project Biologist depending on site conditions. The required maintenance items will include, but are not limited to, the following items:

- Maintenance of erosion control devices and installation of additional erosion control devices where necessary as indicated by the Project Biologist,
- Weed eradication,
- Maintenance of the irrigation system,
- Trash removal, and
- Replacement of dead or diseased plant materials as directed by the Project Biologist.

The Project Biologist will inspect the site as needed monthly during the first-year maintenance period and submit a written report to Party Pantry Catering and the revegetation contractor with specific recommendations to correct any deficiencies. Maintenance monitoring activities and schedules are described in detail in Section 4.

SECTION 4.0 - IMPLEMENTATION, MAINTENANCE AND PERFORMANCE MONITORING PLAN

4.1 MONITORING IMPLEMENTATION OF THE MITIGATION AND MONITORING PLAN

The implementation monitoring program is designed to ensure that impacts to environmentally sensitive habitat areas are avoided or minimized. The general construction guidelines described in Section 2 and Section 3 are designed to protect biological resources from direct and indirect construction-related impacts to ensure successful retention of biological values. Direct impacts include erosion and soil compaction; indirect impacts include noise. Implementation monitoring will also ensure the successful installation and establishment of the restoration plantings.

The implementation monitor shall be a biologist/restoration ecologist or specialist familiar with the biology and ecology of southern California plant communities and have experience in horticultural practices commonly used for habitat restoration and revegetation. The monitor will be responsible for monitoring the site during installation procedures. The restoration monitor will be present at all preconstruction meetings and shall be onsite as needed during all construction-related activities. The monitor will be responsible for managing implementation of all resource revegetation plans.

Prior to commencement of grading or any construction-related vegetation removal, the monitor will stake, fence, flag, and sign sensitive habitats or habitat features approved for protection. The monitor shall prepare a daily construction monitoring report outlining observed activities and indicating compliance with approved construction specifications. The daily report will also contain recommendations concerning remedial actions needed to correct any identified deficiencies.

4.2 MAINTENANCE MONITORING

Maintenance of the site will be the responsibility of the landscape contractor and will be performed with the knowledge and oversight of the Project Biologist. After installation is completed, maintenance activities will be conducted on the site on an as-needed basis. The Project Biologist will be responsible for overseeing maintenance of the site and preparing maintenance reports. The Project Biologist shall be a professional (e.g., biologist, landscape architect, horticulturist) knowledgeable of the physical requirements of native vegetation and experienced in installation and maintenance of native habitats.

4.2.1 Irrigation

The landscape contractor will be responsible for irrigating the restoration plantings on the project site throughout the installation and maintenance periods.

4.2.2 Vandalism

The landscape contractor will note any instance of vandalism and report occurrences to the Project Biologist within 24 hours. Recommendations for the replacement of damaged plants and their protection will be developed by the Project Biologist and reported to Party Pantry Catering.

4.2.3 Weed Control

Weeds shall be controlled in the revegetation areas by the landscape contractor for a minimum of 5 years or until native plantings are well established to prevent detrimental competition of invasive species with

the mitigation plantings for water, nutrients, light, and space. All weeds shall be removed mechanically. In cases where mechanical removal is ineffective, the approved herbicides utilizing the appropriate methodologies shall be applied.

Target non-native species include, but are not limited to, the following:

<u>Scientific Name</u>	<u>Common Name</u>
<i>Avena fatua</i>	wild oat
<i>Brassica nigra</i>	black mustard
<i>Bromus diandrus</i>	ripgut grass
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome
<i>Cirsium vulgare</i>	bull thistle
<i>Cortaderia selloana</i>	pampas grass
<i>Cyperus involucratus</i>	umbrella sedge
<i>Eucalyptus</i> sp.	eucalyptus
<i>Foeniculum vulgare</i>	sweet fennel
<i>Myoporum laetum</i>	myoporum
<i>Nicotiana glauca</i>	tree tobacco
<i>Pennisetum setaceum</i>	fountain grass
<i>Ricinus communis</i>	castor bean
<i>Schinus molle</i>	Peruvian pepper tree
<i>Schinus terebenthifolius</i>	Brazilian pepper tree
<i>Silybum marianum</i>	milk thistle
<i>Spartium junceum</i>	Spanish broom
<i>Tamarix ramosissima</i>	tamarisk
<i>Washingtonia robusta</i>	Mexican fan palm

4.2.4 Replacement Plantings and Seeding

Any site with significant bare areas due to low seedling germination or establishment will be reseeded by the landscape contractor. Prior to reseeding, soil compaction and soil chemical analyses may be required in any bare areas to identify any site-specific characteristics that may require specialized procedures or seed mixes. If indicated by the soil analyses, the landscape contractor and the Project Biologist will develop specific site preparation and/or seed mixes.

Similarly, significant loss of container plant material will require plant replacement by the landscape contractor. Replacement will depend on the overall coverage of seedling plants and the relative frequency of the species in comparison to the performance criteria set forth in Section 2.

All reseeding and replanting should be conducted from October through December of each year, as necessary.

4.2.5 Trash Removal

Following rain events, trash and debris may enter the site. Visitors may also deposit trash. Following initial removal of the trash during site preparation, additional trash and debris shall be removed by the landscape contractor during maintenance activities.

4.2.6 Responsible Parties

The consultant hired by Party Pantry Catering to implement the Restoration Plan will be responsible for monitoring the maintenance of the mitigation site. The contact person at Party Pantry Catering is:

Ms. Lisa Waddell
Party Pantry Catering
12777 Knott Avenue
Garden Grove, CA 92641
(714) 743-1337

4.2.7 Schedule of Maintenance Inspections

The Project Biologist will be responsible for inspecting the mitigation sites on a regular basis and, if necessary, providing recommendations to the landscape contractor for changes in the maintenance program. At minimum, the following schedule of maintenance inspections for all plantings areas is recommended:

- Monthly inspections during the first year after planting,
- Quarterly inspections during the second year following planting, and
- Semiannual inspections after the second year through the 5th year or until performance standards have been met.

4.3 PERFORMANCE MONITORING

4.3.1 As-Built Conditions

The first step in the monitoring phase of the program will be to perform an "As-Built Assessment" documenting the actual project conditions on the site immediately upon completion of the installation. This assessment will be performed by the Project Biologist and will check the site for compliance with the Restoration Plan's technical design criteria and project objectives. Data pertaining to the following factors shall be collected by the Project Biologist and compared with the detailed construction documents:

- Site location;
- Site topography;
- Substrate (soil source, texture);
- Dates planted;
- Quantity and locations of each species plants; and
- Plant health and coverage.

Any differences found between the original design and the as-built conditions will be fully assessed and documented by the Project Biologist through field maps, photographs, and descriptive text. It is expected that some modifications of the original plan will be deliberate and some will be due to unforeseen site conditions that became evident during construction. Any deliberate changes in the plan shall be justified to, and accepted in writing by, the Project Biologist and the landscape contractor before the as-built conditions are approved. Recommendations for corrective measures shall also be made by the Project Biologist at the conclusion of the as-built assessment.

A report of the "As-Built Conditions" shall be submitted to Party Pantry Catering within 6 weeks of completion of site preparation and planting, describing as-built status of the mitigation project. If grading, planting and erosion control measures are not completed within six weeks of each other, separate reports for each activity will be submitted.

4.3.2 Performance Criteria

Section 2 indicates the performance criteria to be met for vegetation planted and seeded. Performance monitoring will document the growth rates, coverage, and other general "success" attributes of the planted areas. Monitoring of the revegetation program will be performed by the Project Biologist.

The Project Biologist will prepare an annual report for submittal to Party Pantry Catering and to Deer Canyon Park. Performance and maintenance monitoring will continue for 5 years after planting. Monitoring reports will present an overview of the revegetation effort and specifically address monitoring methods, plant survival, percent cover, functional analysis, and number of each species replanted. Photos from designated photo stations will also be included.

4.3.3 Revegetation Performance Monitoring Methods

Performance monitoring of vegetation within the revegetation areas will generally include a detailed analysis of growth, cover, height and viability through a minimum of 5 percent sampling within the mitigation areas using point intercept or other accepted vegetation monitoring methods.

Plant vigor, recruitment, and patterns of growth will be noted and documented along with the quantitative performance criteria described in Section 2. Aggregations of individual plants or species into stands or zones can provide important information relating to (1) gradients in physical parameters within the site, or (2) interactions with neighboring species (including wildlife). Photographic records will be kept of all mitigation areas for purposes of comparing earlier and later stages of plant establishment and growth. Set photo location points will be utilized for each survey for consistency in photographic comparisons. Documentation will be provided in the form of standardized data sheets, descriptive text, maps, and photographs.

4.3.4 Schedule of Performance Monitoring

Quantitative vegetation sampling will occur once per year during the spring, beginning approximately 12 months after completion of installation and continuing through the 5th year or until performance standards have been met.

4.3.5 Annual Reports

At the end of each of the five monitoring-period growing seasons, an annual report will be prepared and submitted to Party Pantry Catering. This report will assess the progress toward final success criteria. This report will include the following:

- A list of names, titles, and companies of all persons who prepared the content of the annual report and participated in monitoring activities for that year;
- An analysis of all qualitative and quantitative vegetation monitoring data;
- Copies of all monitoring photographs;
- Maps identifying monitoring areas, transects, planting zones, and so forth as appropriate; and
- Discussion and recommendations.

SECTION 5.0 - REFERENCES

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APPENDIX C

**APRIL 2001 REVISED
BIOLOGICAL TECHNICAL REPORT
OF FINDINGS FOR CANYON HILLS MANOR**

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**REVISED
BIOLOGICAL TECHNICAL REPORT
OF FINDINGS FOR THE
CANYON HILLS MANOR PROPERTY,
ORANGE COUNTY, CALIFORNIA**

Prepared for:

**PARTY PANTRY CATERING
12777 Knott Avenue
Garden Grove, California 92641**

Prepared by:

**CHAMBERS GROUP, INC.
17671 Cowan Avenue, Suite 100
Irvine, California 92614
(949) 261-5414**

April 2001

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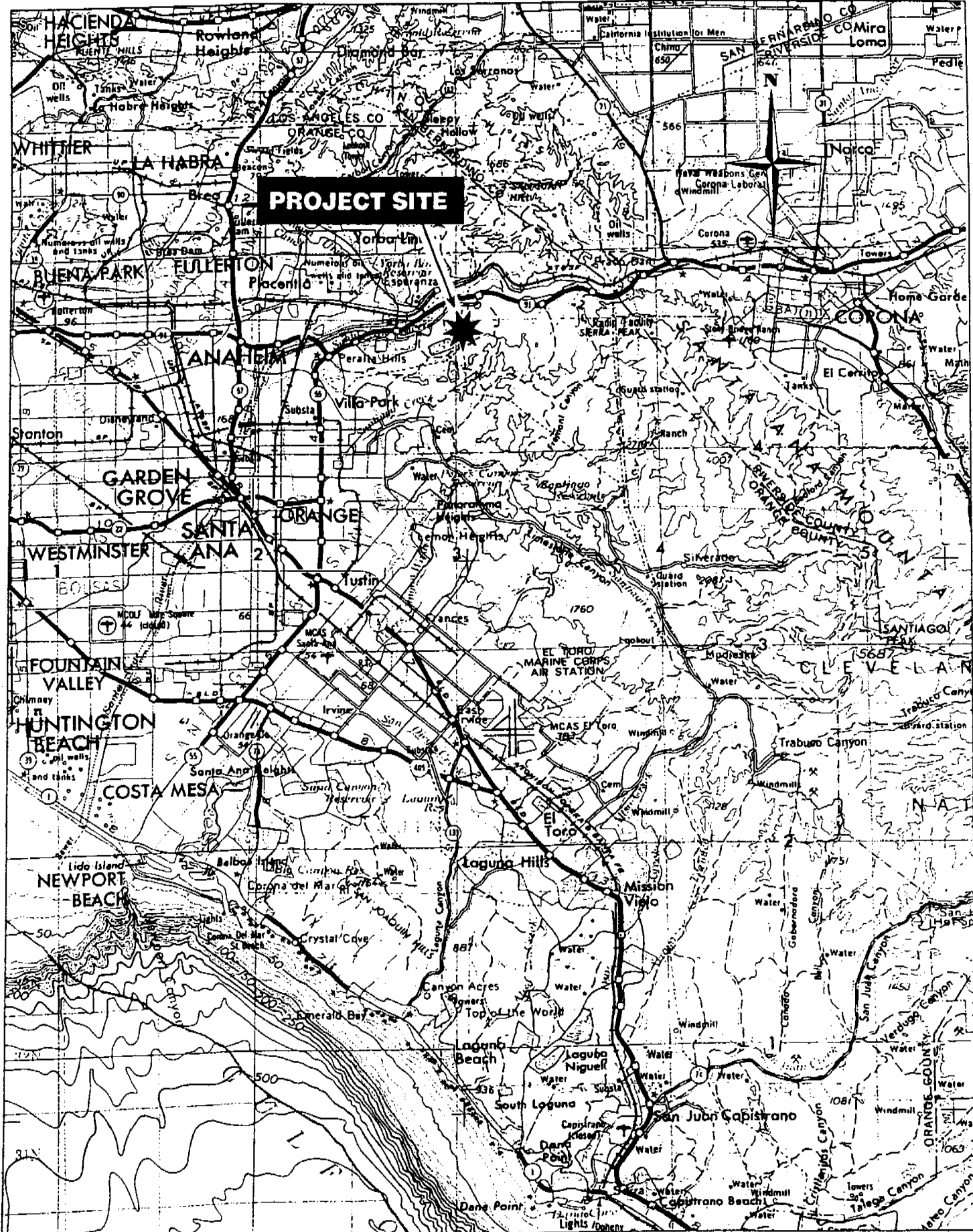
SECTION 1.0 - INTRODUCTION

Chambers Group, Inc. (Chambers Group) was retained by Party Pantry Catering, to conduct a literature review and reconnaissance-level biological survey, and to prepare a biological technical report of findings for the approximately 29-acre Canyon Hills Manor Wedding Chapel and Banquet Facility. The site is located in the Anaheim foothills just south of the 91 Freeway in the city of Anaheim, Orange County, California (Figure 1).

The site can be accessed via Santa Ana Canyon Road from the north, a Southern California Edison right-of-way from the east, and a dirt access road from the west (Figure 2). The site is continuous with undeveloped lands to the south. The site falls on non-reserve land within the central and coastal subregion of the NCCP/HCP. A 10-acre vacant parcel is located immediately west of the project site and a Southern California Edison easement and a commercial center are located east of the site. A dirt access road crosses the mid- and eastern portions of the site and follows the main ridgeline onsite. The site is located on the U.S. Geological Survey (USGS) Orange 7.5-minute topographic quadrangle.

A reconnaissance-level biological resources survey was conducted by Chambers Group at the project site to document the current biological diversity and assess the habitat for its potential to support native plant and wildlife species. The reconnaissance-level survey also evaluated the potential for sensitive vegetation and wildlife to occur onsite.

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SITE LOCATION

Scale: 1" = 2000'
 Source: USGS 7.5 minute topographic quadrangles: Yorba Linda,
 Prado Dam, Orange, Black Star Canyon

PROJECT SITE
Figure 2

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SECTION 2.0 - METHODOLOGY

2.1 VEGETATION

A reconnaissance-level botanical survey was conducted on July 29, 1999, by two Chambers Group botanists to identify and map vegetation communities located on the property and to determine the presence or potential presence of sensitive plant species and habitat.

Prior to the survey, the most recent records of the California Natural Diversity Database (CNDDDB 1997) for the quadrangles containing and surrounding the study area were searched (Prado Dam, Black Star Canyon, Yorba Linda, and Orange quadrangles). The California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPSEI 1996) was also reviewed regarding the potential presence of threatened, endangered, candidate, or other sensitive species in the study area. These database records are organized by USGS 7.5-minute topographic quadrangles.

Access to most areas of the site was possible from Santa Ana Canyon Road. Surveyors assessed the resources by walking along trails leading into the property and by walking offroad into the vegetation. All plant species observed were recorded in field notes. Plants of uncertain identity were collected and subsequently identified from keys, descriptions, and illustration in Abrams (1923, 1944, 1951), Abrams and Ferris (1960), Hickman (1993), and Munz (1974). A list of the plant species encountered is presented in Appendix A.

Plant communities and sub-communities were determined and delineated on a 1" = 200' topographic map in accordance with the categories set forth by the County of Orange (1992). Plant nomenclature follows that of *The Jepson Manual, Higher Plants of California* (Hickman 1993).

2.2 WILDLIFE

Literature Review

Prior to performing the survey, documentation relevant to the project area was reviewed. The CNDDDB was accessed for information on sensitive wildlife species known to occur in the project area and its immediate vicinity. Lists from the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) were also referenced, and a list of sensitive wildlife species potentially occurring in the project area was developed. Sensitive wildlife includes all listed federal and state endangered and threatened species, and federal and state species of concern (FSOC, CSC).

Reconnaissance-Level Survey

A reconnaissance-level field survey was performed throughout the site to characterize the distribution and relative abundance of wildlife, wildlife resources, and wildlife habitat within the project area. The survey was conducted by Ms. Mari Schroeder, a Chambers Group wildlife biologist, on July 23, 1999. Habitat types within the project area were investigated, concentrating on sensitive habitat areas (e.g., coastal sage scrub) in the project area and its immediate vicinity. Wildlife and wildlife sign, including tracks, fecal material, carcasses, nests, excavations, and vocalizations, were noted and recorded on standardized data sheets (Appendix B). A list of wildlife species observed during the site visit is included as Appendix C.

2.3 SENSITIVE SPECIES OCCURRENCE CRITERIA

A sensitive species was considered as a potential inhabitant of the project area if its known geographical distribution encompassed part of the project area or if its distribution was near the site and general habitat requirements of the species were present (such as the presence of roosting, nesting, or foraging habitat, or a permanent water source). Furthermore, the potential for each species to occur in the project area was also assessed. The "potential for occurrence" ranking is based on the following criteria:

- Low potential for occurrence - No recent or historical records exist of the species occurring in the project area or its immediate vicinity (within approximately 5 miles) and the diagnostic habitat requirements strongly associated with the species do not occur in the project area or its immediate vicinity.
- Moderate potential for occurrence - Either a historical record exists of the species in the project area or its immediate vicinity (within approximately 5 miles) or the diagnostic habitat requirements associated with the species do occur in the project area or its immediate vicinity.
- High potential for occurrence - Both a historical record exists of the species in the project area or its immediate vicinity (within approximately 5 miles) and the diagnostic habitat requirements strongly associated with the species do occur in the project area or its immediate vicinity.
- Species present - The species was observed in the project area at the time of the survey.

SECTION 3.0 - RESULTS

3.1 VEGETATION

The project site, encompassing approximately 29 acres, is primarily composed of coastal sage scrub and annual grassland communities. Portions of the property have been mechanically disturbed. Evidence of disturbance in the coastal sage scrub communities includes smaller stature of scrub species, higher percentage of bare ground, and higher frequencies of non-native plant species. Terracing of the slope was also noted in a coast live oak woodland located in the northwest portion of the property.

A total of seven vegetation communities, along with disturbed variations of two of those communities, were identified and are shown on the vegetation communities map (Figure 3). Table 1 provides the acreage and proportions of the site occupied by the various vegetation communities. A list of plant species that were observed during the July 29, 1999, survey is presented in Appendix A. The following sections summarize the principal characteristics of the vegetation communities and general locations within the site.

Table 1
VEGETATION COMMUNITIES OCCURRING AT THE CANYON HILLS MANOR SITE

Vegetation Community	Acres
Mixed Sage Scrub	13.8
Disturbed Mixed Sage Scrub	1.6
California Sagebrush Scrub	2.3
Disturbed California Sagebrush Scrub	0.3
Southern Cactus Scrub	0.5
Toyon-Sumac Chaparral	1.6
Coast Live Oak Woodland	2.6
Annual Grassland	5.5
Ruderal	0.7
Total	28.9

Venturan-Diegan Coastal Sage Scrub Communities

The Venturan-Diegan transitional coastal sage scrub vegetation consists primarily of low, drought-deciduous and evergreen shrubs. It is common in Orange County and is considered to be a transitional association that contains elements of two geographical associations, the Venturan and Diegan coastal sage scrubs. Twelve subcommunities, which are more specific plant associations, have been described within the Venturan-Diegan transitional coastal sage scrub category (County of Orange 1992). Two of these sub-communities, mixed sage scrub and California sagebrush scrub, occur on the project site. Disturbed versions of these sub-communities also occur on the property. Disturbed portions of these communities have a greater presence of exotic species and are, therefore, differentiated as disturbed on the vegetation map.

Mixed Sage Scrub

As defined by the County's classification system, a mixed sage scrub sub-community consists of a mix of four or more dominant scrub species. This category applies at the Canyon Hills Manor site in a community that is dominated by California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), black sage (*Salvia mellifera*), and California sagebrush (*Artemisia californica*). Other species which occur in this sub-community include coyote bush (*Baccharis pilularis*) and Mexican elderberry (*Sambucus mexicana*). The mixed sage scrub sub-community is the dominant vegetation community on the project site and covers approximately 13.8 acres.

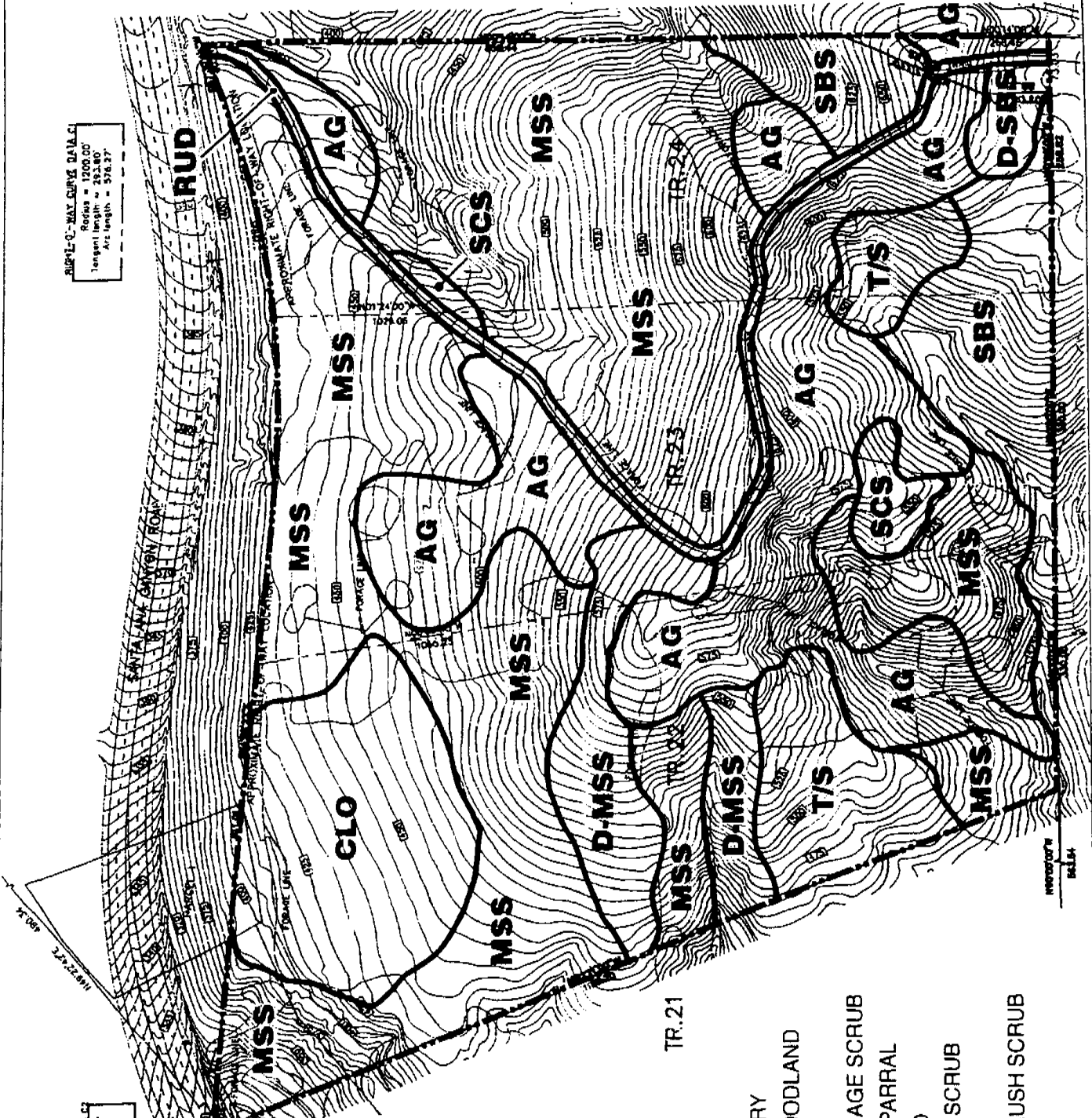
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SUPPLEMENTARY CURVE DATA
 Radius = 1200.00'
 Tangent length = 292.80'
 Arc length = 576.37'

SUPPLEMENTARY CURVE DATA
 Radius = 2817.00'
 Tangent length = 13.88'
 Arc length = 27.36'



GRAPHIC SCALE



TR.21

LEGEND:

- - - - - PROPERTY BOUNDARY
- CLO** - COAST LIVE OAK WOODLAND
- MSS** - MIXED SAGE SCRUB
- D-MSS** - DISTURBED MIXED SAGE SCRUB
- T/S** - TOYON-SUMAC CHAPARRAL
- AG** - ANNUAL GRASSLAND
- SCS** - SOUTHERN CACTUS SCRUB
- SBS** - SAGEBRUSH SCRUB
- D-SBS** - DISTURBED SAGEBRUSH SCRUB
- RUD** - RUDERAL

CANYON HILLS MANOR
VEGETATION COMMUNITIES MAP
Figure 3

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Disturbed mixed sage scrub occurs in the western portion of the property and comprises approximately 1.6 acres. This community is characterized by the shrubs commonly found in mixed sage scrub communities, but with a high percentage of invasive, non-native species present (>20 percent). Fennel (*Foeniculum vulgare*) is the most common non-native component in this community. Other exotic species include star thistle (*Centaurea melitensis*) and wild oat (*Avena fatua*).

California Sage Brush Scrub

This sub-community is found at two locations on the southeast corner of the property, totaling approximately 2.3 acres. It differs from other coastal sage scrub sub-communities in that it is composed of a nearly monotypic stand of California sagebrush. Vegetation is dense with little penetration from exotic species.

Disturbed California sagebrush scrub occurs in the extreme southeast corner of the property and totals about 0.3 acres. Star thistle and nonnative grasses including red brome (*Bromus madritensis* ssp. *rubens*) and wild oats are common in this area, altering the composition of the sub-community.

Southern Cactus Scrub

Southern cactus scrub occurs along a trail in the northeastern portion of the property and in a small area in the southern portion of the property. Coastal prickly pear (*Opuntia littoralis*) contributes greater than 50 percent cover in these areas. Other species occurring in this community include California sagebrush and California buckwheat. Southern cactus scrub comprises 0.5 acres on the site.

Annual Grassland

Annual grassland is also a common component of the site, totaling approximately 5.5 acres. This community is composed primarily of annual grasses of mediterranean origin. The most common species found were wild oat (*Avena fatua*), riggut brome (*Bromus diandrus*), and red brome. Nonnative forbs found in this community include black mustard (*Brassica nigra*) and star thistle. Some areas of the grassland on the site also contain scattered elements of coastal sage scrub, primarily laurel sumac, California sagebrush, and California buckwheat. The coastal sage scrub elements provide less than 10 percent cover within the grassland.

Ruderal

A graded trail ascends to the hilltop near the center of the property from Santa Ana Canyon Road, and continues along the ridgetop in a southeasterly direction. The plant community on and immediately adjacent to the trail is composed almost exclusively of ruderal species including black mustard, star thistle, non-native grasses, and telegraph weed (*Heterotheca grandiflora*). Ruderal areas comprise approximately 0.7 acres on the site.

Toyon-Sumac Chaparral

Toyon-sumac chaparral occurs in two stands on west-facing slopes in the southwest and southeast portions of the property. This community is characterized by large, evergreen shrubs that are adapted to occasional wildfires. Toyon (*Heteromeles arbutifolia*), laurel sumac, and lemonadeberry (*Rhus integrifolia*) are the dominant shrubs in this community. California sagebrush and California buckwheat occur in the understory of the larger shrubs. Toyon-sumac chaparral comprises approximately 1.6 acres on the site.

Coast Live Oak Woodland

A small coast live oak woodland occurs in the northwest corner of the property. This plant community appears to have been planted because the trees are even-aged and occur in rows along a terraced portion of the slope. The dominant species in this community is coast live oak (*Quercus agrifolia*). The oaks form an open canopy over a sparsely vegetated understory composed of non-native grasses and occasional poison oak (*Toxicodendron diversilobum*). The woodland comprises approximately 2.6 acres.

3.1.1 Sensitive Plants

No special status plant species were observed during the reconnaissance survey. Listed threatened, endangered, and sensitive plant species that have potential to occur on the project site are listed in Table 2. Descriptive text of these sensitive plant species is provided below.

Braunton's Milkvetch (Astragalus brauntonii)

Braunton's milkvetch is a federal-listed endangered species. It occurs in gravelly clay soils overlying granite or limestone in chaparral, coastal sage scrub, native grasslands, and coniferous forests. It generally remains dormant until openings are formed, usually from human-caused disturbance or fires. Known occurrences in the vicinity of the project site include a 1994 sighting in Coal Canyon approximately 3 miles east of the site. A focused survey for this species was not conducted, however, the potential for Braunton's milkvetch to occur on the project site is considered low to moderate. Most of the disturbed areas on the project site were walked during the reconnaissance survey, and this species was not observed. It is unlikely that it would have been overlooked because the plant is large and conspicuous, and the surveyors had recently observed a population of Braunton's milkvetch in Ventura County. The Ventura County population was visited on July 16, 1999, just prior to conducting the survey on the subject property.

Coulter's Saltbush (Atriplex coulteri)

Coulter's saltbush is a CNPS list 1B species that occurs in coastal scrub and grasslands, especially on ridgetops, ocean bluffs, and alkaline low places. The nearest reported location is 7 miles northeast of the property. A limited amount of suitable grassland habitat occurs in the central portion of the property. Due to the close proximity and limited suitable habitat for Coulter's saltbush, this species has a moderate potential of occurring on the property.

Plummer's Mariposa Lily (Calochortus plummerae)

Plummer's Mariposa lily is a spring-blooming (May-July) perennial herb. It is considered an FSOC and is included on the CNPS 1B list. It occurs in granitic soils in chaparral, coastal scrub, cismontane woodlands, and foothill grasslands. The nearest recorded occurrence is south of the project site near Oak Flat along the main divide road. Plummer's Mariposa lily has a high potential to occur because suitable habitat is present on the site, and it is known to occur in the vicinity.

Intermediate Mariposa Lily (Calochortus weedii var. intermedius)

Intermediate mariposa lily is a spring blooming (May-July) perennial herb. It is considered an FSOC and is included on the CNPS 1B list. It typically occurs on dry, rocky, open slopes in chaparral, coastal scrub, or grassland habitats. The closest reported occurrence of this species is located in Gypsum Canyon approximately 2 miles east of the site. Potential for occurrence of intermediate mariposa lily is considered high at the project site because suitable habitat exists and the species has been reported locally.

**Table 2
SENSITIVE PLANT SPECIES POTENTIALLY
OCCURRING AT THE CANYON HILLS MANOR PROPERTY**

Scientific Name Common Name	Status	PFO	Habitat/Species Information
<i>Astragalus brauntonii</i> Braunton's Milkvetch Fabaceae	FED: FE ST: None CNPS: 1B	M	Perennial shrub, flowering March-July; occurs in brushy places, firebreaks, recent burns and other disturbed areas, in chaparral, coastal sage scrub, closed-cone coniferous forest, valley and foothill grasslands. Known range is the hills and basin of Ventura, Los Angeles, and Orange Cos., < 450 m elevation. Suitable habitat present onsite.
<i>Atriplex coulteri</i> Coulter's Saltbush Chenopodiaceae	FED: None ST: None CNPS: 1B	M	Shrub species flowering March-October; occurs in coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland, especially on ridgetops, ocean bluffs, and alkaline low places from 10-440 m in elevation. Limited suitable habitat is present onsite.
<i>Calochortus plummerae</i> Plummer's Mariposa Lily Liliaceae	FED: FSOC ST: None CNPS: 1B	H	Perennial herb flowering May-July; occurs in dry, rocky areas in coastal sage scrub, chaparral, yellow pine forest; known range is Santa Monica Mountains to San Janice Mountains. At < 1,700 m. elevation. Suitable habitat present onsite; species observed locally.
<i>Calochortus weedii</i> var. <i>intermedius</i> Intermediate Mariposa Lily Liliaceae	FED: FSOC ST: None CNPS: 1B	H	Spring blooming (May-July) perennial herb; occurs in dry, rocky, open slopes in chaparral, coastal scrub, and grassland habitats; known range is Orange Co. at < 680 m elevation. Suitable habitat present onsite; species observed locally.
<i>Cupressus forbesii</i> Tecate Cypress Cupressaceae	FED: FSOC ST: None CNPS: 1B	L	Evergreen tree occurring on dry slopes in closed-cone coniferous forest and chaparral. No suitable habitat is present onsite.
<i>Dudleya multicaulis</i> Many-Stemmed Dudleya Crassulaceae	FED: FSOC ST: None CNPS: 1B	H	Perennial herb flowering: May-July; occurs on rocky outcrops in clay soil in chaparral, coastal sage scrub, valley & foothill grassland; Suitable habitat present onsite.
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i> Santa Ana River Woollystar Polemonaceae	FED: FE ST: CE CNPS: 1B	L	Perennial herb flowering: June-August; occurs in gravelly river beds in chaparral and coastal scrub (alluvial fan); known range is Santa Ana River, San Bernardino & Riverside Cos. at < 500 m elevation. believed extirpated from Orange Co.
<i>Lepechinia cardiophylla</i> Heart-Leaved Pitcher Sage Lamiaceae	FED: FSOC ST: None CNPS: 1B	L	Shrub flowering April-July; occurs in dry areas and slopes in chaparral, closed-cone coniferous forest, and cismontane woodlands; Known range is the Santa Ana Mountains, Orange Co. at 600-1,200 m elevation. No suitable habitat onsite.

Status Codes	Potential for Occurrence (PFO)
Federal FE = Federal-listed; Endangered FSOC = Federal Species of Concern	L = Low Potential for Occurrence - No present or historical records cite the species' occurrence in or near the survey area, and the habitats strongly associated with the species do not occur in or near the vicinity.
State CE = State-listed; Endangered	M = Moderate Potential for Occurrence - Either a historical record exists of the species in or near the survey area, or the habitats associated with the species occur in or near the survey vicinity.
CNPS 1B = Plants rare, threatened, or endangered in California and elsewhere	H = High Potential for Occurrence - A historical record cites the species in or near the survey area, and the habitats strongly associated with the species occur in or near the survey vicinity.
	O = Occurs onsite - The species was observed within the site Boundaries.
Sources: California Native Plant Society Electronic Inventory (CNPSEI), Black Star Canyon quad, 1998 California Natural Diversity Data Base (CNDDB), Black Star Canyon quad, 1998 Skinner, M.W., and Bruce M. Pavlik, Editors. 1994. CNPS Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society Sacramento, CA. Nomenclature per Hickman 1993	

Tecate Cypress (*Cupressus forbesii*)

Tecate cypress is one of two species of cypress native to southern California. It is an FSOC and is included on the CNPS 1B list. It occurs on dry slopes in closed-cone coniferous forest and chaparral. A grove of Tecate cypress occurs on the north-facing slopes in a drainage extending southeast from Coal Canyon toward Sierra Peak approximately 4 miles east of the site. This species was not observed during the survey and has a low potential to occur because suitable habitat is not present on the site.

Many-Stemmed Dudleya (*Dudleya multicaulis*)

Many-stemmed dudleya is an FSOC and is included on the CNPS 1B list. It is a spring-blooming (May-July) perennial herb. It has been recorded from a variety of habitats including chaparral, coastal scrub, and valley and foothill grassland. It most often occurs in heavy, clayey soils or on grassy slopes in chaparral and coastal scrub communities. Reported occurrences include Gypsum Canyon approximately 2.5 miles southeast of the site and Coal Canyon approximately 3 miles east of the site where a pipeline crosses Ridge Road. This species has a high potential to occur on the project site because suitable habitat is present and the species occurs in the vicinity.

Santa Ana River Woollystar (*Eriastrum densifolium ssp. sanctorum*)

Santa Ana River woollystar is a federal- and state-listed endangered species. It occurs in sandy soils in river floodplain (alluvial) habitats. Its known range is the Santa Ana River in Riverside and San Bernardino Counties below 500 meters elevation. Santa Ana River woollystar has historically occurred in the region, but has not been observed locally since 1927 (near Weir Canyon). This species has a low potential to occur on the site because no suitable habitat exists on the site.

Heart-Leaved Pitcher Sage (*Lepechinia cardiophylla*)

Heart-leaf pitcher sage, an FSOC and a CNPS list 1B species, is a shrub found in dry areas and slopes in chaparral and closed-cone coniferous forests. Its known range is the Santa Ana Mountains at elevations above 1,800 feet. Known occurrences include the headwaters of Coal Canyon just west of the Cleveland National Forest boundary in a tecate cypress grove, approximately 4 miles east of the site. Heart-leaved pitcher sage has a low potential to occur on the site because no suitable habitat is present.

3.2 WILDLIFE

3.2.1 General

The project site is predominantly characterized by coastal sage scrub and non-native annual grassland. Wildlife species occurring within the project site are characteristic of these communities.

The site supports a variety of wildlife species. All wildlife species and wildlife sign (scat, tracks, etc.) encountered during the survey were recorded. No amphibians were observed during the surveys. One reptile species, the western fence lizard (*S. occidentalis*), was observed onsite.

The grassland community on the site provides suitable foraging habitat for a variety of granivorous bird species as well as raptor species. Birds observed in the grassland community included the mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), and bushtit (*Psaltriparus minimus*). Raptor species including the Cooper's hawk (*Accipiter cooperii*) and red-tailed hawk (*Buteo jamaicensis*) were observed during the surveys.

Many avian species commonly associated with coastal sage scrub habitat were also observed. Those observed include the greater roadrunner (*Geococcyx californianus*), northern mockingbird (*Mimus polyglottos*), California thrasher (*Toxostoma redivivum*), common raven (*Corvus corax*), spotted towhee (*Pipilo maculatus*), and California towhee (*Pipilo crissalis*).

Two mammal species, the California ground squirrel (*Spermophilus beecheyi*) and desert cottontail (*Sylvilagus audubonii*), were observed during the surveys. Sign, such as burrows, scat, tracks, and carcasses, of several mammal species was detected. Tracks were observed along the dirt access road for the mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), and gray fox (*Urocyon cinereoargenteus*). Several pocket gopher (*Thomomys bottae*) and ground squirrel burrows were also observed.

3.2.2 Sensitive Wildlife Species

Three sensitive wildlife species, the coastal California gnatcatcher, coastal California cactus wren (*Campylorhynchus brunneicapillus*), and Cooper's hawk, were observed onsite. Thirteen additional species have the potential to occur onsite. The western spadefoot toad (*Scaphiopus hammondi*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), orange-throated whiptail (*Cnemidophorus hyperythrus*), and white-tailed kite (*Elanus leucurus*) all have a high potential to occur within the project site. The sharp-shinned hawk (*Accipiter striatus*), golden eagle (*Aquila chrysaetos*), least Bell's vireo (*Vireo bellii pusillus*), pallid bat (*Antrozous pallidus*), and California mastiff bat (*Eumops perotis*) have a moderate potential to occur within the project site. The Quino checkerspot butterfly (*Euphydryas editha quino*), Santa Ana sucker (*Catostomus santaanae*), coast range newt (*Taricha torosa torosa*), and southwestern pond turtle (*Clemmys marmorata pallida*) have a low potential to occur onsite. Table 3 is a list of federal- and state-listed endangered or threatened, special concern species, FSOC species, and otherwise sensitive wildlife species that occur or have the potential to occur within the project site.

**Table 3
POTENTIAL FOR OCCURRENCE OF SENSITIVE
WILDLIFE SPECIES AT THE CANYON HILLS MANOR SITE, CALIFORNIA**

Scientific Name	Common Name	Status	PFO	Habitat	Comments
LEPIDOPTERA	MOTHS AND BUTTERFLIES				
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	FE, CSC	L	Prefers native habitat with clay soils and requires the presence of its larval host plant <i>Plantago erecta</i> .	Site does not fall within the Quino survey area. Suitable topographic features and disturbed areas are present onsite.
CLASS OSTEICHTHYES	BONY FISH				
CATASTOMIDAE	SUCKERS				
<i>Catostomus santaanae</i>	Santa Ana sucker	FSOC, CSC	L	Occur in southern coastal streams and prefer sand-, rubble-, boulder bottoms with cool, clear water and algae.	No suitable water source onsite. Closest known occurrence is Santa Ana River within 0.5 miles of site.
CLASS AMPHIBIA	AMPHIBIANS				
SALAMANDRIDAE	NEWT				
<i>Taricha torosa torosa</i>	Coast Range newt	CSC	L	Lives in terrestrial habitats in coastal drainages from Mendocino County to San Diego County. Requires ponds, reservoirs or slow moving streams for breeding.	No suitable permanent water source onsite.
CLASS AMPHIBIA	AMPHIBIANS				
PELOBATIDAE	SPADEFoot TOADS AND RELATIVES				
<i>Scaphiopus hammondi</i>	Western spadefoot toad	CSC	L	Lives in deep burrows primarily in grassland habitat, breeds in shallow pools formed by heavy winter rains.	Suitable grassland habitat in northwestern portion of site. Closest known occurrence is 4.5 miles south of site.
CLASS REPTILIA	REPTILES				
EMYDIDAE	WATER TURTLES				
<i>Clemmys marmorata pallida</i>	Southwestern pond turtle	FSOC, CSC	L	Occurs in aquatic sites that contain suitable basking sites within woodlands, grasslands, and open forests.	No suitable water source onsite.
IGUANIDAE	IGUANID LIZARDS				
<i>Phrynosoma coronatum blainvillei</i>	San Diego horned lizard	FSOC, CSC	H	Occurs in coastal sage scrub, open chaparral, riparian woodland, annual grassland habitats that support adequate prey species.	Suitable coastal sage scrub habitat located throughout site. Closest known occurrence is 1.5 miles east of the site.

Scientific Name	Common Name	Status	PFO	Habitat	Comments
TEIIDAE	WHIPTAIL LIZARDS				
<i>Cnemidophorus hyperythrus</i>	Orange-throated whiptail	FSOC, CSC	H	Frequents sandy washes, rocky hillsides, and coastal sage scrub that support adequate prey species	Suitable coastal sage scrub habitat present throughout site. Closest records are 1.5 miles east and south of site.
CLASS AVES	BIRDS				
ACCIPITRIDAE	HAWKS				
<i>Elanus leucurus</i>	White-tailed kite	CSC	H	Nesting and foraging habitat of the white-tailed kite includes riparian woodland, emergent wetland and open grassland.	Suitable foraging and nesting habitat present throughout the site.
<i>Accipiter striatus</i>	Sharp-shinned hawk	CSC	M	Nests and forages in mixed woodland.	Suitable foraging habitat present onsite. Nesting habitat is limited to oak woodland in northwest portion of site.
<i>Accipiter cooperii</i>	Cooper's hawk	CSC	P	Nests and forages in broken woodlands or streamside groves, especially deciduous.	Observed foraging over site Nesting habitat is limited to oak woodland in northwest portion of site.
<i>Aquila chrysaetos</i>	Golden eagle	CSC	M	Found along rolling foothills or coast-range terrain with large trees (scattered oaks, sycamores, digger pines) in open areas with cliff-walled canyons.	Suitable foraging habitat occurs throughout the site. No suitable nesting habitat. located onsite. Has been observed in Coal Canyon 3 miles east of the site.
TROGLODYTIDAE	WRENS				
<i>Campylorhynchus brunneicapillus</i>	Coastal cactus wren	CSC	P	Typically occurs in coastal sage scrub and nests within cholla or prickly pear cactus	Observed within southern cactus scrub in southern portion of site on southeast-facing slopes.
MUSCICAPIDAE	KINGLETS, GNATCATCHERS, AND BABLERS				
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	FT, CSC	P	Occurs in coastal sage scrub vegetation on mesas, arid hillsides, and in washes and nests almost exclusively in California sagebrush	Suitable coastal sage scrub habitat throughout site. Heard vocalizing in southeast corner of site within CSS.
VIREONIDAE	VIREOS				
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE, SE	L	Occurs in moist thickets and riparian areas that are predominately comprised of willow and mule fat.	No suitable willow riparian habitat occurs onsite. Closest known occurrence is along Santa Ana River within 1 mile of the site.

Scientific Name	Common Name	Status	PFO	Habitat	Comments
CLASS MAMMALIA	MAMMALS				
VESPERTILIONIDAE	PLAINNOSE BATS				
<i>Antrozous pallidus</i>	Pallid bat	CSC	M	Occurs in grassland, shrublands, woodlands, and forests, requires rocky outcrops, cliffs, and crevices with access to open habitats for foraging.	No suitable rocky outcrops or cliffs onsite. Closest record is 3 miles southeast of site.
MOLOSSIDAE	FREETAIL BATS				
<i>Eumops perotis</i>	California mastiff bat	FSOC	M	Inhabits semi-arid habitats including coastal sage scrub, grassland, and chaparral communities with rocky crevices and hollow trees. Has been sighted within 5 miles of the site.	No suitable rocky outcrops or cliffs onsite. Closest record is 3.5 miles southeast of site.
Status Codes		Potential for Occurrence (PFO)			
Federal FE = Federal-listed; Endangered FT = Federal-listed; Threatened FSOC = Federal Species of Concern State ST = State-listed; Threatened SE = State-listed; Endangered CSC = California Species of Special Concern * -- Taxa that are biologically rare, very restricted in distribution, declining throughout their range, or at a critical stage in their life cycle when residing in California. -- Population(s) in California that may be peripheral to the major portion of a taxon's range, but which are threatened with extirpation within California. -- Taxa closely associated with a habitat that is declining in California (e.g., wetlands, riparian, old growth forest).		L = Low potential for occurrence - No recent or historical records exist of the species occurring in the project area or its immediate vicinity (within approximately 5 miles) and the diagnostic habitat requirements strongly associated with the species do not occur in the project area or its immediate vicinity. M = Moderate potential for occurrence - Either a historical record exists of the species in the project area or its immediate vicinity or the diagnostic habitat requirements associated with the species do occur in the project area or its immediate vicinity. H = High potential for occurrence - Both a historical record exists of the species in the project area or its immediate vicinity and the diagnostic habitat requirements strongly associated with the species do occur in the project area or its immediate vicinity. P = Species present - The species was observed in the project area at the time of the survey. Source: California Natural Diversity Data Base (CNDDB), Orange, Black Star Canyon, Prado Dam, and Yorba Linda quads, 1997			

Quino Checkerspot Butterfly

The Quino checkerspot butterfly (*Euphydryas editha quino*) was federal-listed as an endangered species in January 1997 and is a CSC. It prefers open areas near rocky outcrops that have clay soils, native vegetation, and the presence of its larval host plant, western plantain (*Plantago erecta*). The biological reconnaissance survey was conducted after the blooming period of the host plant, so a focused habitat assessment could not be conducted. The site falls within the potential habitat area for the butterfly, based on the USFWS 1997 Survey Protocol (USFWS 1997). The site does not fall within any of the focused survey areas for the Quino checkerspot butterfly based on the revised USFWS 2000 Survey Protocol (USFWS 2000). Therefore, this species has a low potential to occur onsite and focused surveys are not recommended.

Santa Ana Sucker

The Santa Ana sucker (*Catostomus santaanae*) is a federal candidate for listing and a state species of special concern. This species is endemic to the Los Angeles basin and south coastal streams. It prefers sand-rubble-boulder bottom streams with clear water and algae. No perennial streams occur at the Canyon Hills Manor property. Due to the lack of suitable habitat, the Santa Ana sucker has a low potential for occurrence.

Coast Range Newt

The coast range newt (*Taricha torosa torosa*) is a CSC. This amphibian species occurs in coastal California from San Diego to Mendocino County. It prefers quiet streams, ponds, and lakes and surrounding evergreen and oak forests along the coast. No permanent water source occurs onsite, therefore this species has a low potential for occurrence.

Western Spadefoot Toad

The western spadefoot toad (*Scaphiopus hammondi*) is listed as a species of concern by both the USFWS and CDFG. The western spadefoot typically occurs in grassland habitats, but can be found in valley-foothill hardwood woodlands. It requires a water source, such as vernal pools or ephemeral ponds, for breeding and egg-laying. No western spadefoot toads were observed during the biological surveys. The closest known occurrence is approximately 5 miles south of the site near the Santiago Canyon Landfill. Suitable grassland habitat is limited to the northwestern portion of the site. Also, no areas that could support vernal pools or ephemeral ponds are located on the site. Therefore, this species has a low potential of occurrence.

Southwestern Pond Turtle

The southwestern pond turtle (*Clemmys marmorata pallida*), an FSOC and a CSC, was not observed during the surveys. This species typically occurs in a variety habitat types including woodland, grassland, and open forest. They are thoroughly aquatic, existing in good quality ponds, marshes, rivers, streams, and irrigation ditches that typically have rocky or muddy bottoms with watercress, cattails, water lilies, or other aquatic vegetation. No permanent water source occurs onsite, therefore this species has a low potential to occur onsite.

San Diego Horned Lizard

The San Diego horned lizard (*Phrynosoma coronatum blainvillei*), an FSOC and a CSC, was not observed during the surveys. This species prefers open areas of sandy soil and low vegetation. They are frequently found near ant colonies and it ranges from southern California to northern Baja California. This species is known to occur in a variety of habitats including coastal sage scrub, open chaparral, riparian woodland, and annual grassland. The closest known occurrence is approximately 1.5 miles east of the site within the Santa Ana Mountain range. Due to the presence of suitable coastal sage scrub and the close proximity of a known occurrence, this species has a high potential to occur onsite.

Orange-Throated Whiptail

The orange-throated whiptail (*Cnemidophorus hyperythrus*) is an FSOC and a CSC. The orange-throated whiptail is found from San Bernardino County to Baja California and frequents sandy washes, rocky hillsides, and scrub communities that provide both open territory and adequate shading. Their diet is comprised of insects and spiders, both of which are abundant onsite. Due to similar habitat requirements, it typically occurs in association with the San Diego horned lizard. Suitable coastal sage scrub occurs throughout the site. The orange-throated whiptail is known to occur within 1.5 mile east and south of the site. Therefore, this species has a high potential for occurrence.

White-Tailed Kite

The white-tailed kite (*Elanus leucurus*) is a species that is fully protected species by the state of California. Nesting and foraging habitat of the white-tailed kite includes riparian woodland, emergent wetland and open grassland. Suitable foraging habitat occurs throughout the site. Suitable nesting habitat occurs in the oak woodland and larger trees within the mixed sage scrub in the northern half of the site. Due to the presence of suitable habitat, this species has a high potential to occur onsite.

Sharp-Shinned Hawk

The sharp-shinned hawk (*Accipiter striatus*) is a CSC. It is similar in appearance to the Cooper's hawk, but is a slightly smaller raptor. This species prefers woodlands and riparian areas for nesting and often occurs in conjunction with the Cooper's hawk. Suitable foraging habitat is present throughout the site. Suitable nesting habitat is limited to the oak woodland in the northwest portion of the site, therefore, this species has a moderate potential for occurrence.

Cooper's Hawk

The Cooper's hawk was observed during the surveys. This species is also considered a CSC. It typically occurs near riparian vegetation and near patchy, wooded areas. Suitable foraging habitat is present throughout the site. Suitable nesting habitat is limited to the oak woodland in the northwest portion of the site. No raptor nests were observed onsite.

Golden Eagle

The golden eagle, a CSC, was not observed during the surveys. This species prefers mountainous or hilly terrain, hunting over open country for small mammals, snakes, birds, or carrion. The golden eagle prefers to nests on cliffs, walled canyons, or in large trees. The site does not contain suitable nesting habitat for the golden eagle. This species has been observed flying over Coal Canyon approximately 3 miles east of the site. Because suitable nesting habitat is not present onsite, the golden eagle has a moderate potential to occur.

Coastal Cactus Wren

The coastal cactus wren (*Campylorhynchus brunneicapillus*), a CSC, was observed during the surveys. This species typically occurs in coastal sage scrub and cactus scrub habitats where it nests, roosts, and forages in the cactus and adjacent scrub. Cactus wrens were heard and observed in the southern cactus scrub on the southeast-facing slope along the southern property boundary.

Coastal California Gnatcatcher

The coastal California gnatcatcher (*Polioptila californica californica*) is a federal-listed threatened bird species and a CSC. This nonmigratory, insectivorous bird nests and forages in moderately dense stands of coastal sage scrub occurring on arid hillsides and mesas, and in washes. Coastal sage scrub communities dominated by California sagebrush, California buckwheat, white sage, and black sage are preferred by this species. Suitable coastal sage scrub occurs throughout the site. Chambers Group conducted seven protocol surveys for the California gnatcatcher (July-October, 1999). A copy of the gnatcatcher report is included as Appendix D. Three pairs of gnatcatchers were found onsite. One pair occurs on the property just south of the site and has been observed foraging on the site (Chambers Group, 1999).

Least Bell's Vireo

The least Bell's vireo is a federal-listed and state-listed endangered species. This species typically occurs in moist thickets and riparian areas comprised of willow, mulefat, and mesquite. Recent sighting of the least Bell's vireo have been recorded within 1 mile of the site along the Santa Ana River. Suitable

willow riparian habitat does not occur on the project site. Because no suitable habitat occurs onsite, this species has a low potential to occur onsite.

Pallid Bat

The pallid bat (*Antrozous pallidus*) is a CDFG species of concern. It is typically found in grassland, shrublands, woodlands, and forests. The pallid bat requires rocky outcrops, cliffs, and crevices with access to open habitats for foraging. No suitable rocky outcrops or cliff for the bat occurs onsite. The closest known record for this species is in Blind Canyon, approximately 3 miles southeast of the site. Due to the close proximity to a known occurrence, this species has a moderate potential for occurrence.

California Mastiff Bat

The California mastiff bat (*Eumops perotis*) is listed as a species of concern by the USFWS and CDFG. This species occurs in many open, arid habitats, including conifer and deciduous woodlands, coastal sage scrub, grasslands, and chaparral. It requires crevices in cliff faces, high buildings, trees, and tunnels for roosting. A few trees onsite may provide suitable roosting habitat, but is limited to the northern portion of the site. The closest known occurrence is in the Fremont and Blind Canyon vicinity, approximately 3.5 miles southeast of the site. Due to the limited amount of suitable habitat yet close proximity to a known occurrence, the California mastiff bat has a moderate potential of occurrence.

SECTION 4.0 - IMPACTS

The following section discusses the impacts of the proposed project on the vegetation communities, wildlife, and wildlife habitat present at the Canyon Hills Manor site. Table 4 shows the onsite and offsite impacts to the vegetation communities. Offsite impacts are those resulting from the grading impacts and entrance road construction on the easement located along the northern project boundary. Figure 4 shows the limits of the proposed impact area.

The site falls within a non-reserve portion of the central-coastal subregion of the Orange County NCCP/HCP within the city limits of Anaheim. Because the coastal sage scrub is occupied by the coastal California gnatcatcher, an Endangered Species Act Section 10(a)(1)(A) or Section 7 Incidental Take permit will be required. The City of Anaheim has recently been included as a participating landowner in the NCCP/HCP, although not an original participating landowner. The take of occupied gnatcatcher habitat on the Canyon Hills Manor site was not accounted for in the NCCP/HCP. So, the purchase of mitigation credits within the central-coastal subregion reserve would have to be authorized by the USFWS through the Incidental Take permit process.

**Table 4
IMPACTS ON VEGETATION COMMUNITIES
OCCURRING AT THE CANYON HILLS MANOR SITE**

Vegetation Community	Existing Acres	Impacted Acres (Onsite)	Impacted Acres (Offsite)
Mixed Sage Scrub	13.8	6.6	0.4
Disturbed Mixed Sage Scrub	1.6	1.3	0.0
California Sagebrush Scrub	2.3	0.8	0.0
Disturbed California Sagebrush Scrub	0.3	0.0	0.0
Southern Cactus Scrub	0.5	0.3	0.0
Toyon-Sumac Chaparral	1.6	0.7	0.0
Coast Live Oak Woodland	2.6	0.9	0.0
Annual Grassland	5.5	5.0	0.0
Ruderal	0.7	0.5	0.0
Total	28.9	16.1	0.4

Vegetation

A total of approximately 16.1 acres of vegetation will be impacted by the proposed project. Of the total onsite impacted vegetation, approximately 8.7 acres consists of coastal sage scrub communities. This 8.7 acres includes 6.6 acres of mixed sage scrub, 1.3 acres of disturbed mixed sage scrub, and 0.8 acre of California sagebrush scrub. Approximately 0.3 acre of southern cactus scrub and 0.9 acre of coast live oak woodland will also be impacted by the project. Approximately 5.0 acres of annual grassland and 0.5 acre of ruderal vegetation will also be impacted by the proposed project. Additionally, there will be 0.4 acre of offsite impacts on mixed sage scrub due to grading and construction of the entrance road.

Wildlife and Wildlife Habitat

The proposed project will impact both wildlife and wildlife habitat. The proposed project will impact approximately 8.7 acres of coastal sage scrub that is occupied by the coastal California gnatcatcher, a federally-listed threatened bird species and a CSC. The three pairs of gnatcatchers that are known to nest on the site occur in the eastern half of the site. Although, most of the mixed sage scrub in this area



SPCL-CC-WAY-CURVE DATA.C2
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 Tangent length = 13.83'
 Arc length = 27.36'

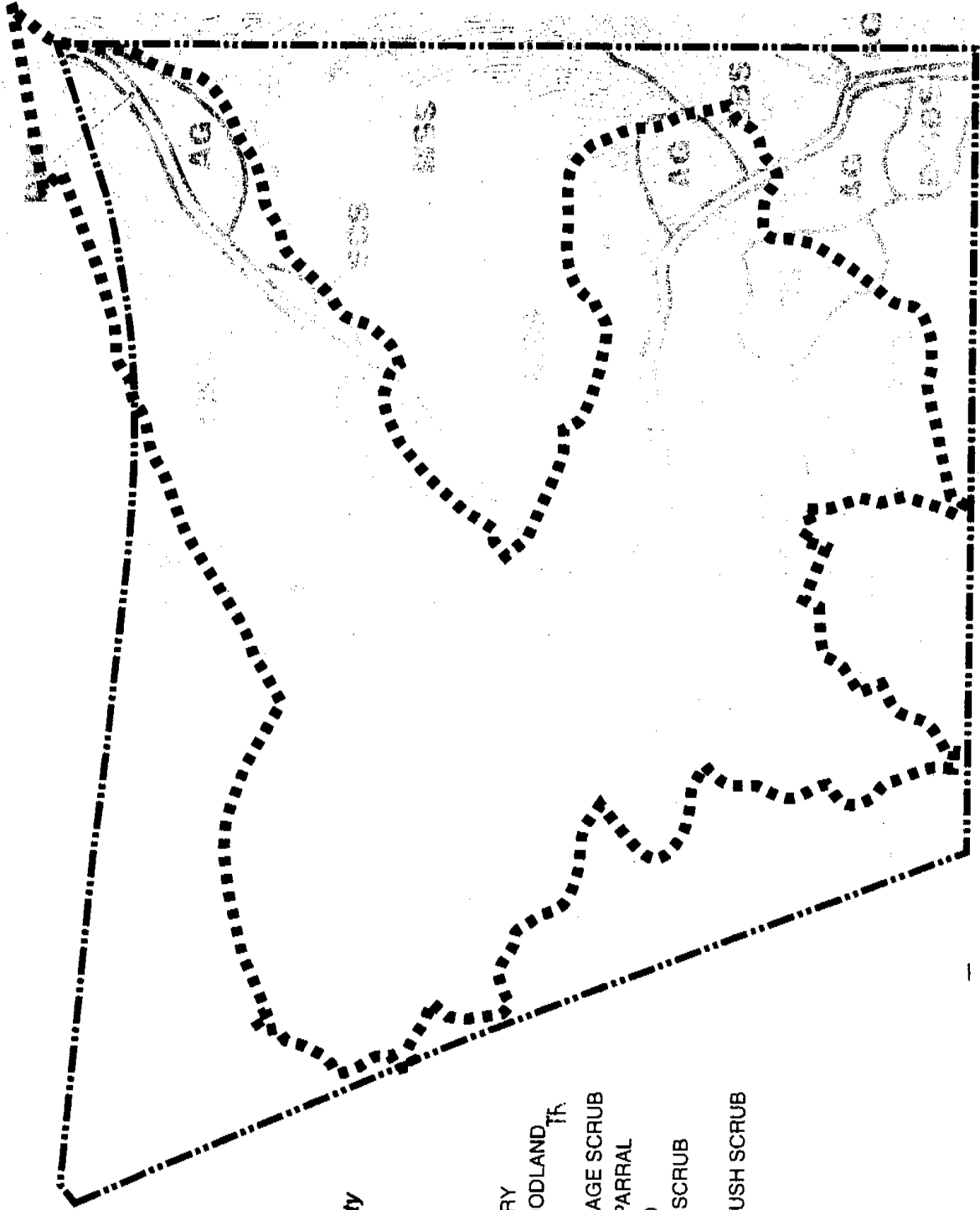
GRAPHIC SCALE



*Faded Vegetation Community
 in background*

LEGEND:

- - PROPERTY BOUNDARY
- CLO - COAST LIVE OAK WOODLAND^{TR}
- MSS - MIXED SAGE SCRUB
- D-MSS - DISTURBED MIXED SAGE SCRUB
- T/S - TOYON-SUMAC CHAPARRAL
- AG - ANNUAL GRASSLAND
- SCS - SOUTHERN CACTUS SCRUB
- SBS - SAGEBRUSH SCRUB
- D-SBS - DISTURBED SAGEBRUSH SCRUB
- RUD - RUDERAL
- ||||| - IMPACT AREA



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will remain intact, construction of the proposed project will affect a portion of each pairs' territory as they existed in 1999. Noise, dust, and exposure to development (edge effects) will indirectly affect the three resident gnatcatcher pairs as well as the one pair of gnatcatchers that occurs just south of the site. A map showing the location of the gnatcatchers is included as Figure 5.

The proposed project will also impact approximately 0.3 acre of southern cactus scrub that is occupied by coastal cactus wrens, a California species of concern. This loss of southern cactus scrub will result in the displacement of the coastal cactus wrens, which have been identified in the southern portion of the site. Removal of this habitat will force the cactus wrens to move to surrounding areas and they may have to compete with other cactus wrens in the vicinity.

The proposed project will impact 5.0 acres of annual grassland. Annual grassland provides foraging habitat for a number of raptor species including Cooper's and red-tailed hawks which were observed during the survey. Loss of foraging habitat in this region does not appear to be contributing to the decline of raptor populations due to the abundance of foraging habitat in the vicinity of the project site.

The proposed project will also affect 0.9 acre of coast live oak woodland. This woodland appears to have been planted on the site and did not occur there naturally. Although nests were not observed at the time of the survey, the coast live oak woodland may be utilized by raptor species for perching, and possibly nesting.

The entire site functions as wildlife habitat in conjunction with surrounding open space habitat. Small mammals, reptiles, and amphibians that reside on the site will be forced into surrounding areas. These wildlife species rely on the existing vegetation for cover and foraging and removal of the vegetation will result in loss of habitat for these species. The more mobile wildlife species may be able to relocate, but the less mobile types of wildlife will be lost as a result of the habitat removal.

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ARC-LINE - MAX CURVE DATA
Radius = 2917.00'
Tangent length = 13.68'
Arc length = 27.36'

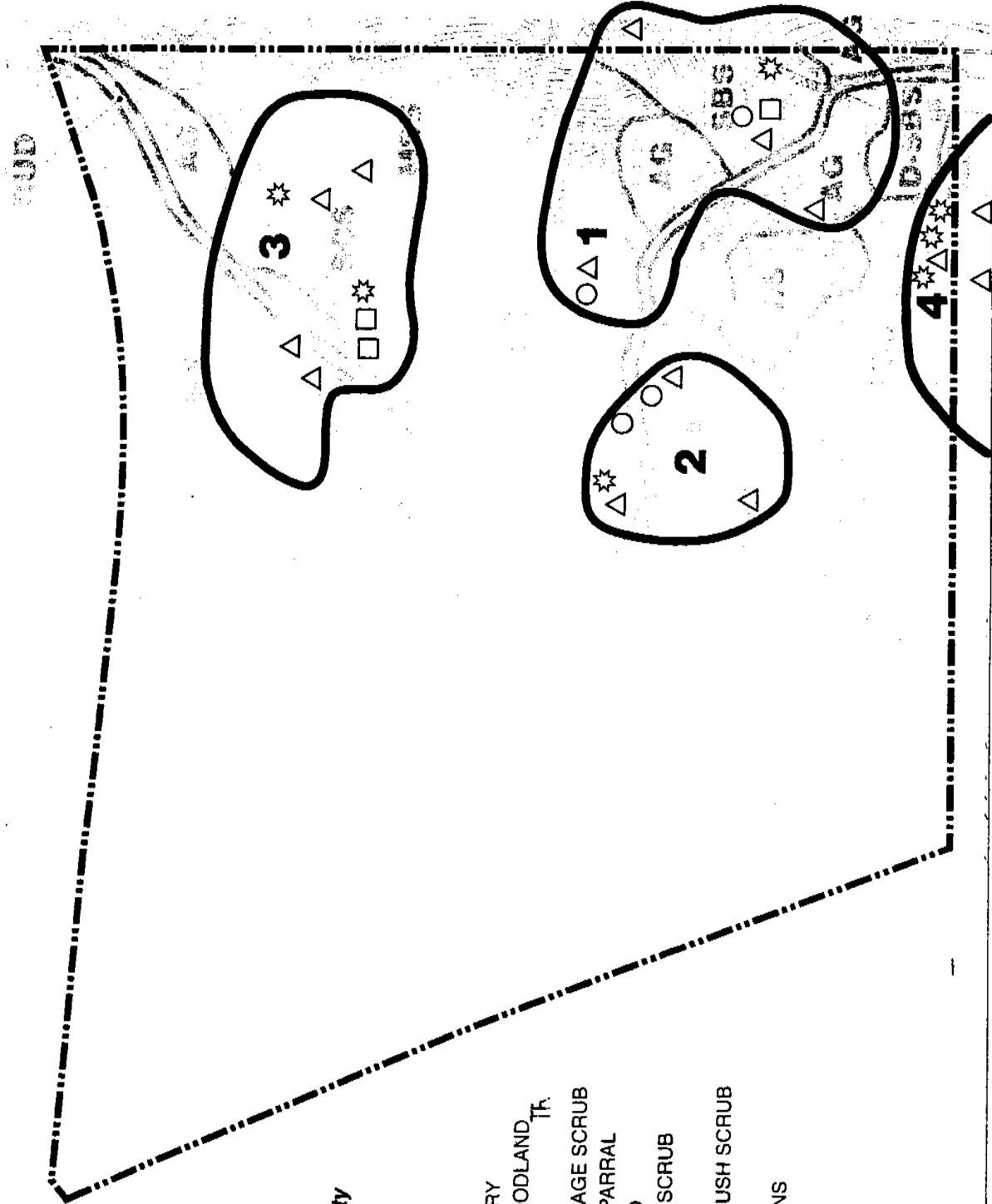
GRAPHIC SCALE



*Faded Vegetation Community
in background*

LEGEND:

- - - - - PROPERTY BOUNDARY
- CLO** - COAST LIVE OAK WOODLAND^{TR}
- MSS** - MIXED SAGE SCRUB
- D-MSS** - DISTURBED MIXED SAGE SCRUB
- T/S** - TOYON-SUMAC CHAPARRAL
- AG** - ANNUAL GRASSLAND
- SCS** - SOUTHERN CACTUS SCRUB
- SBS** - SAGEBRUSH SCRUB
- D-SBS** - DISTURBED SAGEBRUSH SCRUB
- RUD** - RUDERAL
- - - - - CAGN PAIR LOCATIONS
- △ - CAGN PAIR
- - MALE CAGN
- - FEMALE CAGN
- ☆ - JUVENILE CAGN



**CANYON HILLS MANOR
COASTAL CALIFORNIA GNATCATCHER LOCATIONS
Figure 5**

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SECTION 5.0 - REFERENCES

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APPENDIX A

**PLANT SPECIES OBSERVED
AT CANYON HILLS MANOR**

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Appendix A

PLANT SPECIES OBSERVED AT CANYON HILLS MANOR

Scientific Name	Common Name
VASCULAR PLANTS	
ANGIOSPERMS (DICOTYLEDONS)	
ANACARDIACEAE	SUMAC OR CASHEW FAMILY
<i>Malosma laurina</i>	laurel sumac
<i>Rhus integrifolia</i>	lemonadeberry
<i>Toxicodendron diversilobum</i>	poison oak
APIACEAE	CARROT FAMILY
<i>Foeniculum vulgare*</i>	fennel
ASTERACEAE	SUNFLOWER FAMILY
<i>Artemisia californica</i>	California sagebrush
<i>Baccharis pilularis</i>	coyote brush
<i>Baccharis salicifolia</i>	mule fat
<i>Centaurea melitensis*</i>	totalote
<i>Encelia californica</i>	California bush sunflower
<i>Gnaphalium californicum</i>	California everlasting
<i>Gnaphalium canescens ssp. beneolins</i>	felty everlasting
<i>Hemizonia sp.</i>	tarplant
<i>Heterotheca grandiflora</i>	telegraph weed
<i>Isocoma menziesii</i>	coastal goldenbush
<i>Lactuca serriola*</i>	prickly lettuce
<i>Lessingia filaginifolia</i>	cudweed aster
BRASSICACEAE	MUSTARD FAMILY
<i>Brassica nigra*</i>	black mustard
<i>Hirshfeldia incana*</i>	short-podded mustard
CACTACEAE	CACTUS FAMILY
<i>Opuntia littoralis</i>	coastal prickly pear
CAPRIFOLIACEAE	HONEYSUCKLE FAMILY
<i>Sambucus mexicana</i>	Mexican elderberry
CHENOPODIACEAE	GOOSEFOOT FAMILY
<i>Salsola tragus*</i>	Russian thistle
CUCURBITACEAE	GOURD FAMILY
<i>Cucurbita foetidissima</i>	coyote melon
EUPHORBIACEAE	SPURGE FAMILY
<i>Ricinus communis*</i>	castor-bean
FABACEAE	LEGUME FAMILY
<i>Lotus scoparius</i>	deerweed
FAGACEAE	OAK FAMILY
<i>Quercus agrifolia</i>	coast live oak
LAMIACEAE	MINT FAMILY
<i>Marrubium vulgare*</i>	horehound
<i>Salvia mellifera</i>	black sage
MYRTACEAE	MYRTLE FAMILY
<i>Eucalyptus sp.</i>	eucalyptus

Scientific Name	Common Name
POLYGONACEAE <i>Eriogonum fasciculatum</i> <i>Rumex crispus</i>	BUCKWHEAT FAMILY California buckwheat curly dock
RHAMNACEAE <i>Rhamnus ilicifolia</i>	BUCKTHORN FAMILY holly-leaf redberry
ROSACEAE <i>Heteromeles arbutifolia</i>	ROSE FAMILY toyon
RUBIACEAE <i>Galium angustifolium</i>	MADDER FAMILY narrow-leaved bedstraw
SCROPHULARIACEAE <i>Mimulus aurantiacus</i>	FIGWORT FAMILY monkeyflower
SOLANACEAE <i>Nicotiana glauca</i> *	NIGHTSHADE FAMILY tree tobacco
ANGIOSPERMS (MONOCOTYLEDONS)	
LILIACEAE <i>Agave americana</i>	LILY FAMILY century plant
POACEAE <i>Avena fatua</i> * <i>Bromus diandrus</i> * <i>Bromus madritensis ssp. rubens</i> * <i>Leymus condensatus</i> <i>Nassella sp.</i>	GRASS FAMILY wild oat ripgut grass foxtail chess giant wild rye needlegrass

APPENDIX B

**FIELD DATA SHEETS
FOR CANYON HILLS MANOR**

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Project Name Party Pantry Project # 8229 A Survey Type Bio / Cagn
 Location Anaheim Hills, South of 91 Hwy between Imperial Hwy + West Cyn Rd
 Surveyor Mare Schroeder Date 7-23-99 Time (Start) 8:30 (End) 11:00 a
 General Habitat Description of Area CSS, nonnative grass

Weather (Cloud cover, Estimated wind speed) Winds 1-2 Clouds 0%, Winds 1-3, clouds 0%
 Temp (Start) 78°F (End) 89°F

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
	Bewicks Wren			Started survey at Edison access road + Santa Ana Cyn Rd junction Plants: black sage, cactus, ^{opuntia} tree tobacco, Coyote bush, black mustard, Calif sagebrush, Everlasting mulefat, elderberry, Calif. Buckwheat, sweet fennel, toyon, native grass, star thistle
	Lesser Goldfinch			
	Rabbit Sp			
	West Kingbird			
	House Finch			
	Mourning Dove			
	West fence Lizard			
	Parasitic wasp			
	Calif Towhee			
	fox tracks			
① 9:10	CAGN	✓		On east edge of site NE facing slope
	Raven			
② 9:15	CAGN	✓		on CSS just east of site's eastern boundary
③ 9:20	CAGN	○	♂ ♀ no bands	CSS on east side of drainage at east end of site Paw knided on tree tobacco plants toyon, castor bean, lemonade berry, sugar bush?, Eucalyptus trees, Encelia, Laurel Sumac, Hellebore, Century plant, Great Wild Rye
	Phainopepla			
	Calif Ground Squirrel			
	Gopher			
	Coon			
	Calif Quail			
	Rock Wren			
	Red-tailed hawk			
	Coopers Hawk			
④ 10:05	CAGN	juvenile no bands		mixed CSS at top of NE facing slope. could hear another to the east

General Comments:

* O=Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

Project Name Party Party Project # 8229 A Survey Type Bio / Cagn
 Location Anaheim Hills, South of 91 Hwy between Imperial Hwy + West Cyn Rd
 Surveyor Mare Schroeder Date 7-23-99 Time (Start) 8:30 (End) 11:00 a
 General Habitat Description of Area CSS, nonnative grass

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 Temp (Start) 78°F (End) 89°F

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
	Bewicks Wren			Started survey at Edison access road + Santa Ana Cyn Rd junction
	Lesser Goldfinch			
	Rabbit Sp			
	West Kingbird			
	House Finch			Plants: black sage, cactus, ^{open field} tree tobacco Coyote bush, black mustard Calif sagebrush, Everlasting mulch P, elderberry, Calif. Buckwheat Sweet fennel, Toyon, native grass
	Mourning Dove			
	West fence Lizard			
	Ternantle wasp			
	Calif Towhee			fox tracks
	fox tracks			
① 9:10	CAGN	✓		On east edge of site NE facing slope
	Raven			
② 9:15	CAGN	✓		in CSS just east of site's eastern boundary
③ 9:20	CAGN	○	♂ ♀ no bands	CSS on east side of drainage at east end of site Plus banded on tree tobacco Plants Toyon, castor bean lemonade berry Sugar bush? Eucalyptus trees Encelia, Laurel Sumbere Horkhoend, Century plant Giant Wild Rye
	Phainopepla			
	Calif Ground Squirrel			
	Gopher			
	Cable Scat			
	Calif Quail			
	Roadrunner			
	Red-tailed hawk			
	Coopers Hawk			
④ 10:15	CAGN	juvenile no bands		mixed CSS at top of NE facing slope. Could hear another to the east

General Comments:

* O=Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

APPENDIX C

**WILDLIFE SPECIES OBSERVED
AT CANYON HILLS MANOR**

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Appendix C

WILDLIFE SPECIES OBSERVED AT CANYON HILLS MANOR

Scientific Name	Common Name	Sign
CLASS INSECTA	INSECTS	
<i>Hemipepsis</i> spp.	Tarantula hawk	O
CLASS REPTILIA	REPTILES	
IGUANIDAE	IGUANID LIZARDS	
<i>Sceloporus occidentalis</i>	western fence lizard	O
CLASS AVES	BIRDS	
CATHARTIDAE	NEW WORLD VULTURES	
<i>Cathartes aura</i>	turkey vulture	O
ACCIPITRIDAE	HAWKS	
<i>Accipiter cooperii</i>	Cooper's hawk	O
<i>Buteo jamaicensis</i>	red-tailed hawk	O
PHASIANIDAE	PHEASANTS & QUAILS	
<i>Callipepla californica</i>	California quail	O,V
COLUMBIDAE	PIGEONS & DOVES	
<i>Columba livia</i>	rock dove	O
<i>Zenaida macroura</i>	mourning dove	O,V
CUCULIDAE	CUCKOOS & ROADRUNNERS	
<i>Geococcyx californianus</i>	greater roadrunner	O
TROCHILIDAE	HUMMINGBIRDS	
<i>Calypte anna</i>	Anna's hummingbird	O,V
PICIDAE	WOODPECKERS	
<i>Picoides nuttallii</i>	Nuttall's woodpecker	O,V
<i>Colaptes auratus</i>	northern flicker	O
TYRANNIDAE	TYRANT FLYCATCHERS	
<i>Sayornis nigricans</i>	black phoebe	O
<i>Tyrannus verticalis</i>	western kingbird	O,V
HIRUNDINIDAE	SWALLOWS	
<i>Hirundo pyrrhonota</i>	cliff swallow	O
<i>Hirundo rustica</i>	barn swallow	O
CORVIDAE	JAYS & CROWS	
<i>Aphelocoma coerulescens</i>	scrub jay	O,V
<i>Corvus brachyrhynchos</i>	American crow	O,V
<i>Corvus corax</i>	common raven	O,V
AEGITHALIDAE	BUSHTITS	
<i>Psaltiriparus minimus</i>	bushtit	V
TROGLODYTIDAE	WRENS	
<i>Thryomanes bewickii</i>	Bewick's wren	O,V
MUSCICAPIDAE	KINGLETS, GNATCATCHERS, AND BABBLERS	
<i>Polioptila californica</i>	California gnatcatcher	O,V
<i>Chamaea fasciata</i>	wrentit	V
MIMIDAE	THRASHERS	
<i>Mimus polyglottos</i>	northern mockingbird	O,V
<i>Toxostoma redivivum</i>	California thrasher	O,V

Scientific Name	Common Name	Sign
PTILOGONATIDAE <i>Phainopepla nitens</i>	SILKY-FLYCATCHERS Phainopepla	O,V
EMBERIZIDAE <i>Pipilo maculatus</i> <i>Pipilo crissalis</i>	WOOD WARBLERS, TANAGERS & BLACKBIRDS spotted towhee California towhee	V O,V
FRINGILLIDAE <i>Cardodacus mexicanus</i> <i>Carduelis psaltria</i>	FINCHES house finch lesser goldfinch	O,V O,V
CLASS MAMMALIA	MAMMALS	
LEPORIDAE <i>Sylvilagus audubonii</i>	HARES & RABBITS desert cottontail	O
SCIURIDAE <i>Spermophilus beecheyi</i>	SQUIRRELS California ground squirrel	O
GEOMYIDAE <i>Thomomys bottae</i>	POCKET GOPHERS Botta's pocket gopher	O
CANIDAE <i>Canis latrans</i> <i>Urocyon cinereoargenteus</i>	WOLVES & FOXES coyote gray fox	S T
EQUIDAE <i>Equus sp.</i>	HORSES & BURROS domestic horse	T
CERVIDAE <i>Odocoileus hemionus</i>	DEER mule deer	O
O - Observed V - Vocalization T - Tracks S - Scat C - Carcass		

APPENDIX D

**REPORT OF FINDINGS FOR THE
NOVEMBER 1999 CANYON HILLS MANOR
FOCUSED CALIFORNIA GNATCATCHER SURVEYS**

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**REPORT OF FINDINGS
FOR THE 1999 CANYON HILLS
MANOR FOCUSED CALIFORNIA
GNATCATCHER SURVEYS,
ORANGE COUNTY, CALIFORNIA**

Prepared for:

**PARTY PANTRY CATERING
12777 Knott Avenue
Garden Grove, California 92641**

Prepared by:

**CHAMBERS GROUP, INC.
17671 Cowan Avenue, Suite 100
Irvine, California 92614
(949) 261-5414**

November 1999

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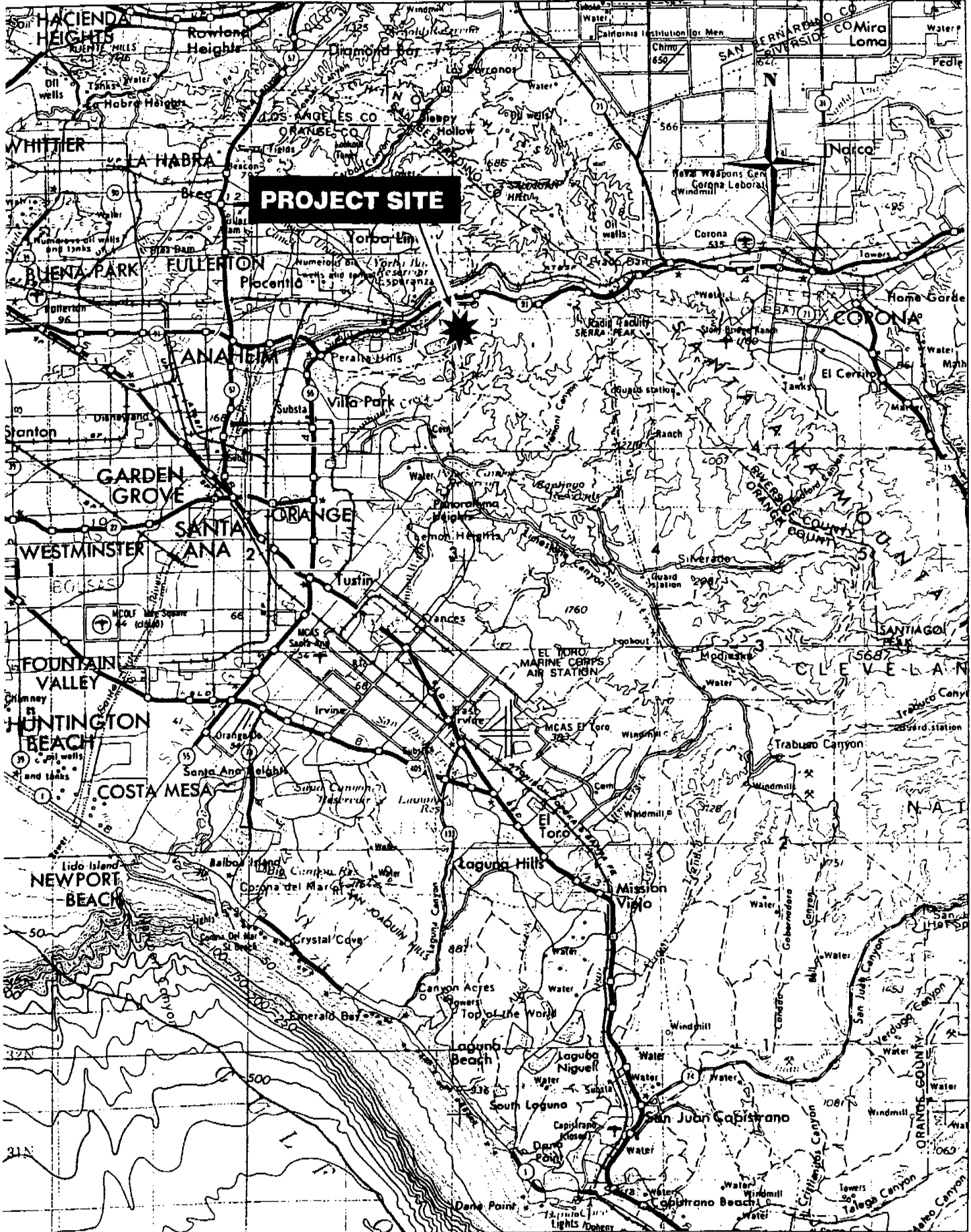
SECTION 1.0 - INTRODUCTION

Chambers Group, Inc., was retained by Party Pantry Catering, to conduct focused coastal California gnatcatcher (*Poliophtila californica californica*) surveys at the approximately 28-acre Canyon Hills Manor Wedding Chapel and Banquet Facility. The site is located in the Anaheim foothills just south of the 91 Freeway in the City of Anaheim, Orange County, California (Figure 1).

The site can be accessed via Santa Ana Canyon Road from the north, a Southern California Edison right-of-way from the east, and a dirt access road from the west (Figure 2). The site is continuous with undeveloped lands to the south. The site falls on non-reserve land within the central and coastal subregion of the NCCP/HCP. A 10-acre vacant parcel is located immediately west of the project site and a Southern California Edison easement, and a commercial center are located east of the site. A dirt access road crosses the mid- and eastern portions of the site and follows the main ridgeline onsite. The site is located on the USGS Orange 7.5-minute topographic quadrangle.

Seven focused surveys were conducted by Chambers Group in 1999. The purpose of this report is to document existing site conditions and the results of the focused surveys for the coastal California gnatcatcher (CAGN).

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SITE LOCATON

Scale: 1" = 2000'
 Source: USGS 7.5 minute topographic quadrangles: Yorba Linda,
 Prado Dam, Orange, Black Star Canyon

**PROJECT SITE
Figure 2**

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SECTION 2.0 - METHODOLOGY

Seven focused California gnatcatcher surveys were conducted every other week at the Canyon Hills Manor site. The surveys were conducted on July 23, August 6, 20, September 3, 17, and October 1 and 15, 1999. The survey team of permitted wildlife biologists included Ms. Stacie Tennant, Ms. Mari Schroeder, Ms. Christine Mukai, Ms. Sophie Chiang, and Mr. Chris Blandford (TE-781217-5, PRT-834489). Weather conditions during the surveys ranged from partly cloudy to clear skies with temperatures ranging from 64°F-89°F. All surveys were conducted between the hours of 6:00 a.m. and 12:00 p.m. and were in accordance with U.S. Fish and Wildlife Service (USFWS) guidelines (1997). The biologists surveyed all potentially suitable habitat utilizing various routes in order to conduct an unbiased presence/absence survey of the Canyon Hills Manor site. Taped vocalizations of the California gnatcatcher were played for 5-15 second durations every 40-80 feet or until an individual was located. Appendix A contains the data sheets from each of the surveys.

SECTION 3.0 - RESULTS

3.1 VEGETATION

The project site, encompassing approximately 28 acres, is primarily composed of coastal sage scrub and annual grassland communities. Portions of the property were mechanically disturbed at some time in the past. Evidence of disturbance in the coastal sage scrub communities includes smaller stature of scrub species, higher percentage of bare ground, and higher frequencies of non-native plant species. Terracing of the slope was also noted in a coast live oak woodland located in the northwest portion of the property.

A total of seven vegetation communities, along with disturbed variations of two of those communities, were identified and are shown on the vegetation communities map (Figure 3). Table 1 provides the acreage and proportions of the site occupied by the various vegetation communities. A list of plant species that were observed during the July 29, 1999 survey is presented in Appendix A. The following sections summarize the principal characteristics of the vegetation communities and general locations within the site.

Table 1
VEGETATION COMMUNITIES OCCURRING AT THE CANYON HILLS MANOR SITE

Vegetation Community	Acres
Mixed Sage Scrub	13.8
Disturbed Mixed Sage Scrub	0.4
California Sagebrush Scrub	2.3
Disturbed California Sagebrush Scrub	0.3
Southern Cactus Scrub	0.5
Toyon-Sumac Chaparral	1.6
Coast Live Oak Woodland	2.6
Annual Grassland	5.5
Ruderal	1.1
Total	28.1

Venturan-Diegan Coastal Sage Scrub Communities

The Venturan-Diegan transitional coastal sage scrub vegetation consists primarily of low, drought-deciduous and evergreen shrubs. It is common in Orange County and is considered to be a transitional association that contains elements of two geographical associations, the Venturan and Diegan coastal sage scrubs. Twelve subcommunities, which are more specific plant associations, have been described within the Venturan-Diegan transitional coastal sage scrub category (County of Orange 1992). Two of these sub-communities, mixed sage scrub and California sagebrush scrub, occur on the project site. Disturbed versions of these sub-communities also occur on the property. Disturbed portions of these communities have a greater presence of exotic species and are, therefore, differentiated as disturbed on the vegetation map.

Mixed Sage Scrub

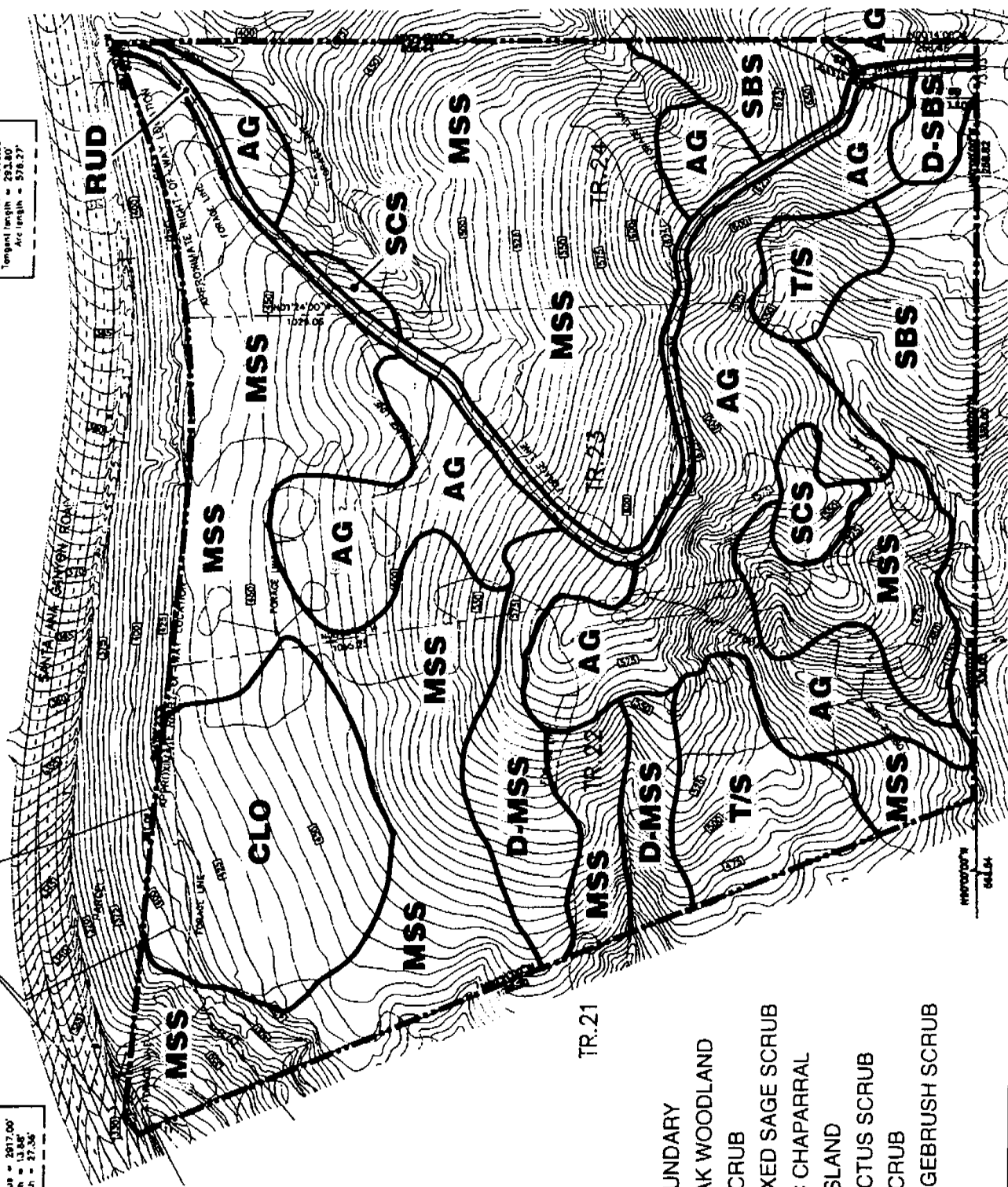
As defined by the County's classification system, a mixed sage scrub sub-community consists of a mix of four or more dominant scrub species. This category applies at the Canyon Hills Manor site in a community that is dominated by California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), black sage (*Salvia mellifera*), and California sagebrush (*Artemisia californica*). Other species which occur in this sub-community include coyote bush (*Baccharis pilularis*) and Mexican elderberry (*Sambucus mexicana*). The mixed sage scrub sub-community is the dominant vegetation community on the project site and covers approximately 13.8 acres.

BOUNDARY CURVE DATA
 Radius = 1200.00'
 Tangent length = 293.840'
 Arc length = 578.27'

BOUNDARY CURVE DATA
 Radius = 2017.00'
 Tangent length = 13.84'
 Arc length = 27.36'



GRAPHIC SCALE
 1" = 196'



- LEGEND:**
- PROPERTY BOUNDARY
 - CLO - COAST LIVE OAK WOODLAND
 - MSS - MIXED SAGE SCRUB
 - D-MSS - DISTURBED MIXED SAGE SCRUB
 - T/S - TOYON-SUMAC CHAPARRAL
 - AG - ANNUAL GRASSLAND
 - SCS - SOUTHERN CACTUS SCRUB
 - SBS - SAGEBRUSH SCRUB
 - D-SBS - DISTURBED SAGEBRUSH SCRUB
 - RUD - RUDERAL

CANYON HILLS MANOR
 VEGETATION COMMUNITIES MAP
 Figure 3

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Disturbed mixed sage scrub occurs in the western portion of the property and comprises approximately 0.4 acres. This community is characterized by the shrubs commonly found in mixed sage scrub communities, but with a high percentage of invasive, non-native species present (>20 percent). Fennel (*Foeniculum vulgare*) is the most common non-native component in this community. Other exotic species include star thistle (*Centaurea melitensis*) and wild oat (*Avena fatua*).

California Sage Brush Scrub

This subcommunity is found at two locations on the southeast corner of the property, totaling approximately 2.3 acres. It differs from other coastal sage scrub subcommunities in that it is composed of a nearly monotypic stand of California sagebrush. Vegetation is dense with little penetration from exotic species.

Disturbed California sagebrush scrub occurs in the extreme southeast corner of the property and totals about 0.3 acres. Star thistle and non-native grasses including red brome (*Bromus madritensis* ssp. *rubens*) and wild oats are common in this area, altering the composition of the subcommunity.

Southern Cactus Scrub

Southern cactus scrub occurs along a trail in the northeastern portion of the property and in a small area in the southern portion of the property. Coastal prickly pear (*Opuntia littoralis*) contributes greater than 50 percent cover in these areas. Other species occurring in this community include California sagebrush and California buckwheat. Southern cactus scrub comprises 0.5 acres on the site.

Annual Grassland

Annual grassland is also a common component of the site, totaling approximately 5.5 acres. This community is composed primarily of annual grasses of mediterranean origin. The most common species found were wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), and red brome. Non-native forbs found in this community include black mustard (*Brassica nigra*) and star thistle. Some areas of the grassland on the site also contain scattered elements of coastal sage scrub, primarily laurel sumac, California sagebrush, and California buckwheat. The coastal sage scrub elements provide less than 10 percent cover within the grassland.

Ruderal

A graded trail ascends to the hilltop near the center of the property from Santa Ana Canyon Road, and continues along the ridgetop in a southeasterly direction. The plant community on and immediately adjacent to the trail is composed almost exclusively of ruderal species including black mustard, star thistle, non-native grasses, and telegraph weed (*Heterotheca grandiflora*). Ruderal areas comprise approximately 1.1 acres on the site.

Toyon-Sumac Chaparral

Toyon-sumac chaparral occurs in two stands on west-facing slopes in the southwest and southeast portions of the property. This community is characterized by large, evergreen shrubs that are adapted to occasional wildfires. Toyon (*Heteromeles arbutifolia*), laurel sumac, and lemonadeberry (*Rhus integrifolia*) are the dominant shrubs in this community. California sagebrush and California buckwheat occur in the understory of the larger shrubs. Toyon-sumac chaparral comprises approximately 1.6 acres on the site.

Coast Live Oak Woodland

A small coast live oak woodland occurs in the northwest corner of the property. This plant community appears to have been planted because the trees are even-aged and occur in rows along a terraced portion of the slope. The dominant species in this community is coast live oak (*Quercus agrifolia*). The oaks form an open canopy over a sparsely vegetated understory composed of non-native grasses and occasional poison oak (*Toxicodendron diversilobum*). The woodland comprises approximately 2.6 acres.

3.2 WILDLIFE

General

The project site is predominantly characterized by coastal sage scrub and non-native annual grassland. Wildlife species occurring within the project site are characteristic of these communities.

The site supports a variety of wildlife species. All wildlife species and wildlife sign (scat, tracks, etc.) encountered during the survey were recorded. No amphibians were observed during the surveys. One reptile species, the western fence lizard (*S. occidentalis*), was observed onsite.

The grassland community on the site provides suitable foraging habitat for a variety of granivorous bird species as well as raptor species. Birds observed in the grassland community included the mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), and bushtit (*Psaltriparus minimus*). Raptor species including the Cooper's hawk (*Accipter cooperii*) and red-tailed hawk (*Buteo jamaicensis*) were observed during the surveys.

Many avian species commonly associated with coastal sage scrub habitat were also observed. Those observed include the greater roadrunner (*Geococcyx californianus*), northern mockingbird (*Mimus polyglottos*), California thrasher (*Toxostoma redivivum*), common raven (*Corvus corax*), spotted towhee (*Pipilo maculatus*), and California towhee (*Pipilo crissalis*).

Two mammal species, the California ground squirrel (*Spermophilus beecheyi*) and desert cottontail (*Sylvilagus audubonii*), were observed during the surveys. Sign, such as burrows, scat, tracks, and carcasses, of several mammal species was detected. Tracks were observed along the dirt access road for the mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), and gray fox (*Urocyon cinereoargenteus*). Several pocket gopher (*Thomomys bottae*) and ground squirrel burrows were also observed.

California Gnatcatcher

The coastal California gnatcatcher was listed as threatened by the U.S. Fish and Wildlife Service (USFWS) in March 1993. The gnatcatcher is a nonmigratory songbird that nests and forages in moderately dense stands of coastal sage scrub occurring on arid hillsides, mesas, and washes. Loss of suitable habitat and fragmentation of habitat from expanding development and agriculture have been a major factor in the decline of this species.

Based on the findings of the focused surveys for the California gnatcatcher, there may be up to three pairs occupying the site and a fourth pair that utilizes the southeast portion of the site for foraging. The estimate of up to 3 pairs occupying the site is only an estimate because the California gnatcatchers present on the site are not color-banded, so it is impossible to distinguish the individuals from one another. The estimate is based on the repeated findings of gnatcatchers in the same areas on subsequent surveys of the site. The majority of California gnatcatchers were found in the mid- and eastern portions of the property. A fourth pair was observed predominately south of the site, but was seen utilizing a small portion of the site for foraging on a few of the surveys. This pair is not within the impact area of the proposed project and is not included in the total number of pairs occupying the site. Figure 4 shows the areas on the site where pairs were repeatedly found.

DATE: 8/22/10
BY: [illegible]
PROJECT: [illegible]

REPLOT - CC - MAX CURVE DATA.C3
Radius = 297.00
Tangent Length = 27.36



GRAPHIC SCALE

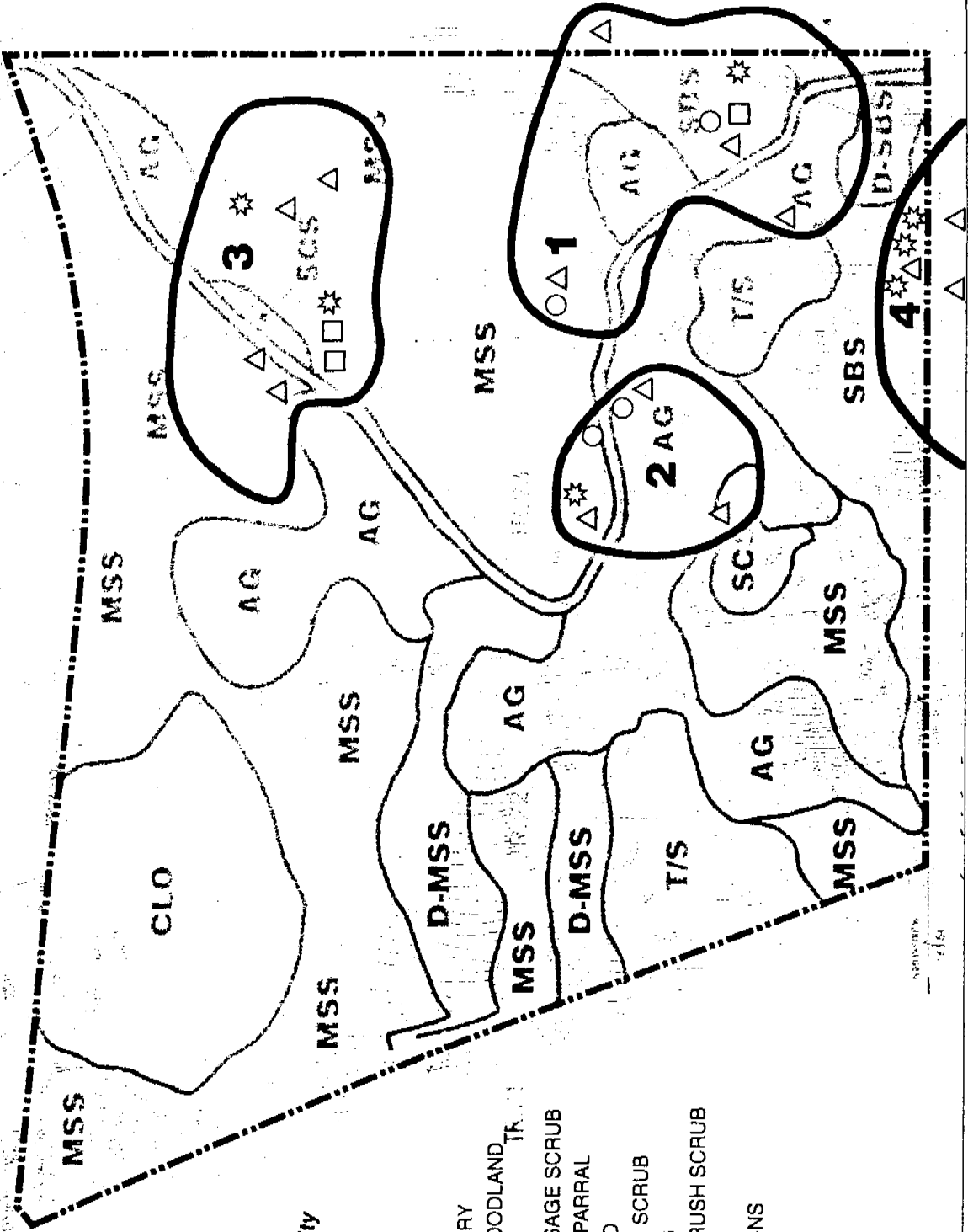


Faded Vegetation Community
in background

LEGEND:

- - - - - PROPERTY BOUNDARY
- CLO - COAST LIVE OAK WOODLAND
- MSS - MIXED SAGE SCRUB
- D-MSS - DISTURBED MIXED SAGE SCRUB
- T/S - TOYON-SUMAC CHAPARRAL
- AG - ANNUAL GRASSLAND
- SCS - SOUTHERN CACTUS SCRUB
- SBS - SAGEBRUSH SCRUB
- D-SBS - DISTURBED SAGEBRUSH SCRUB
- RUD - RUDERAL
- - - - - CAGN PAIR LOCATIONS
- △ - CAGN PAIR
- - MALE CAGN
- - FEMALE CAGN
- ☆ - JUVENILE CAGN

RUD



CANYON HILLS MANOR
COASTAL CALIFORNIA GNATCATCHER LOCATIONS
Figure 4

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The polygons on the map that surround the gnatcatcher sightings do not indicate territory boundaries. They are merely shown to indicate that the biologists observed the gnatcatchers moving in the areas within the polygons. As a result of these sightings, the biologists have determined that 4 pairs utilize all of or a portion of the habitats on the site.

Pair 1 was observed utilizing coastal sage scrub both on and off of the property. The majority of this pair's habitat is located within the project limits. Pair 2 was observed within the mixed sage scrub along the ridgeline near the middle of the site. This pair was also observed foraging in the annual grassland and southern cactus scrub south of the dirt access road. Pair 3 was observed in several locations over the course of the surveys. This was the northernmost pair observed utilizing mixed sage scrub on either side of the dirt access road. The fourth pair was located south of the site, and would cross onto the site only after a taped vocalization was played from within the site boundaries. This pair most likely does not nest onsite and, therefore, is not considered an occupant of the site. Juvenile gnatcatchers were observed in the vicinity of each of the pairs during several of the surveys. The presence of juveniles indicates that California gnatcatchers are actively breeding on the site. Several individuals and pairs were observed utilizing habitats other than coastal sage scrub. These areas included atypical gnatcatcher habitat such as annual grassland, southern cactus scrub, and toyon-sumac chaparral. Presence of gnatcatchers in these areas may be due to individuals searching for mates, dispersal of juveniles, or individuals/pairs foraging for food.

Summary of Findings

Based on the topography, the distribution of suitable coastal sage scrub habitat on the site, and Chambers Group's experience with California gnatcatcher breeding behavior, we estimate that there may be as many as three breeding pairs utilizing the site. An additional pair is located just south of the project boundaries and forages on a portion of the site but is not considered an occupant of the site.

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APPENDIX A
FIELD DATA SHEETS

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Project Name Party Pantry Project # 8229 A Survey Type Bio / Cagn
 Location Anaheim Hills, south of 91 Hwy between Imperial Hwy + Wells Cyn Rd
 Surveyor Mar Schneider Date 7-23-99 Time (Start) 8:30 (End) 11:00 am
 General Habitat Description of Area CSS, nonnative grass

Weather (Cloud cover, Estimated wind speed) Winds 1-2 Clouds 0%, Winds 1-3, clouds 0%
 Temp (Start) 78°F (End) 89°F

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
	Bewicks Wren Lesser Goldfinch Rabbit Sp West Kingbird House Finch Mourning Dove West fence Lizard Tarantula wasp Calif Towhee fox tracks			Started survey at Edison access road + Santa Ana Cyn Rd junction Plants: black sage, cactus, ^{opuntia} tree tobacco, coyote bush, black mustard Calif sagebrush, Everlasting mullet, elderberry, Calif. Buckwheat sweet fennel toyon, native grass star thistle
① 9:10	CAGN	✓		On east edge of site NE facing slope
	Raven			
② 9:15	CAGN	✓		in CSS just east of site's eastern boundary
③ 9:20	CAGN	○	♂ ♀ no bands	CSS on east side of drainage at east end of site Pun banded on tree tobacco plants Toyon, castor bean lemonade berry sugar bush? Eucalyptus trees Encelia, Laurel Sumac Horsehoand, Century plant Giant Wild Rye
	Phainopepla Calif Ground Squirrel Gopher Coyote scat Calif Quail Rabbit Red-tailed hawk Coopers Hawk			
④ 10:05	CAGN	juvenile no bands		mixed CSS at top of NE facing slope. Could hear another to the east

General Comments:

* O=Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

Project Name Party Pantry Page of
 Location Anaheim Hills Project # 8229A Survey Type Bio/CAGN
 Surveyor W. Schneider Date 7-23-99 Time (Start) 8:30 am (End) 11:00 am
 General Habitat Description of Area CSS, nonnative grass

Weather (Cloud cover, Estimated wind speed) 1-2 clouds 0% end winds 1-3 clouds 0%
 Temp (Start) 78°F (End) 89°F

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
5) 10:12	CAGN	♂	No bands	male CAGN just east of juvenile. calling and foraging. Can hear another to the east calling a lot
6) 10:17	CAGN	♂		Another male very close to previous male Both showing black caps No evidence of territorialism
	mockingbird			
	Bushy			
	Anna's Hummer			
7) 10:51	CAGN	♂		male + female answered call came from CSS on slope at SE corner of site
8) 10:57	CAGN	♂		In CSS at SE corner just north and down slope of highest peak adjacent to barbed wire fence just northwest of Edison tower

General Comments:

* O=Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

Project Name Party Party Project # 8229 Survey Type CAGN #2
 Location Anaheim
 Surveyor CLM Date 8-6-99 Time (Start) 08:15 (End) 11:20am
 General Habitat Description of Area CS/AG/oak woodland

Weather (Cloud cover, Estimated wind speed) 100% cloud coverage 4-7 mph
 Temp (Start) 66°F (End) 78°F

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
	NUWO	O, V		
	MOJO	O		
	CATO	V		
	SEJA	O		
	COYOTE	S		
	HOFL	V, O		
	GRRO	O		
	LEGO	O		
	WREN	V		
	CATH	V		
	BUSH	V		
	BASW	O		
	PHAI	O		
	NOMO	O		
	CAGU	O		
09:20	CAGN	O, V	C1 ♀ ♂ in	CS bordering AG at SE edge of property both on + up - ♂ very blue head - no black cap
	CLSW	O	C2	pair heard in CS patch S of property
	collared	O		
	milk deer	S		
	CORA	O, V		
	JUVU	O		
	SPTD	V		
	BLPH	O		
10:00	CAGN	O, V	C3	AG/CS very disturbed w/ B mustard + thistle. Only ♀ seen - ♂ heard off property

General Comments:
 1 pair on property
 2 pairs off

* O=Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

Project Name Party Entry Project # 8229 Survey Type CAGN #3
 Location Anaheim
 Surveyor CLM/DAC Date 8-20-99 Time (Start) 07:30 (End) 10:15
 General Habitat Description of Area CSS/m-CSS/Ag/oak woodland

Weather (Cloud cover, Estimated wind speed) 100% cloud coverage 8-20 90% clear
 Temp (Start) 64°F (End) 78°

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
	HOFI	OV		
	CAIOF	O, V		
	CATH	O, V		
	horse	T		
	cowbird	S, T		
C1	CAGN	V	pair	in very disturbed CSS/off E side of property. lots of mistle some baccharis
	COHA	O		1 ♂ + 2 does seen on site
	mule deer	S		
	AMCR	O		
	PHAI	O		
	WREN	OV		
	KONO	O		
	MADO	O		
	cottontail	O		
	LEGO	O		
	SCJA	OV		
	CARU	O, V		
	tarantula			
C2	CAGN	V		off SE part of property in CSS
C3	CAGN	VO		pair of in oldberry. ♀ vocal to east
	CERO	O		
	w. knee bird	O		
	SPTC	V		
	NOFL	O		red-shafted
	ANHU	O		
C4	CAGN	V	2 pairs of juveniles	of road in 1 st drainage across from CSS 1 very squeaky call 1 lower near juncture of the 2 drainages Mari-noted juvenile in area earlier -Never saw either gnatcatcher

General Comments:

Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

Project Name Party Party Project # 8729 Survey Type CAGN #44
 Location Anaheim Hills
 Surveyor CLM/SAT Date 9-3-99 Time (Start) 07:45 (End) 10:05
 General Habitat Description of Area CSS/AG

Weather (Cloud cover, Estimated wind speed) 50% cc / 0-2 mph
 Temp (Start) 69°F (End) 78°F

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
07:45	CATT	V O		
	CATO	V		
	MOLD	O		
	AMCK	O		
	LEGO	O, V		
	MOMO	O		
	CAKI	O		
08:10	CAGN	O, V	CSS/AGs	W of trail ♂♀ - cap observed on ♂
	collared	O		
	SSJA	V		
	CAGU	V		
	coyote	S, O		
	SOSP	O		
	WREN	V		
	BEWR	O		
	ANHU	O		
	HOFI	O		
	CCWR	O, V		
	GKRO	O		
	COKA	O, V		
	TUVU	O		
	BUSH	O		
	Bscoax	T		
2	CAGN	O	in AG/CSS	offsite E. of drainage + property boundaries. 1 ♀ near top / underbrush at bottom. - Both probably use property as well.

General Comments:

*Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=fur

Project Name Partry Partry Project # 8229 Survey Type CAGN #5
 Location Alabam
 Surveyor SAT, CLM Date 9/17/99 Time (Start) 7:45am (End) 12:00
 General Habitat Description of Area MSS

Weather (Cloud cover, Estimated wind speed) 100% / 1 mph ^{start} cloud ^{end} 1 mph
 Temp (Start) 66° (End) 76°

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
	BLTE	V		
	URENTIT	V		
	COBNTAIL	O		
	ANNA'S	V		
	CATH	V		
	AMCR	O		
	BEWR	V		
	CATO	V		
	CAVTE	S		
9:00	CAGN	O, V		just off site - observed 2 CAGN'S in 2 different locations one in MSS, other in Mustard but MSS just below
9:25	CAGN	O, V	MSS (S1)	observed 3 ^{juvenile} CAGN'S in Mustard ^{disturb} area then flew to MSS, near T/S.
	SCJA	O		
	HUEI	O		
	RCSP	V		
	GROW	O		
	SPTO	V		
	CAW	V		
	NMO	O, V		
	COHA	O		
	DOCKT	O		
10:40	CAGN	O, V	(S2) MSS	Responded to tape 100% CAGN observed pair in MSS
	SSHA	O		
	PARA	O		
	OSOREY	O		
	RTHA	FE		
	TV	O		
	NMWO	O		

General Comments:
 11:15 CAGN ✓ (S3) had CAGN vocalizing
 11:45 CAGN ✓ (S4) " " "

* O=Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

Project Name Party Party Project # 9229 Survey Type CAGN #6
 Location Arden Hills
 Surveyor ST MS SC Date 10/1/99 Time (Start) 7:45 am (End) 12:30 pm
 General Habitat Description of Area CSS

Weather (Cloud cover, Estimated wind speed) clear (0%) , 0-1 mph end - 5 to 10 mph
 Temp (Start) 66° (End) 93°

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
	WICS	O, V		
	SCAL	O		
	SPTO	V		
	CATO	O, V		
	ANHL	O		
	SCSA	V		
	WFT	V		
	MJQ	O		
	BUTE	V		
	AMCR	O		
8:35	(CAGN)	O, V	(S1)	responded to tape, observed 1 heard pair of CAGNs in disturbed CSS dominated by ARCAL assoc. w. Baccharis hirtellaris Bromo-da-nica, Melospiza laurina, 10-20% cover, N-facing slope
	COTTON TAIL	rabbit	O	
	NOEL	O		
	BEWR	V		
	LEGO	V		
	URAWIT	V		
	CATH	O		
	BLPH	O		
9:40	(CAGN)	V	(S2)	heard CAGN vocalizing on steep slope in and around SCS. Heard CAGN on slope
	PCS	O		
10:30	(CAGN)	O, V	(S2)	in + around MSS + SCS. responded to tape, MSS observed on steep MSS dominated by ARCAL BS assoc. Pines + white birch on N-facing slope. view across road to AG + SCS on S-facing slope

General Comments:
 view across road to
 AG + SCS on S-facing slope

* O=Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

Project Name: Partly Raptor Project # 8227 Survey Type: Area
 Location: Arizona Surveyor: SAT WJC Date: 10/15/99 Time (Start): 9:00 (End): 11:00
 General Habitat Description of Area: MSS

Weather (Cloud cover, Estimated wind speed): 100% / 0-1 mph ²¹⁰⁺ ₂₀₀
 Temp (Start): 100° (End): 116°

Time	Wildlife Species	Sign*	Microhabitat	Behavior/Comments
	AMCR	O, V		
	CONDG	S		
	RATO	V		
	PHHL	V		
	BELE	V		
	HOFT	O, V		
	CATH	O, V		
	SCJA	V		
	COHA	O		
	CORA	O		
	URTH	V		
	NOMU	O		
	GRLE owl	O		
	Western sp. re.	O	log	
	RTLD	O		
	MORD	O		
	Ar. m. blue	O		
	TV	O		
	Eastern Cottontail	O		
0:25	CAEN	O, V	MSS (SI) ERFA, AREA Opuntia Cerephalium California	CAEN responded to tape in MSS observed on slopes above drainage on SE facing slope very local drainage has also a Matosa Rhus - right near SLS. + heteromeres arbuticola ↓ slopes have lots of this also robarto

General Comments:

* O=Observed, T=Tracks, S=Scat, V=Vocalization, B=Burrow, C=Carcass, N=Nest, Fe=Feathers, Fu=Fur

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APPENDIX B

**PLANT SPECIES OBSERVED
AT CANYON HILLS MANOR**

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Appendix B
Plant Species Observed at Canyon Hills Manor

Scientific Name	Common Name
VASCULAR PLANTS	
ANGIOSPERMS (DICOTYLEDONS)	
ANACARDIACEAE	SUMAC OR CASHEW FAMILY
<i>Malosma laurina</i>	Laurel sumac
<i>Rhus integrifolia</i>	Lemonadeberry
<i>Toxicodendron diversilobum</i>	Poison oak
APIACEAE	CARROT FAMILY
<i>Foeniculum vulgare*</i>	Fennel
ASTERACEAE	SUNFLOWER FAMILY
<i>Artemisia californica</i>	California sagebrush
<i>Baccharis pilularis</i>	Coyote brush
<i>Baccharis salicifolia</i>	Mule fat
<i>Centaurea melitensis*</i>	Tocalote
<i>Encelia californica</i>	California bush sunflower
<i>Gnaphalium californicum</i>	California everlasting
<i>Gnaphalium canescens</i> ssp. <i>beneolins</i>	Felty everlasting
<i>Hemizonia</i> sp.	Tarplant
<i>Heterotheca grandiflora</i>	Telegraph weed
<i>Isocoma menziesii</i>	Coastal goldenbush
<i>Lactuca serriola*</i>	Prickly lettuce
<i>Lessingia filaginifolia</i>	Cudweed aster
BRASSICACEAE	MUSTARD FAMILY
<i>Brassica nigra*</i>	Black mustard
<i>Hirshfeldia incana*</i>	Short-podded mustard
CACTACEAE	CACTUS FAMILY
<i>Opuntia littoralis</i>	Coastal prickly pear
CAPRIFOLIACEAE	HONEYSUCKLE FAMILY
<i>Sambucus mexicana</i>	Mexican elderberry
CHENOPODIACEAE	GOOSEFOOT FAMILY
<i>Salsola tragus*</i>	Russian thistle
CUCURBITACEAE	GOURD FAMILY
<i>Cucurbita foetidissima</i>	Coyote melon
EUPHORBIACEAE	SPURGE FAMILY
<i>Ricinus communis*</i>	Castor-bean
FABACEAE	LEGUME FAMILY
<i>Lotus scoparius</i>	Deerweed
FAGACEAE	OAK FAMILY
<i>Quercus agrifolia</i>	Coast live oak
LAMIACEAE	MINT FAMILY
<i>Marrubium vulgare*</i>	Horehound
<i>Salvia mellifera</i>	Black sage
MYRTACEAE	MYRTLE FAMILY
<i>Eucalyptus</i> sp.	Eucalyptus

Scientific Name	Common Name
POLYGONACEAE	BUCKWHEAT FAMILY
<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Rumex crispus</i>	Curly dock
RHAMNACEAE	BUCKTHORN FAMILY
<i>Rhamnus ilicifolia</i>	Holly-leaf redberry
ROSACEAE	ROSE FAMILY
<i>Heteromeles arbutifolia</i>	Toyon
RUBIACEAE	MADDER FAMILY
<i>Galium angustifolium</i>	Narrow-leaved bedstraw
SCROPHULARIACEAE	FIGWORT FAMILY
<i>Mimulus aurantiacus</i>	Monkeyflower
SOLANACEAE	NIGHTSHADE FAMILY
<i>Nicotiana glauca*</i>	Tree tobacco
ANGIOSPERMS (MONOCOTYLEDONS)	
LILIACEAE	LILY FAMILY
<i>Agave americana</i>	Century plant
POACEAE	GRASS FAMILY
<i>Avena fatua*</i>	Wild oat
<i>Bromus diandrus*</i>	Ripgut grass
<i>Bromus madritensis ssp. rubens*</i>	Foxtail chess
<i>Leymus condensatus</i>	Giant wild rye
<i>Nassella sp.</i>	Needlegrass

APPENDIX C

**WILDLIFE SPECIES OBSERVED
AT CANYON HILLS MANOR**

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Appendix C
Wildlife Species Observed at Canyon Hills Manor

Scientific Name	Common Name	Sign
CLASS INSECTA	INSECTS	
<i>Hemipepsis</i> spp.	Tarantula hawk	O
CLASS REPTILIA	REPTILES	
IGUANIDAE	IGUANID LIZARDS	
<i>Sceloporus occidentalis</i>	western fence lizard	O
CLASS AVES	BIRDS	
CATHARTIDAE	NEW WORLD VULTURES	
<i>Cathartes aura</i>	turkey vulture	O
ACCIPITRIDAE	HAWKS	
<i>Accipiter cooperii</i>	Cooper's hawk	O
<i>Buteo jamaicensis</i>	red-tailed hawk	O
PHASIANIDAE	PHEASANTS & QUAILS	
<i>Callipepla californica</i>	California quail	O,V
COLUMBIDAE	PIGEONS & DOVES	
<i>Columba livia</i>	rock dove	O
<i>Zenaida macroura</i>	mourning dove	O,V
CUCULIDAE	CUCKOOS & ROADRUNNERS	
<i>Geococcyx californianus</i>	greater roadrunner	O
TROCHILIDAE	HUMMINGBIRDS	
<i>Calypte anna</i>	Anna's hummingbird	O,V
PICIDAE	WOODPECKERS	
<i>Picoides nuttallii</i>	Nuttall's woodpecker	O,V
<i>Colaptes auratus</i>	northern flicker	O
TYRANNIDAE	TYRANT FLYCATCHERS	
<i>Sayornis nigricans</i>	black phoebe	O
<i>Tyrannus verticalis</i>	western kingbird	O,V
HIRUNDINIDAE	SWALLOWS	
<i>Hirundo pyrrhonota</i>	cliff swallow	O
<i>Hirundo rustica</i>	barn swallow	O
CORVIDAE	JAYS & CROWS	
<i>Aphelocoma coerulescens</i>	scrub jay	O,V
<i>Corvus brachyrhynchos</i>	American crow	O,V
<i>Corvus corax</i>	common raven	O,V
AEGITHALIDAE	BUSHTITS	
<i>Psaltriparus minimus</i>	bushtit	V
TROGLODYTIDAE	WRENS	
<i>Thryomanes bewickii</i>	Bewick's wren	O,V
MUSCICAPIDAE	KINGLETS, GNATCATCHERS, & BABBLERS	
<i>Polioptila californica</i>	California gnatcatcher	O,V
<i>Chamaea fasciata</i>	wrentit	V
MIMIDAE	THRASHERS	
<i>Mimus polyglottos</i>	northern mockingbird	O,V
<i>Toxostoma redivivum</i>	California thrasher	O,V

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APPENDIX E

**14% GRADE MINIMIZED
ALTERNATIVE DESCRIPTION**

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APPENDIX E

THE 14% GRADE MINIMIZED ALTERNATIVE

ALTERNATIVE DESCRIPTION

The 14 percent Grade Minimized Alternative for the Canyon Hills Manor project consists of the same development components as the Proposed Project (wedding/banquet facility and associated road, parking, maintenance structure and landscaping areas), but it incorporates a 14 percent grade access road rather than a 10 percent grade access road (Proposed Project). The redesign with the 14 percent grade access road allows for a minimized project footprint, less grading, and fewer impacts to native vegetation communities than the Proposed Project. Grading of the site will encompass approximately 13.0 acres and will include approximately 235,000 cy of raw cut, 50,000 cy of raw fill, and 185,000 cy of export. This alternative does not include any grading for the potential future widening of Santa Ana Canyon Road. Figure E-1 shows the project footprint and fuel modification zone for the 14 percent Grade Minimized Alternative. This alternative was designed in response to comments from the U.S. Fish and Wildlife Service (USFWS) biologists on the Proposed Project design. After visiting the site, the USFWS biologists requested that the Project Proponent attempt to redesign the project to minimize the impacts of the project on the resident California gnatcatchers. This 14 percent Grade Minimized Alternative avoids more of the designated critical habitat for the California gnatcatcher and, as a result of the smaller project design, will affect fewer gnatcatchers than the Proposed Project.

PROJECT DESIGN FEATURES

The 14 percent Grade Minimized Alternative includes similar avoidance, minimization, and offsetting measures as the Proposed Project (described in Section 2.3). These features include the preservation of existing habitats, enhancement of disturbed habitats, revegetation of non-native habitats with native plant species, timing of construction, and biological monitoring during and after construction. The primary difference in the project design features for the 14 percent Grade Minimized Alternative includes a variation in the number of acres of preserved, enhanced, and revegetated coastal sage scrub habitat. These differences are described below. The features that are the same as the Proposed Project can be found in Section 2.3.

IMPACTS OF THE 14% GRADE MINIMIZED ALTERNATIVE

Direct Effects

Table E1 lists the acres of each vegetation community affected by the 14 percent Grade Minimized Alternative. In addition, the table also includes the acres of each vegetation community that would be affected by the Proposed Project. This is provided in order to show the differences in the impacts of the two project design alternatives.

**Table E-1
Existing Vegetation Communities and Impacts of the 14%
Grade Minimized Alternative for the Canyon Hills Manor Project**

Vegetation Community	Existing Plant Communities (Acres)	Proposed Project (Acres)	14% Grade Minimized Alternative (Acres)
Mixed Sage Scrub	13.8	---	5.9
Disturbed Mixed Sage Scrub	1.6	---	1.0
California Sagebrush Scrub	2.3	---	1.0
Disturbed California Sagebrush Scrub	0.3	---	
Total - Venturan-Diegan Coastal Sage Scrub Communities	18.0	11.1	7.9
Southern Cactus Scrub	0.5	0.5	0.3
Toyon-Sumac Chaparral	1.6	0.8	0.2
Coast Live Oak Woodland	2.6	0.4	0.3
Annual Grassland	5.5	5.3	3.8
Ruderal	0.8	0.8	0.5
Total	29.0	18.9	13.0

Coastal Sage Scrub

Implementation of the 14 percent Grade Minimized Alternative would affect approximately 7.9 acres of Venturan-Diegan coastal sage scrub communities, including 5.9 acres of mixed sage scrub, 1.0 acres of disturbed mixed sage scrub, and 1.0 acres of California sagebrush scrub. Approximately 10.3 acres of coastal sage scrub/southern cactus scrub vegetation will be preserved with this alternative. The mitigation for impacts of this alternative includes the revegetation of approximately 5.0 acres of coastal sage scrub vegetation on the graded slopes and in areas that are currently covered by non-native annual grasslands. In addition, it also includes the enhancement of 1.0 acre of disturbed mixed sage scrub. The total acres of coastal sage scrub present on the site after the implementation of the 14 percent Grade Minimized Alternative and the revegetation/enhancement program will be 16.1 acres (Table E2). In order to compensate for the loss of 2.2 acres of coastal sage scrub/southern cactus scrub that will not be revegetated onsite, a sum of \$110,000.00 will be paid into the Natural Communities Conservation Planning Program in the County of Orange. This sum is based on the fee of \$50,000.00/acres of impacts to occupied gnatcatcher habitat. The City of Anaheim is a participant in the NCCP Program. The proposed mitigation (habitat preservation/revegetation/enhancement and NCCP contribution) constitutes a mitigation ratio of approximately 2 to 1 for the impacts to 8.3 acres.

Table E-2
14% Grade Minimized Alternative – Onsite Acres of Preserved,
Revegetated, and Enhanced Native Plant Communities

Vegetation Community	Existing Plant Communities (Acres)	Preserved Areas	Revegetated Areas	Enhanced Areas	Total Acres
Venturan-Diegan Coastal Sage Scrub Communities	18.0	10.1	5.0	1.0	16.1
Southern Cactus Scrub	0.5	0.2	0.0*	0.0*	0.2*
Toyon-Sumac Chaparral	1.6	1.4	0.0	0.0	1.4
Coast Live Oak Woodland	2.6	2.3	0.0	0.0	2.3
Total	29.0	14.0	5.0	1.0	20.0
* Cactus will be included in the plant palette for the coastal sage scrub revegetation and enhancement					

Southern Cactus Scrub

Implementation of the 14 percent Grade Minimized Alternative will affect approximately 0.3 of the 0.5 acres of southern cactus scrub present on the site. As part of the mitigation for this alternative, cactus will be included in the plant palette for the revegetated and enhanced areas. Following the implementation of the revegetation/enhancement program, the site will not only support the 0.2 acres of preserved southern cactus scrub, but it will also include large patches of cactus located within the coastal sage scrub revegetation and enhancement areas.

Toyon-Sumac Chaparral

Approximately 0.2 acres of the existing 1.6 acres of toyon-sumac chaparral will be affected by the 14 percent Grade Minimized Alternative. This community is not considered sensitive so it will not be included as part of the revegetation/enhancement program. Approximately 1.4 acres of this community will be preserved with the implementation of this alternative.

Coast Live Oak Woodland

Implementation of the 14 percent Grade Minimized Alternative will affect approximately 0.3 acres of the 2.6 acres of coast live oak woodland located on the project site. The minimal impacts to this community should not diminish the value of the trees on the site, particularly because this oak woodland community was obviously planted by humans. Approximately 2.3 acres of this community will remain on the site following the construction of this alternative.

Annual Grassland and Ruderal Areas

The implementation of the 14 percent Grade Minimized Alternative will result in the loss of 3.8 acres of non-native annual grasslands and 0.5 acres of ruderal areas. The remaining annual grassland and ruderal areas (4.3 acres) will be included as part of the revegetation areas and will be replaced with coastal sage scrub vegetation.

Endangered, Threatened, or Proposed Species

Plant Species

Like the Proposed Project, implementation of the 14 percent Grade Minimized Alternative is not expected to affect any listed or otherwise sensitive plant species. Listed species with a potential to occur on the proposed project site either were not observed during surveys of the site, or no habitat exists on the site for the species. The CMMP and enhancement of vegetation communities onsite could benefit these species by providing a regional increase in the amount of coastal sage scrub habitats available.

Wildlife Species

Because habitat for the least Bell's vireo and the Quino checkerspot butterfly does not occur on the project site, these species would not be affected by the 14 percent Grade Minimized Alternative. This alternative would only affect the California gnatcatchers that are present on the site.

The 14 percent Grade Minimized Alternative will affect approximately 7.9 acres of designated critical habitat for the California gnatcatcher and 0.3 acres of southern cactus scrub that occurs within the critical habitat. This alternative will preserve 10.1 acres of the critical habitat on the site. As discussed in Section 4 of the Biological Assessment, a territory/home range study was not conducted on the site, so it would be inappropriate to discuss impacts to gnatcatcher territories. Rather, it would be more appropriate to say that 7.9 acres of occupied habitat that potentially supports 3 pair of gnatcatchers will be removed by this alternative. Far less grading is required by this alternative and, as a result, there will be less habitat removed, less area that will require revegetation, and less temporal loss of gnatcatcher habitat. This alternative will affect 3.7 acres less of occupied gnatcatcher habitat and it will preserve 3.2 more acres than the Proposed Project. The revegetation/enhancement plan for this alternative will restore 5.0 acres of coastal sage scrub after grading is completed and will enhance 1.0 acres of disturbed coastal sage scrub areas. As a result, the site will support 16.1 acres of coastal sage scrub following the implementation of the 14 percent Grade Minimized Alternative and the associated revegetation/enhancement plan.

Indirect Effects

Vegetation

Indirect effects of the 14 percent Grade Minimized Alternative on the preserved vegetation communities are expected to be the same, although somewhat less, as those described for the Proposed Project. These effects include erosion, dust, and potential invasion by non-native plant species. The project design features include measures to minimize the indirect impacts of implementation of this alternative.

Wildlife

Indirect effects of the 14 percent Grade Minimized Alternative on the common species of wildlife are expected to be the same as those described for the Proposed Project. The measures included as part of the project design features will serve to minimize the indirect impacts of this alternative.

Endangered, Threatened, and Proposed Species

Vegetation

Indirect effects on listed plants would not be expected to occur as a result of the 14 percent Grade Minimized Alternative because no listed species of plants occur on the project site.

Wildlife

The grading and construction activities associated with the construction of this alternative could indirectly affect gnatcatchers on the site. These effects could result from increased noise, traffic, and dust. These effects would be short-term and temporary. Once the construction is complete, and the facility is used by the public, the effects on gnatcatchers are expected to be minimal.

DETERMINATION AND CONCLUSIONS

DETERMINATION

The 14 percent Grade Minimized Alternative for the Canyon Hills Manor Project includes grading and construction and the revegetation/enhancement of native coastal sage scrub habitats that will be suitable for use by the coastal California gnatcatcher and other sensitive species. Implementation of this alternative could result in a "may effect" determination to the coastal California gnatcatcher due to the temporary loss of 8.2 acres of coastal sage scrub/southern cactus scrub habitat that is also designated critical habitat for the species. The project includes preserving 10.3 acres, revegetating 5.0 acres, and enhancing 1.0 acre on the site with coastal sage scrub/southern cactus scrub habitat. Once the habitat revegetation/enhancement program is completed on the site, the site will support 16.3 acres of coastal sage scrub/southern cactus scrub. This is only 2.2 acres less than was present on the site prior to the project implementation. A contribution of \$50,000.00/acres for the 2.2 acres lost (\$110,000.00) as a result of the development will be made into the Natural Communities Conservation Plan (NCCP) in Orange County. The proposed mitigation (habitat preservation/revegetation/enhancement and NCCP contribution) constitutes a mitigation ratio of approximately 2 to 1 for the impacts to 8.3 acres.

The project may result in impacts three pairs of gnatcatchers that may possibly be displaced prior to the completion of the coastal sage scrub revegetation/enhancement program. The impacts to these gnatcatchers will result in a temporary loss of 8.2 acres of habitat. The remaining 10.3 acres of preserved occupied habitat will continue to provide habitat for the resident gnatcatchers. The project may also indirectly impact one additional pair of gnatcatchers located along the southern boundary of the site as a result of noise, dust, and increased presence of humans. The impacts related to dust and noise are expected to be temporary and should be eliminated following the completion of construction.

CONCLUSIONS

Upon completion of the revegetation/enhancement program, approximately 16.3 acres of coastal sage scrub/southern cactus scrub will exist within the boundaries of the project site. A monetary contribution of \$110,000.00 will be made to the NCCP to compensate for the loss of 2.2 acres of coastal sage scrub/southern cactus scrub that will not be revegetated onsite. The preservation of native habitat combined with the ultimate revegetation of the site will likely result in gnatcatchers occupying all of the available habitat on the site. In addition, the low level of disturbance on the site following the completion of construction (periodic usage for wedding/banquet activities) will likely be compatible with the continued breeding and foraging activities of the site by gnatcatchers.

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