Appendix B

Biological Resources Technical Report

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HELIX
Environmental Planning

McClellan-Palomar Airport Master Plan

DRAFT

Biological Resources Technical Report

November 1, 2017

Stacy Nigro
County-approved Biological Resources Consultant

Prepared for:
County of San Diego
Department of Public Works
5510 Overland Avenue, Suite 410
San Diego, CA 92123-1239

Prepared by:
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La Mesa, CA 91942

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McClellan-Palomar Airport Master Plan

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TABLE OF CONTENTS

Section **Page**

SUMMARY S-1

1.0 INTRODUCTION 1
- 1.1 Purpose of the Report 1
- 1.2 Project Location and Description 1
  - 1.2.1 Project Location 1
  - 1.2.2 Project Description 2
- 1.3 Methods 6
  - 1.3.1 Literature Review 6
  - 1.3.2 General Biological Surveys 6
  - 1.3.3 Focused Species Surveys 9
  - 1.3.4 Vernal Pool Mapping 9
  - 1.3.5 Wildlife Hazard Assessment
  - 1.3.6 Survey Limitations 10
  - 1.3.7 Nomenclature 10
- 1.4 Environmental Setting 10
  - 1.4.1 Regional Context 10
  - 1.4.2 General Land Uses 11
  - 1.4.3 Disturbance 11
  - 1.4.4 Topography and Soils 12
  - 1.4.5 Vegetation Communities/Land Use Types 12
  - 1.4.6 Flora 15
  - 1.4.7 Fauna 16
  - 1.4.8 Sensitive Vegetation Communities/Habitat Types 16
  - 1.4.9 Special Status Plant Species 16
  - 1.4.10 Special Status Animal Species 18
  - 1.4.11 Jurisdictional Waters and Wetlands 20
  - 1.4.12 Habitat Connectivity and Wildlife Corridors 21
- 1.5 Applicable Regulations 22
  - 1.5.1 Federal Government 23
  - 1.5.2 State of California 24
  - 1.5.3 County of San Diego 27

2.0 PROJECT EFFECTS 27
- 2.1 Special Status Species 28
  - 2.1.1 Special Status Plant Species 28
  - 2.1.2 Special Status Animal Species 28
- 2.2 Riparian Habitat or Sensitive Natural Community 29
- 2.3 Jurisdictional Wetlands and Waterways 30

TABLE OF CONTENTS (cont.)

Section		Page
2.0	PROJECT EFFECTS (cont.)	
	2.4 Wildlife Movement and Nursery Sites	31
	2.5 Indirect Impacts	31
3.0	SPECIAL STATUS SPECIES	32
	3.1 Guidelines for Determining Significance	32
	3.2 Analysis of Project Effects	33
	3.3 Cumulative Impact Analysis	35
	3.4 Mitigation Measures and Design Considerations	35
	3.5 Conclusion	37
4.0	RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY	37
	4.1 Guidelines for Determining Significance	37
	4.2 Analysis of Project Effects	38
	4.3 Cumulative Impact Analysis	39
	4.4 Mitigation Measures and Design Considerations	39
	4.5 Conclusion	40
5.0	JURISDICTIONAL WETLANDS AND WATERWAYS	40
	5.1 Guidelines for Determining Significance	40
	5.2 Analysis of Project Effects	40
	5.3 Cumulative Impact Analysis	41
	5.4 Mitigation Measures and Design Considerations	41
	5.5 Conclusion	41
6.0	WILDLIFE MOVEMENT AND NURSERY SITES	41
	6.1 Guidelines for Determining Significance	41
	6.2 Analysis of Project Effects	42
	6.3 Cumulative Impact Analysis	43
	6.4 Mitigation Measures and Design Considerations	44
	6.5 Conclusion	44
7.0	LOCAL POLICIES, ORDINANCES, AND ADOPTED PLANS	44
	7.1 Guidelines for Determining Significance	44
	7.2 Analysis of Project Effects	45
	7.3 Cumulative Impact Analysis	47
	7.4 Mitigation Measures and Design Considerations	47
	7.5 Conclusion	48

TABLE OF CONTENTS (cont.)

Section		Page
8.0	SUMMARY OF PROJECT IMPACTS AND MITIGATION	48
9.0	LIST OF PREPARERS AND PERSONS/ORGANIZATIONS CONTACTED	56
10.0	REFERENCES	57

LIST OF APPENDICES

A Plant Species Observed
B Animal Species Observed or Detected
C Sensitive Plant Species with Potential to Occur
D Sensitive Animal Species with Potential to Occur
E Explanation of Status Codes for Plant and Animal Species
F Representative Site Photographs
G-1 California Gnatcatcher 2016 Survey Report
G-2 2016-2017 Wet Season San Diego and Riverside Fairy Shrimp Survey Report
H Draft North County MSCP Designations for McClellan-Palomar Airport
I Wildlife Hazard Management Plan

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

No.	Title	Follows Page
1	Regional Location Map	2
2	Project Vicinity (Aerial Photograph)	2
3	Project Vicinity (USGS Topography)	2
4	Site Plan	2
5	MSCP Regional Context	10
6	Soils	12
7	Vegetation and Sensitive Biological Resources	12
8	Vernal Pools	20
9	USFWS Critical Habitat	24
10	Vegetation and Sensitive Biological Resources/Impacts	28
11	Vernal Pools/Impacts	30

LIST OF TABLES

No.	Title	Page
1	Biological Surveys	7
2	Soil Types Mapped on Site.	12
3	Existing Vegetation Communities/Land Use Types Occurring within the Study Area	13
4	Vernal Pools within the Study Area	20
5	Vegetation Communities/Habitat Types Impacts	30
6A	Scenario 1: Summary of Vegetation Communities Impacts and Mitigation if NC MSCP is Adopted at Time of Project-Specific Implementation	49
6B	Scenario 2: Summary of Vegetation Communities Impacts and Mitigation if NC MSCP is not Adopted at Time of Project-Specific Implementation	50
7	Summary of Biological Resources Mitigation Measures	51

SUMMARY

At the request of the County of San Diego Department of Public Works, HELIX Environmental Planning, Inc. (HELIX) has completed this biological resources technical report for the proposed McClellan-Palomar Airport Master Plan. The McClellan-Palomar Airport Master Plan is a phased 20-year strategy to prioritize projects at the airport. The Master Plan uses technical studies, forecast data, Federal Aviation Administration design engineering standards, and public involvement to support the modernization of the airport while maximizing use of the existing airport property.

The purpose of this report is to document the existing biological conditions within the study area and provide an analysis of potential impacts to sensitive biological resources with respect to local, state, and federal policy. The study area totals 248.5 acres, composed of the 231.1-acre active airfield area and a 17.4-acre area herein referred to as the eastern parcel. This report provides the biological resources technical documentation necessary for review under the California Environmental Quality Act.

HELIX biologists conducted wildlife hazard assessment surveys in 2013-2014, general biological surveys, rare plant surveys, and protocol-level surveys for coastal California gnatcatcher (*Polioptila californica californica*) in 2016, and vernal pool mapping and wet season fairy shrimp surveys in winter 2016-spring 2017. Previous wet season surveys were conducted by LSA and Associates in 2006, and dry season fairy shrimp sampling was conducted in 2005 by Ecological Restoration Service, and again in 2008 by RECON.

The study area contains eight vegetation communities/land use types: vernal pool, southern maritime chaparral, Diegan coastal sage scrub, granitic chamise chaparral, non-native grassland, non-native vegetation, disturbed habitat, and developed lands.

Eight special status plant species were observed in the study area: ashy apikemoss (*Selaginella cinerascens*), Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), Nuttall's scrub oak (*Quercus dumosa*), Palmer's grapplinghook (*Harpagonella palmeri*), San Diego thornmint (*Acanthomintha ilicifolia*), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), vernal barley (*Hordeum intercedens*), and western dichondra (*Dichondra occidentalis*).

Two special status animal species were detected on or directly adjacent to the study area: California horned lark (*Eremophila alpestris actia*) and coastal California gnatcatcher.

The study area supports waters of the U.S. subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the federal Clean Water Act (CWA); waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board pursuant to Section 401 of the CWA and/or Porter-Cologne Water Quality Act; and on the eastern parcel, an unvegetated stream channel subject to the regulatory jurisdiction of the California Department of Fish and Wildlife pursuant to Section 1600 *et seq*. of California Fish and Game Code.

The study area occurs within the boundaries of the Draft North County Multiple Species Conservation Program (NC MSCP) Plan, which has not yet been approved or adopted. A portion of the study area is within lands identified as Pre-Approved Mitigation Area (PAMA) under the

Draft NC MSCP. The remaining areas are a combination of Take Authorized Areas and areas outside PAMA under the Draft NC MSCP.

Potential significant impacts were identified for special-status species, sensitive vegetation communities, jurisdictional wetlands, and local policies. Mitigation measures are proposed to fully mitigate potential significant impacts on special status species, sensitive vegetation communities/habitats, jurisdictional wetlands, and local policies. Implementation of these mitigation measures would mitigate potential impacts to below a level of significance.

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

At the request of the County of San Diego (County) Department of Public Works, HELIX Environmental Planning, Inc. (HELIX) has completed this biological resources technical report for the proposed McClellan-Palomar Airport Master Plan project (project). The purpose of this report is to document the existing biological conditions within the study area and provide an analysis of potential impacts to sensitive biological resources with respect to local, state, and federal policy. This report provides the biological resources technical documentation necessary for review under the California Environmental Quality Act (CEQA). The Proposed Project consists of near, intermediate, and long-term project elements that would have potential impacts on biological resources by converting natural areas into active aviation use. This includes clearing, grading, installation of pavement, creating stormwater detention basins and drainage improvements, modifying biological resource habitat, and disturbing the ground. Areas of impact are estimated for the project elements, as they have not been developed sufficiently to quantify exact impacts in most cases, and therefore, are analyzed at a programmatic level. Once funding is identified for the design engineering and construction of individual Master Plan projects, the exact impact area will be compared against the inventory of biological resources in this report. Additional analysis under CEQA will be required for projects at the time that they are designed and proposed.

In accordance with Federal Aviation Administration (FAA) regulatory guidance in 14 Code of Federal Regulations (CFR) 139.337(e), the Airport also is subject to a Wildlife Hazard Management Plan (WHMP; C&S 2015) as approved by the FAA in 2016. The WHMP outlines the recommended actions and responsibilities of Airport personnel to manage and reduce the risks that wildlife pose to aircraft operations at the airport. Components of the WHMP include wildlife control actions such as habitat management, hazing, and harassment. The FAA requires a zero-tolerance for hazardous wildlife on the airfield within the framework of federal and state regulations.

1.2 PROJECT LOCATION AND DESCRIPTION

1.2.1 Project Location

The approximately 248.5-acre study area ("study area" or "site") for the project is located on County-owned lands within the City of Carlsbad in northwestern San Diego County, California (Figure 1). The site includes an approximately 231.1-acre active airfield area immediately northwest of the intersection of Palomar Airport Road and El Camino Real (herein referred to as the "airport site"), and an approximately 17.4-acre area located immediately northeast of the intersection of Palomar Airport Road and El Camino Real (herein referred to as the "eastern parcel" [Figure 2]), which is a part of a larger County-owned parcel. At this time, development on the eastern parcel is not proposed associated with the Master Plan. The area is included in the study area for this report to document existing conditions and the context of biological resources surrounding the active airfield. Although this report documents existing biological resources on the eastern parcel, they are not included in impact calculations as no improvements on the 17.4-acre eastern parcel are proposed by the County.

The site is depicted within Sections 13, 14, 15, 22, and 23 of Township 12 South, Range 4 West of the U.S. Geological Survey (USGS) 7.5-minute topographic Encinitas and San Luis Rey quadrangle maps (Figure 3). The study area is located outside of the Coastal Zone (Figure 3).

1.2.2 Project Description

The McClellan-Palomar Airport Master Plan is a phased 20-year strategy to prioritize projects at the airport. The Master Plan uses technical studies, forecast data, Federal Aviation Administration (FAA) airport design engineering standards, and public involvement to support the modernization of the airport while maximizing use of the existing airport property. The proposed project would incorporate project elements that are categorized either as airfield or landside based on the nature of each project element. Airfield elements are those that would take place in aircraft movement areas (e.g., runways, taxiways, and apron areas) while landside elements refers to those that would occur on portions of the airport property utilized for vehicle parking, passenger loading, business operations, and other ancillary activities that do not require the direct use of aircraft. A generalized site plan of existing, interim, and ultimate conditions is provided as Figure 4.

Project's Component Parts

The following project elements are proposed to occur over flexible phases in the next 20-year planning period as demand or capacity is realized.

Near-term Projects (0-7 years)

Projects identified in this timeframe aim to enhance safety, extend the runway length, and allow for the future relocation of Runway 6-24 to meet the FAA defined D-III design standards.

Relocation of the Glideslope Building and Antenna

The glideslope building and antenna provide pilots with vertical guidance as they are making a descent to land in instrument meteorological conditions (IMC). The glideslope building and antenna will require relocation in order to remain clear of the future Runway Safety Area (RSA) when Runway 06-24 is shifted to the north. The building to be relocated is approximately 360 square feet and would be shifted approximately 50 feet north of its current location to remain clear of the future RSA. Electrical utilities necessary to operate the equipment are already located in the proposed relocation area.

Relocation of Segmented Circle and Windsock Equipment

The segmented circle serves two functions at an airport: (1) to aid pilots in locating the airport and (2) to provide a centralized location for other signal devices such as a windsock. The windsock provides pilots with instant information on wind speed and direction that they utilize in order to make a smooth and safe landing. Relocation is required so that the segmented circle and windsock remain clear of the future RSA when Runway 06-24 is shifted to the north. The relocation involves approximately 6,840 square feet of new pavement and will be relocated west of the existing north apron. At this location only minor grading improvements are anticipated to level the surface.

L:\PROJECTS\CCSE\CSE-01.07_PalomarAirport\Map\BTR\Fig1_Regional.mxd CSE-01.07 9/7/2016 - NG

Regional Location Map

MCCLELLAN-PALOMAR AIRPORT MASTER PLAN

HELIX Environmental Planning

N 0 8 Miles

Figure 1

I:\PROJECTS\CCSE\CSE-01.07_PalomarAirport\Map\BTR\Fig2_Aerial.mxd CSE-01.17 10/13/2016 - NG

Project Vicinity (Aerial Photograph)

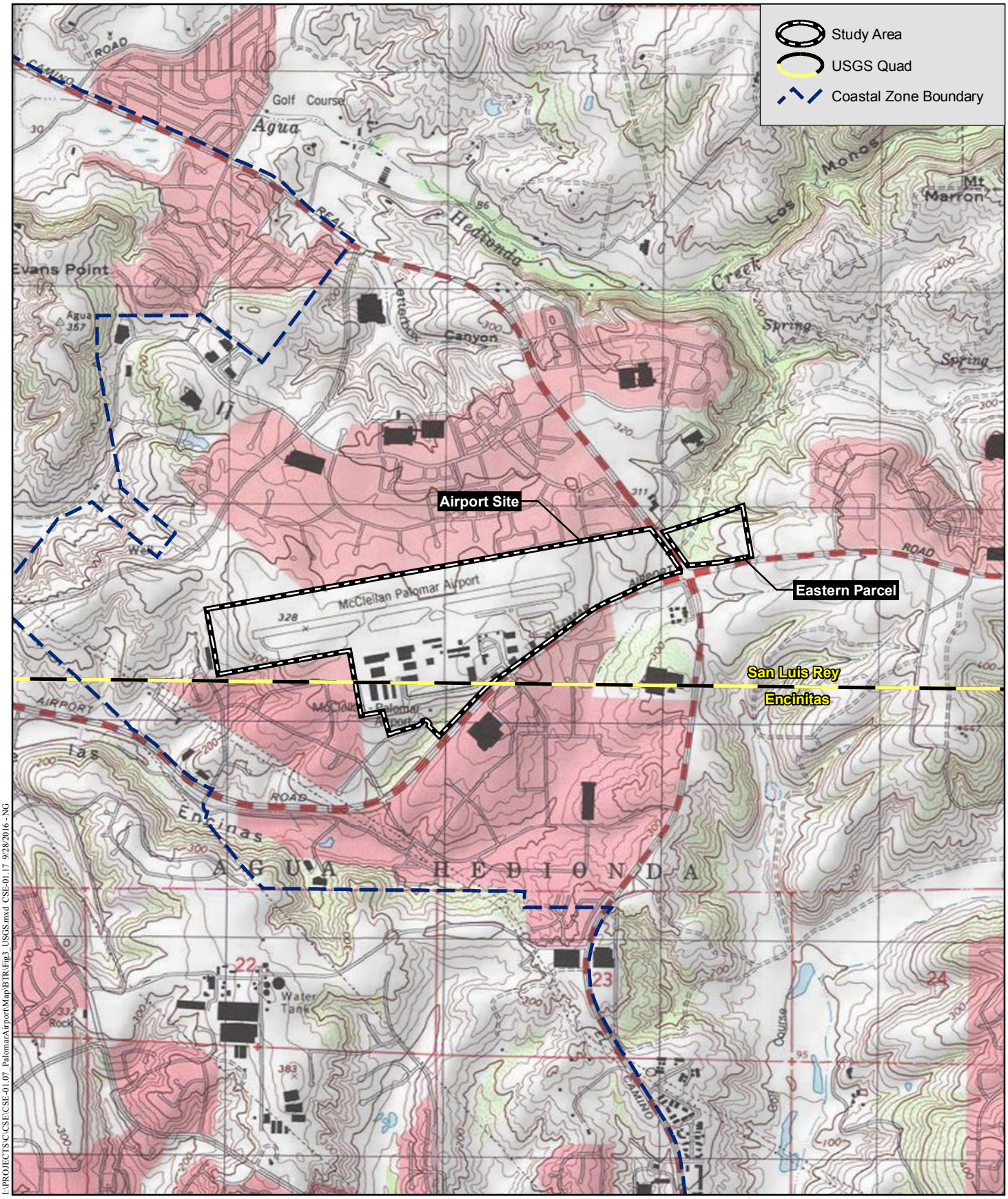
MCCLELLAN-PALOMAR AIRPORT MASTER PLAN

HELIX Environmental Planning

N

0 2,000 Feet

Figure 2



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Project Vicinity (USGS Topography)

MCCLELLAN-PALOMAR AIRPORT MASTER PLAN

HELIX Environmental Planning

Figure 3

I:\PROJECTS\C\CSE\CSE-01.07_PalomarAirport\Map\BTR\Fig4_SitePlan.mxd CSE-01.07 10/04/2017 -EV

Site Plan

MCCLELLAN-PALOMAR AIRPORT MASTER PLAN

HELIX Environmental Planning

0 550 Feet

Figure 4

Relocation of Aircraft Rescue and Fire Fighting Facility

The existing Aircraft Rescue and Fire Fighting (ARFF) facility located on the western side of the airport terminal is not designed to meet the forecasted aviation demand. The ARFF facility is currently categorized as "Index A" and would be updated to "Index B" to have the required emergency response capabilities for commercial service aircraft that are forecasted to operate at the airport. The facility would be improved and relocated to meet "Index B" standards as identified in FAA Advisory Circular (AC) 150/5210-15A.[1] The new facility would encompass approximately 4,664 square feet and be relocated south of the existing Airport Traffic Control Tower (ATCT) and east of the passenger terminal apron. The new facility would include two vehicles bays, watch room, first aid room, storage room, and administrative offices. The proposed relocation site is currently a parking lot and adjacent lots could accommodate the parking spaces lost to the relocation of the ARFF.

Construction of Engineered Material Arresting System on Runway 24 Departure End

The RSA for a runway designated as D-III extends 1,000 feet past the runway end. In order to meet the D-III RSA design standard requirements without reducing the length of the runway, an Engineered Material Arresting System (EMAS) would be installed on the departure end of Runway 24. The EMAS is a bed of engineered material built at the end of a runway, designed to stop an aircraft overrun to minimize human injury and minimize aircraft damage. The EMAS would be designed to be 350 feet long by 150 feet wide and begin 35 feet beyond the runway pavement. Once constructed it would eliminate the pavement maintained as the blast pad located on the departure end of Runway 24.

A retaining wall and fill slopes would be constructed to support the EMAS installation. The wall would allow for the relocation of a vehicle service road and localizer antenna. The road is only used by authorized staff for emergency and maintenance purposes. The localizer antenna is used in conjunction with other navigational aids to provide lateral guidance to the runway. The retaining wall would be constructed to approximately 1,020 feet long and 12 feet tall at its highest point.

Relocation of the Lighting Vault

The airport lighting vault is the point at which power is brought onto the airfield and then distributed to the various lighting systems. The vault will require relocation to remain clear of the future RSA when Runway 06-24 is shifted to the north. The 100-square-foot building would be relocated approximately 50 feet north of 75 feet north of its current location. Minor trenching would be necessary to relocate electrical utilities to the proposed relocation site.

Relocation of the Vehicle Service Road

A portion of the vehicle service road, located along the north apron and west of the approach end of Runway 06, would require relocation in order to remain clear of the future RSA. This would include construction of approximately 81,900 square feet of new pavement that would extend from the north apron around the RSA and EMAS installation on the western end of the runway.

[1] FAA AC 150/5210-15A, Aircraft Rescue and Firefighting Station Building Design.

Portions of the pavement currently used for aircraft parking on the north apron would be maintained for the road. As noted, a retaining wall would be constructed for portions of the service road located on the approach end of Runway 06.

Extension of Runway 06-24 (200 feet)

The current runway length at the airport is 4,897 feet. At this length larger aircraft must take a weight penalty when departing the airport, restricting the aircrafts range. Extending the runway 200 feet to the east would provide pilots with additional length for arrival and departure operations. The extension would occur over existing pavement maintained as a stopway, requiring only the reinforcement of the pavement strength to meet FAA standards and remarking.

The extension would also require the relocation of the Medium-intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR) located east of the runway. The MALSR is a system of lights that provide pilots with navigational assistance to the runway end. It is estimated that with the runway extension, an additional light foundation would need to be constructed. This proposed location of the station is currently open space owned by the County and is surrounded by industrial development. However, the County is not responsible for these improvements. The FAA is the owner and responsible agency for this lighting system, and relocation of the lights would be considered a federal action.

Intermediate-term Projects (8-12 years)

Intermediate-term projects focus on the increase in short-term parking, and removal of the north apron and aircraft self-service fuel farm.

Removal of North Apron and Taxiway N

The north apron currently serves as an aircraft parking apron used exclusively by small general aviation aircraft. The apron pavement would be removed in order to eliminate obstructions (parked aircraft) that penetrate the future RSA once Runway 06-24 is shifted to the north. Taxiway N, which is used by pilots to access the apron, would also be removed as it would no longer be needed for aircraft movements. This involves the removal of approximately 387,000 square feet of pavement.

Removal of Fuel Farm on North Apron

In addition to providing small aircraft tie-downs, the north apron also has a self-service fuel farm available. Along with the north apron, the fuel farm would be removed in order to clear obstructions located in the future RSA when Runway 06-24 is shifted to the north. This will involve the removal of a 25,000-gallon above-ground fuel storage tank. There are no fuel distribution lines at the airport; all fuel is delivered to the storage tank by tanker truck.

General Aviation [Aircraft] Parking

According to the Airport Master Plan, the forecasted number of general aviation operations is expected to increase during the Master Plan's 20-year planning period. As such, an area along the Airport's southern property boundary will be reserved for future general aviation aircraft parking as demand or capacity is realized.

Passenger / Administration / Parking Facility Improvements

According to the Airport Master Plan, the existing number of short-term parking spaces was deemed insufficient to handle the forecasted demand. The existing parking layout is to be reconfigured to the south towards Palomar Airport Road by approximately 7,000 square feet, adding 20 additional short-term parking spaces in front of the airport terminal.

Long-term Projects (13-20 years)

Long-term improvements include the relocation and extension of Runway 6-24 and associated project elements necessary to remain in compliance with the D-III design standards.

Relocation and Extension of Runway 06-24

Runway 06-24 would be shifted 123 feet to the north from its current position. The shift to the north will increase the runway centerline to taxiway centerline separation distance to 400 feet meeting FAA design standards for runways designated as D-III. The runway would also be extended to the east an additional 600 feet (Note this is in addition to the 200 feet extension discussed previously, for a total of 800 feet), which would result in a total runway length of 5,697 feet; the runway width would be maintained at 150 feet. This project would involve construction of approximately 738,000 square feet of new pavement, remarking of the runway, and the relocation of the runway and taxiway lights.

A portion of the runway extension and future EMAS system would be built over the existing landfill material, which requires stabilization. In order to accommodate the full length runway, EMAS, and taxiway extensions, it is anticipated that drilled displacement column (DDC) piles would be driven into sections of the ground to support concrete slabs. The piles would extend through the landfill materials to bear on competent formational materials. Preliminary pile layouts have the piles spaced at 10 feet on center transversely to the runway/taxiway centerlines with 20 feet spans along the lengths of the runway/taxiway.

Navigational aids would also need to be moved in conjunction with the runway shift. The Runway End Indicator Lights (REILs), Precision Approach Path Indicator (PAPI) system, and MALSR would have to be relocated in alignment with the new runway centerline location. Relocation of the MALSR would require the construction of eight new light foundation positions located off the approach end of Runway 24. Minor trenching to connect electrical utilities to the new locations of the navigational aids would be necessary. However, the County is not responsible for these improvements. The FAA is the owner and responsible agency for this lighting system, and relocation of the lights would be considered a federal action.

Construction of EMAS System on Runway 06 Departure

In order to meet the D-III RSA design standard requirements once the runway is extended an additional 600 feet, EMAS would be installed on the departure end of Runway 06. The EMAS would be designed to be 350 feet long by 150 feet wide and begin 35 feet beyond the runway pavement.

Relocation of EMAS System on Runway 24 Departure

In conjunction with the shift of Runway 06-24, the EMAS system located on the approach end of Runway 06 would be shifted to match with the new alignment. As noted, the EMAS would be necessary in order for the airport to maintain D-III RSA design standard requirements. Changes to the retaining wall and vehicle service road would not be required with the shift but the localizer antenna would be relocated in alignment with the new runway end.

Remove/Reconstruct Connector Taxiways

In order to facilitate the runway relocation and accommodate the increased runway centerline to taxiway centerline separation distance, connector taxiways would be removed and reconstructed. This project element involves approximately 117,000 square feet of new pavement. As part of this project element, all taxiway connectors would be extended to the new runway location except for the two high-speed connector taxiways located in the middle of the runway and the current connector to the Runway 24 end. These taxiways would be removed and the pavement reused if feasible.

Removal/Reconstruction of Taxiway A

Taxiway A is the main taxiway that runs parallel to Runway 06-24 and is used by pilots to transit from the runway to the passenger terminal and south apron area. In order to achieve the necessary 400 feet runway centerline to taxiway centerline distance while maintaining Transportation Security Administration (TSA) and Taxiway Object Free Areas (TOFA) design standards, Taxiway A would be shifted 19 feet north and extended east 600 feet to the end of Runway 06-24.

1.3 METHODS

1.3.1 Literature Review

Prior to conducting biological field surveys, HELIX conducted a search of sensitive species and habitats databases for information regarding sensitive species known to occur within two miles of the study area, including the U.S. Fish and Wildlife Service (USFWS) species records (USFWS 2016), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB; CDFW 2016a), and California Native Plant Society (CNPS) Electronic Inventory (CNPS 2016). Previous biological studies also were reviewed (AMEC 2009 and 2005; Ecological Restoration Service 2005; LSA Associates 2006; and RECON 2009). Recent aerial imagery, topographic maps, soils maps (Natural Resource Conservation Service [NRCS] 2016 and Bowman 1973), and other maps of the study area and vicinity were acquired and reviewed to obtain updated information on the natural environmental setting.

1.3.2 General Biological Surveys

General biological surveys of the study area were conducted according to County Requirements (2010a) by HELIX on March 22, March 29, and October 13, 2016 (Table 1). Vegetation was mapped on a 1"=100' scale aerial of the site. Vegetation mapping was conducted within the 248.5-acre study area (composed of the 231.1-acre active airfield area and the 17.4-acre eastern

parcel area), as well as on lands extending 100 feet outward from the study area boundary. The 100-foot wide area of mapped habitat extending outward from the study area is for visual and contextual purposes and is not included within acreage calculations presented herein. The site was surveyed on foot and with the aid of binoculars. Representative photographs of the site were taken, with select photographs included in this report as Appendix F. Plant and animal species observed or otherwise detected were recorded in field notebooks. Animal identifications were made in the field by direct, visual observation or indirectly by detection of calls, burrows, tracks, or scat. Plant identifications were made in the field or in the lab through comparison with voucher specimens or photographs. The locations of special status plant and animal species incidentally observed or otherwise detected were mapped. A jurisdictional delineation was not conducted; however, the study area was examined for evidence of potential jurisdictional waters and wetlands during the general biological surveys.

In addition to the general biological surveys, HELIX conducted wildlife hazard assessment surveys[2], rare plant surveys, vernal pool mapping, wet season surveys for San Diego fairy shrimp (*Branchinecta sandiegoensis*) and Riverside fairy shrimp (*Streptocephalus woottoni*), and protocol-level surveys for coastal California gnatcatcher (*Polioptila californica californica*). Table 1 provides a summary of biological surveys conducted for the project. Focused species survey reports are included in this report as Appendices G-1 and G-2.

Table 1
BIOLOGICAL SURVEYS

Survey Type	Date	Personnel[1]
Year 2017		
Wet season fairy shrimp survey	January 4	Jason Kurnow
	January 6	
	January 13	
	January 20	
	January 27	
	February 3	
	February 10	
	February 16	
	February 23	
	March 2	Amy Mattson
	March 10	Jason Kurnow
	March 17	
Year 2016		
General biological survey, vegetation community/habitat type mapping	March 22	Erica Harris, Stacy Nigro
	March 29	Stacy Nigro
	October 13	

[2] As required by Federal Aviation Regulations (FAR) Part 139, the County conducted a year-long wildlife hazard assessment pursuant to AC 150/5200-33A.

Table 1 (cont.)
BIOLOGICAL SURVEYS

Survey Type	Date		Personnel[1]
Year 2016 (cont.)			
Rare plant	April 6		Amy Mattson
	April 15		
	June 6		Stacy Nigro
Coastal California gnatcatcher	March 31	Survey1	Erica Harris
	April 14	Survey 2	Erica Harris
	April 22	Survey 3	Erica Harris
Wet season fairy shrimp survey	November 22		Jason Kurnow
	November 29		
	December 19		
	December 23		
Year 2014			
Wildlife hazard assessment survey	February 18		Erica Harris
	February 20		
	March 18		
	March 20		
	April 7		
	April 9		
	May 16		
	May 20		
	July 22		
	August 25		Erica Harris, Jason Kurnow
	August 28		Erica Harris
Year 2013			
Wildlife hazard assessment survey	November 18		Erica Harris
	November 26		
	December 16		
	December 19		
Year 2008			
Dry season fairy shrimp survey	October 1		Cheri Boucher, Brenna Ogg[2]
Year 2006			
Wet season fairy shrimp survey	March 27		Stan Spencer[3]
	April 6		
Year 2005			
Dry season fairy shrimp survey	August 6		Chuck Black[4]

1 All surveys conducted by HELIX biologists unless otherwise noted.
2 RECON biologists
3 LSA biologist
4 Ecological Restoration Service biologist

1.3.3 Focused Species Surveys

Rare Plant Surveys

Rare plant surveys were conducted on the project site by HELIX on April 6, April 15, and June 6, 2016 (Table 1). Opportunistic inspections for target rare plant species were also made during the other biological surveys performed to date (Table 1). Searches were made for those species that are listed as threatened or endangered by the USFWS or CDFW; those with a Rare Plant Rank 1 through 4 designated by the CNPS; and those that are on the County Sensitive Plant List (County 2010b). The surveys were conducted on foot and included 100 percent visual coverage of the majority of the site. Dense shrub vegetation on the eastern parcel impeded access to portions of this area. Special status plant species encountered were mapped using a hand-held Global Positioning System (GPS) unit and/or on an aerial photograph.

Coastal California Gnatcatcher

A survey for Coastal California gnatcatcher was conducted by HELIX in 2016 in accordance with the *Coastal California Gnatcatcher Presence/Absence Survey Protocol* (USFWS 1997). The survey consisted of three one-day site visits made from March 31 through April 22, 2016 (Table 1). The survey area consisted of all potential coastal California gnatcatcher habitat occurring within the study area (i.e., Diegan coastal sage scrub, including disturbed). The survey was conducted by walking through the vegetation or on adjacent paths, and viewing birds with the aid of binoculars, where necessary. If the coastal California gnatcatcher was not detected passively, a digital coastal California gnatcatcher call-prompt was briefly played. Coastal California gnatcatcher locations were mapped on an aerial photograph.

Wet Season Fairy Shrimp

Wet season fairy shrimp surveys were conducted by HELIX in 2016-2017 in accordance with *Survey Guidelines for the Listed Large Branchiopods* (USFWS 2015). The survey consisted of 16 site visits conducted between November 22, 2016 and March 17, 2017 (Table 1). Water-holding basins were sampled using fine mesh aquarium nets. Basin depth, area, water temperature, air temperature, and habitat condition were noted and recorded on USFWS vernal pool data sheets.

Previous wet season surveys were conducted by LSA and Associates in 2006 (Table 1).

Dry Season Fairy Shrimp

Dry season fairy shrimp sampling has not been conducted by HELIX for the airport site. However, dry season sampling was conducted on the airport site in 2005 by Ecological Restoration Service, and again in 2008 by RECON (Table 1).

1.3.4 Vernal Pool Mapping

Vernal pool boundaries depicted in this report are the result of surveys conducted in winter 2016-spring 2017 by HELIX. Pool boundaries were updated from those previously mapped by AMEC in 2005.

1.3.5 Wildlife Hazard Assessment

As previously noted, the County conducted a year-long wildlife hazard assessment pursuant to FAA Advisory Circular 150/5200-33A to document potential wildlife within the immediate vicinity of airport that could present potential hazards. The wildlife hazard assessment surveys were conducted by HELIX between November 2013 and August 2014 (Table 1). Once the surveys were complete, the results supported the preparation of the airport's WHMP (Appendix I), which outlines the recommended actions and County's responsibilities to reduce wildlife hazards.

1.3.6 Survey Limitations

Noted animal species were identified by direct observation, vocalizations, or the observance of scat, tracks, or other signs. However, the lists of species identified are not necessarily comprehensive accounts of all species that utilize the site as species that are nocturnal, secretive, or seasonally restricted may not have been observed. Those species that are of special status and have potential to occur on site, however, are still addressed in this report.

Jurisdictional delineations are used to identify and map water and wetland resources potentially subject to U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA; 33 USC 1344), Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to Section 401 of the CWA and/or Porter-Cologne Water Quality Act, and streambed habitats potentially subject to CDFW jurisdiction pursuant to Sections 1600 *et seq.* of the California Fish and Game Code (CFG Code). A jurisdictional delineation was not conducted in the study area, although potentially jurisdictional features were noted during the general biological surveys.

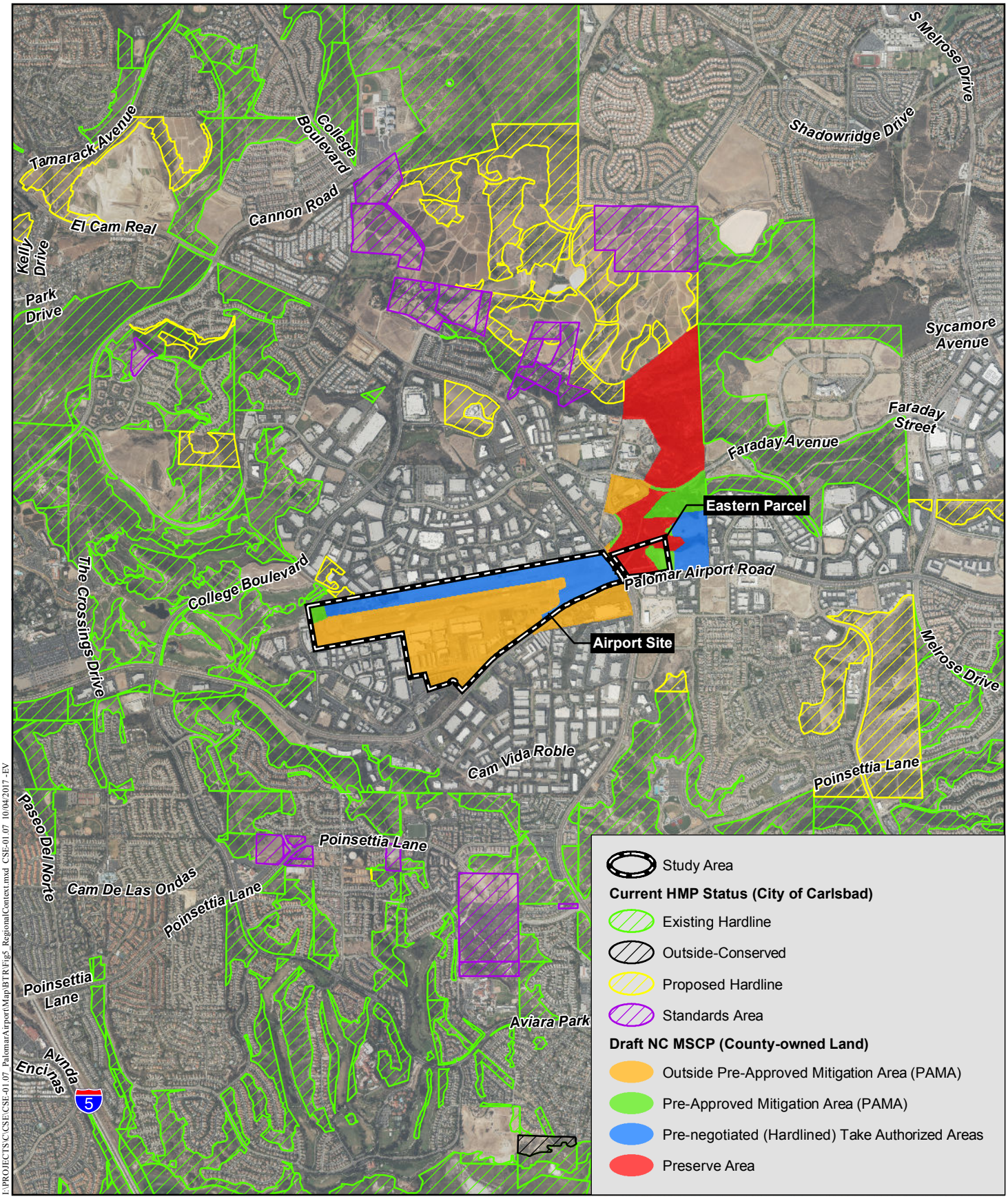
1.3.7 Nomenclature

Nomenclature used in this report generally comes from Holland (1986) and Oberbauer (2008) for vegetation; Baldwin et al. (2012) for plants; Glassberg (2001) for butterflies; Collins and Taggart (2006) for reptiles and amphibians; American Ornithologists' Union (2014) for birds; and Bradley et al. (2014) for mammals. Plant species status is from the CNPS (2016), CDFW (2016b), and County (2010b). Animal species status is from CDFW (2016c and 2016d) and County (2010b).

1.4 ENVIRONMENTAL SETTING

1.4.1 Regional Context

The site occurs within the boundaries of the Draft North County Multiple Species Conservation Program (NC MSCP) Plan, which has not yet been approved or adopted. Within the Draft NC MSCP Plan, the study area includes areas designated as Pre-negotiated (Hardlined) Take Authorized Areas, preserve areas, Pre-Approved Mitigation Area (PAMA), and areas outside of PAMA (Figure 5). Lands designated as a PAMA are "areas identified with high biological value in which conservation will be encouraged". Impacts within PAMA are allowed, but require a higher mitigation ratio than those planned for development.



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MSCP Regional Context

MCCLELLAN-PALOMAR AIRPORT MASTER PLAN

HELIX Environmental Planning

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Figure 5

Hardlined areas identify select upcoming development projects that have been coordinated with County and Wildlife Agency staff to develop designs that are compatible with the preserve design. They include pre-negotiated areas where development will occur (Hardlined Areas). The airport's hardlined area was identified for the planned runway extension and potential industrial development on the eastern parcel, as further discussed in Section 1.5.2. Although it is incorporated in the Draft NC MSCP Plan, the potential industrial development is not included or proposed in the Master Plan.

The airport site occurs mostly outside of lands identified as PAMA under the Draft NC MSCP Plan (Figure 5). Only a small corner of the airport site is within proposed PAMA (Figure 5).

Adjacent lands that are not owned by the County are within the planning area for the North County Multiple Habitat Conservation Program (MHCP) within the boundaries covered by the City of Carlsbad's (City's) Habitat Management Plan (HMP). Within the context of the HMP, only small areas of existing and proposed preserve areas occur near the study area, specifically in the vicinity of the northwest corner of the airport site.

1.4.2 General Land Uses

General land uses on the airport site include the existing active airfield, aircraft and auto parking, passenger terminal building, administrative facilities, tenant leaseholds, and scattered areas of native and/or naturalized vegetation. The study area on the eastern parcel consists almost entirely of undeveloped land.

Land uses surrounding the airport site generally include commercial and industrial uses to the north and south, the Crossings at Carlsbad golf course to the west, and El Camino Real to the immediate east. Land uses surrounding the study area on the eastern parcel generally include native habitats to the immediate north and east that are part of adjacent County-owned lands, commercial and industrial uses further to the north and east, as well as to the west, and commercial and residential uses to the south.

1.4.3 Disturbance

The airport was partially constructed on three cells of an inactive landfill, and nearly the entire site has been subject to some level of recent or ongoing disturbance associated with construction and operation of the airport or previous landfill-related activities. The vast majority of the site consists of developed lands and disturbed habitat. The only native habitat on the airport site occurs in the northwestern corner where small areas of Diegan coastal sage scrub and granitic chamise chaparral are present.

The study area within the eastern parcel consists of mostly undeveloped, native scrub habitat in the west and mowed non-native grassland (former agricultural areas) in the east. An existing gravel service road extends from El Camino Real eastward across the study area. A series of pole-mounted strobe lights are found along the edge of the road; these are part of the MALSR system for helping guide pilots to the runway on the other side of El Camino Real. The lights are surrounded by a chain link fence.

1.4.4 Topography and Soils

The airport site was constructed on a former landfill, and much of the site is graded flat with abrupt downward slopes along its perimeter. Elevations on the airport site range from approximately 232 feet above mean sea level (amsl) to 336 feet amsl. The 17.4-acre study area within the eastern parcel comprises the western end of the mesa connecting to chaparral-dominated canyon slopes in the western and northern portions of the parcel. Elevations range from approximately 258 feet amsl to 332 feet amsl.

Six soil series, consisting of nine soil types, have been mapped in the study area (NRCS 2016; Table 2; Figure 6), with the majority classified as Huerhuero-Urban land complex (140.3 acres). This soil type is associated with exposed subsoil and fill resulting from grading. The majority of the 17.4-acre study area on the eastern parcel is mapped as Huerhuero loam, characterized as moderately well-drained loams with a clay subsoil. Altamont clay soils are mapped in the easternmost portion of the study area within the eastern parcel, primarily in association with annual grasslands on the mesa.

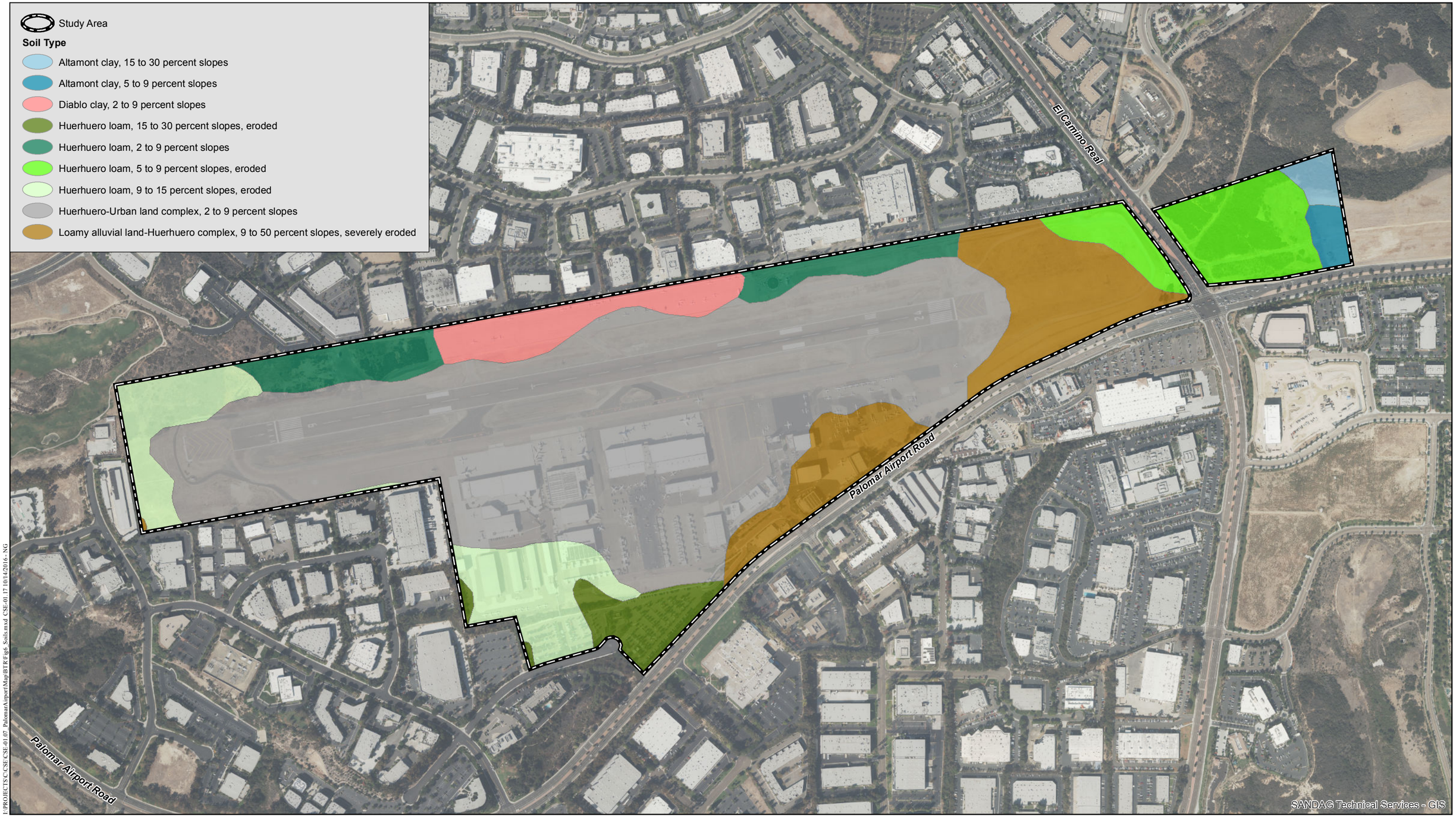
Table 2
SOIL TYPES MAPPED ON SITE[1]

Map Symbol	Map Unit Name	Acreage[2]
AtC	Altamont clay, 5 to 9 percent slopes	2.2
AtE	Altamont clay, 15 to 30 percent slopes	2.1
DaC	Diablo clay, 2 to 9 percent slopes	10.5
HrC	Huerhuero loam, 2 to 9 percent slopes	13.2
HrC2	Huerhuero loam, 5 to 9 percent slopes, eroded	18.2
HrD2	Huerhuero loam, 9 to 15 percent slopes, eroded	23.2
HrE2	Huerhuero loam, 15 to 30 percent slopes, eroded	7.9
HuC	Huerhuero-Urban land complex, 2 to 9 percent slopes	140.3
LvF3	Loamy alluvial land-Huerheuro complex, 9 to 50 percent slopes	30.8
	TOTAL	**248.5**

[1] Pursuant to the NRCS Web Soil Survey (2016).
[2] Rounded to the nearest tenth acre; total reflects rounding.

1.4.5 Vegetation Communities/Land Use Types

Eight vegetation communities/land use types occur in the 248.5-acre study area (Table 3, Figure 7). The numeric codes in parentheses following each community/land use type name are from the Holland classification system (Holland 1986) and as added to by Oberbauer (2008) as presented in the County's Biology Guidelines (County 2010b).



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Soils

MCCLELLAN-PALOMAR AIRPORT MASTER PLAN

HELIX Environmental Planning

0 600 Feet

Figure 6

Study Area

Vegetation

- Coastal Sage Scrub
- Coastal Sage Scrub - disturbed
- Developed
- Disturbed Habitat
- Eucalyptus Woodland
- Granitic Chamise Chaparral
- Non-Native Grassland
- Non-Native Vegetation
- Southern Maritime Chaparral
- Vernal Pool

Other

- Ephemeral Stream Channel

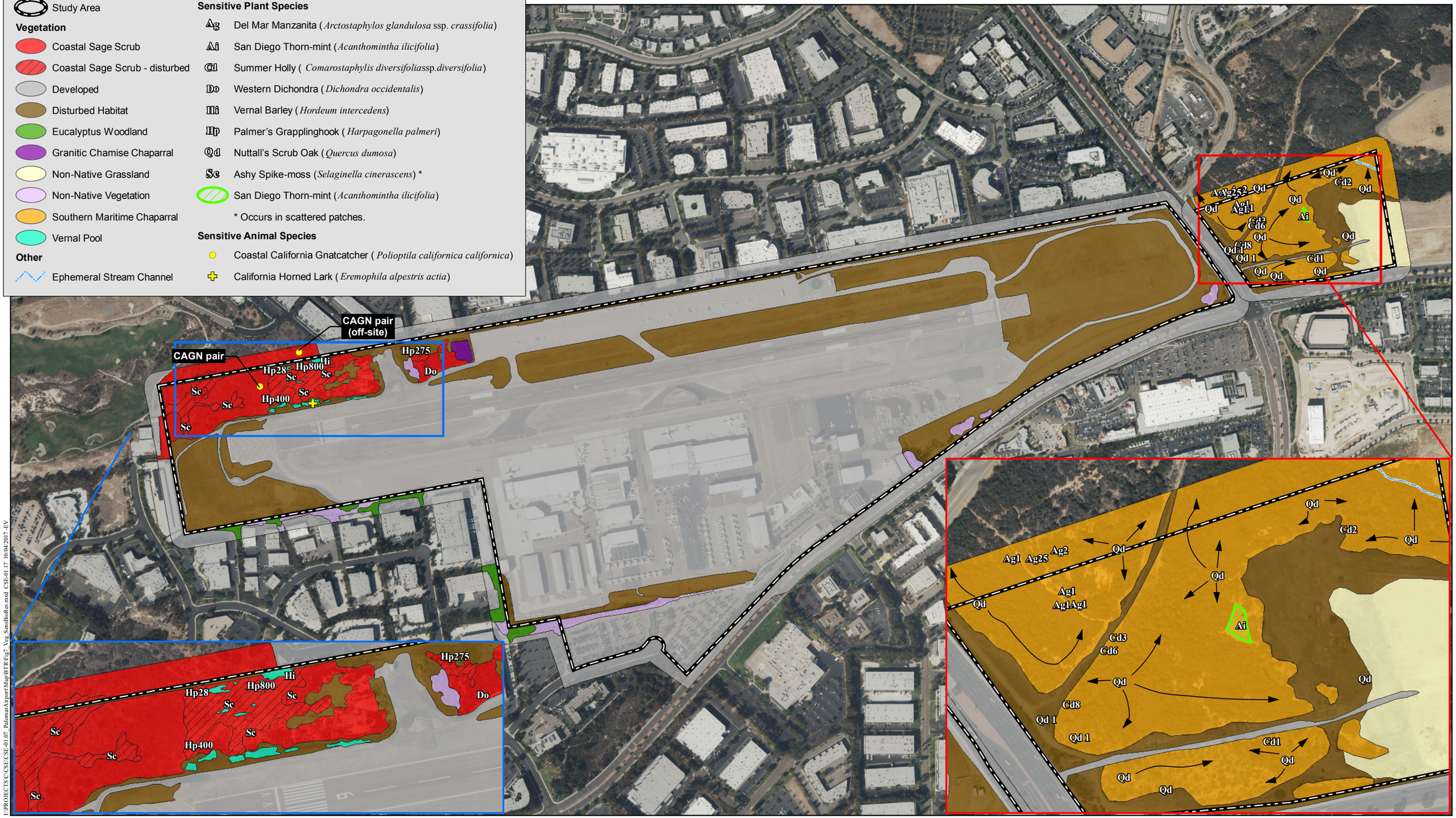
Sensitive Plant Species

- Ag Del Mar Manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*)
- Ai San Diego Thorn-mint (*Acanthomintha ilicifolia*)
- Cd Summer Holly (*Comarostaphylis diversifolia*ssp.*diversifolia*)
- Do Western Dichondra (*Dichondra occidentalis*)
- Hi Vernal Barley (*Hordeum intercedens*)
- Hp Palmer's Grapplinghook (*Harpagonella palmeri*)
- Qd Nuttall's Scrub Oak (*Quercus dumosa*)
- Sc Ashy Spike-moss (*Selaginella cinerascens*) *
- San Diego Thorn-mint (*Acanthomintha ilicifolia*)

* Occurs in scattered patches.

Sensitive Animal Species

- Coastal California Gnatcatcher (*Polioptila californica californica*)
- California Horned Lark (*Eremophila alpestris actia*)



Vegetation and Sensitive Biological Resources

MCCLELLAN-PALOMAR AIRPORT MASTER PLAN

HELIX Environmental Planning

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Figure 7

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Table 3
EXISTING VEGETATION COMMUNITIES/LAND USE TYPES OCCURRING WITHIN THE STUDY AREA[3]

Vegetation Community[1]	Acre(s)[2]		
	Airport Site	Eastern Parcel	Total
Vernal Pool (44000)	0.36	0	0.36
Southern Maritime Chaparral (37C30)	0	9.8	9.8
Diegan Coastal Sage Scrub–including disturbed (32500)	10.1	0	10.1
Granitic Chamise Chaparral (37210)	0.4	0	0.4
Non-Native Grassland (42200)	0	2.9	2.9
Non-native Vegetation (11000)	1.8	0	1.8
Disturbed Habitat (11300)	62.2	4.4	66.6
Urban/Developed Land (12000)	156.2	0.3	156.5
Total	**231.1**	**17.4**	**248.5**

[1] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).
[2] Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01.
[3] Vegetation mapping was conducted within the 248.5-acre study area in addition to extending 100 feet outward from the study area boundary. Vegetation mapping shown outside of the study area is for visual and contextual purposes; this mapping is not included in the acreage of the study area.

Vernal Pool

Vernal pools are ephemeral wetlands that form in small pools and swales as a result of a subsurface hardpan or claypan that inhibits the downward percolation of water. The landscape conditions usually consist of relatively level areas (e.g., mesas) with low hummocks (mima mounds) and shallow basins (vernal pools). The climate consists of cool, wet winters and hot, dry summers. If sufficient rainfall occurs during the rainy season, the combination of landscape position, low soil permeability, and climatic conditions results in water ponding in the pools during the rainy season, that then gradually evaporates and becomes completely dry over the summer and fall. Vernal pools are highly specialized habitats that support a unique flora, and are identified by having at least one indicator plant species (USACE 1997). Several species of rare plants are associated with vernal pools, as are rare invertebrates such as San Diego fairy shrimp and Riverside fairy shrimp.

A total of 18 vernal pools were identified and mapped in the northwestern portion of the airport site. Characteristic species present include dwarf woolly-marbles (*Psilocarphus brevissimus*), prairie plantain (*Plantago elongata*), water pygmyweed (*Crassula aquatica*), and grass poly (*Lythrum hyssopifolium*). Vernal pools total 0.36 acre on site.

Southern Maritime Chaparral

Southern maritime chaparral is restricted to the weathered sands within the coastal fog belt in San Diego County from La Jolla to Carlsbad with some scattered patches to the south: Point Loma, Spooner's Mesa, and Peñasquitos Canyon. Typical species found within this low, fairly

open chaparral include wart-stemmed ceanothus (*Ceanothus verrucosus*), chamise (*Adenostoma fasciculatum*), mission manzanita (*Xylococcus bicolor*), Nuttall's scrub oak (*Quercus dumosa*), summer-holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), and Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*).

Characteristic species within southern maritime chaparral on site include Nuttall's scrub oak and chamise. This is the dominant habitat type within the study area on the eastern parcel, occupying 9.8 acres.

Diegan Coastal Sage Scrub (including Disturbed)

Coastal sage scrub is one of the two major scrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*; Holland 1986). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub, but is sparser and has a higher proportion of non-native, annual species.

Characteristic species within Diegan coastal sage scrub on site include California sagebrush, California buckwheat, and black sage. Within the study area, this habitat is restricted to the northwestern portion of the airport site and totals 10.1 acres.

Granitic Chamise Chaparral

Chamise chaparral is the most widely distributed chaparral subtype and is dominated by the species chamise. This vegetation community is found from Baja to northern California in pure or mixed stands. It often dominates at low elevations and on xeric south facing slopes with 60-90 percent canopy cover. Along its lower elevation limit, chamise chaparral intergrades with coastal sage scrub (Rundel 1986). Mission manzanita and black sage are other plant species often associated within this vegetation community.

Characteristic species within this habitat on site include chamise, bush monkeyflower (*Mimulus aurantiacus*), and toyon (*Heteromeles arbutifolia*). This habitat occurs as a single 0.4-acre stand within the northwestern portion of the airport site.

Non-native Grassland

Non-native grassland is a mixture of annual grasses and broad-leaved, herbaceous species. Annual species comprise from 50 percent to more than 90 percent of the vegetative cover, and most annuals are non-native species. Non-native grasses typically comprise at least 30 percent of the vegetative cover, although this percentage can be much higher in some years and lower in others, depending on land use and climatic conditions. Usually, the grasses are less than three feet in height and form a continuous or open cover. Emergent shrubs and trees may be present but do not comprise more than 15 percent of the total cover (County 2010a). Most of the

non-native grasses originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California.

Non-native grassland occurs on fallow agricultural lands within the study area on the eastern parcel. Characteristic species observed include Mediterranean barley (*Hordeum murinum*), ripgut grass (*Bromus diandrus*), oats (*Avena* sp.), red brome (*Bromus madritensis*), and star-thistle (*Centaurea melitensis*). A total of 2.9 acres of non-native grassland occurs on site.

Non-native Vegetation

Non-native vegetation is a category describing stands of naturalized trees and shrubs (e.g., acacia [*Acacia* sp.], peppertree [*Schinus* sp.]), many of which are also used in landscaping. On site, this habitat consists of a small stand of acacia (*Acacia* sp.) in the northwestern portion of the airport site, totaling 1.8 acres.

Disturbed Habitat

Disturbed habitat includes areas in which the vegetative cover comprises less than 10 percent of the surface area (disregarding natural rock outcrops) and where there is evidence of soil surface disturbance. Disturbed habitat supports a predominance of non-native and/or weedy species that are indicators of such surface disturbance (County 2010a).

Disturbed habitat on site consists of previously disturbed soils that are made up of bare ground or dominated by non-native vegetation such as Russian thistle (*Salsola tragus*), milk thistle (*Silybum marianum*), filaree (*Erodium* spp.), garland daisy (*Glebionis coronaria*), and black mustard (*Brassica nigra*). Portions of the disturbed habitat on the airport site contain a non-native, annual grass component in combination with the non-native forbs listed above. These areas are subject to existing allowed maintenance activities that constantly change the vegetation cover and composition through mowing, scraping, and other uses, and were considered disturbed habitat as a result of such ongoing surface disturbance. A total of 66.6 acres of disturbed habitat occurs on site.

Urban/Developed

Urban/developed land includes areas that have been constructed upon or otherwise covered with a permanent, unnatural surface and may include, for example, structures, pavement, irrigated landscaping, or hardscape to the extent that no natural land is evident. These areas no longer support native or naturalized vegetation (County 2010a). Developed portions of the site consist of the airport administration building and other airport-related buildings and structures, parking lots, and runways. A total of 156.5 acres of urban/developed land occurs on site.

1.4.6 Flora

HELIX identified a total of 158 plant species in the study area, of which 86 (54 percent) are native species and 72 (46 percent) are non-native species (Appendix A).

1.4.7 Fauna

A total of 59 animal species were observed or otherwise detected in the study area during the biological surveys, including 15 invertebrate, three reptile, 36 bird, and five mammal species (Appendix B).

1.4.8 Sensitive Vegetation Communities/Habitat Types

Sensitive vegetation communities/habitat types are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the State CEQA Guidelines. Table 5 of the County guidelines (County 2010a, 2010b) provides a list of habitat mitigation ratios for each vegetation community type.

Sensitive vegetation communities/habitat types mapped in the study area include vernal pool, southern maritime chaparral, Diegan coastal sage scrub, granitic chamise chaparral, and non-native grassland. Impacts to sensitive habitats require mitigation.

1.4.9 Special Status Plant Species

Special status plant species have been afforded special status and/or recognition by the USFWS, CDFW, and/or the County and may also be included in the CNPS' Inventory of Rare and Endangered Plants (see Section 1.3.6 for references). Their status is often based on one or more of three distributional attributes: geographic range, habitat specificity, and/or population size. A species that exhibits a small or restricted geographic range (such as those endemic to the region) is geographically rare. A species may be more or less abundant but occur only in very specific habitats. Lastly, a species may be widespread but exist naturally in small populations.

Special Status Plant Species Observed

Eight special status plant species were observed in the study area: ashy spike-moss (*Selaginella cinerascens*), Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), Nuttall's scrub oak (*Quercus dumosa*), Palmer's grapplinghook (*Harpagonella palmeri*), San Diego thornmint (*Acanthomintha ilicifolia*), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), vernal barley (*Hordeum intercedens*), and western dichondra (*Dichondra occidentalis*). Each species is listed below in alphabetical order by common name, described, and shown on Figure 7. Status codes are defined in Appendix E.

Ashy spike-moss (*Selaginella cinerascens*)
Listing: --/--; California Rare Plant Rank (CRPR) 4.1; County List D
Distribution: Orange and San Diego counties; northwestern Baja California, Mexico
Habitat: Flat mesas on undisturbed soils in coastal sage scrub and chaparral.
Presence on site: Species was observed in patches within Diegan coastal sage scrub in the northwestern portion of the airport site.

Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*)
Listing: FE/--; CRPR 1B.1; County List A; Proposed Draft NC MSCP Covered
Distribution: Coastal San Diego County; Baja California, Mexico
Habitat: Relatively open, coastal chaparral. At occasional inland sites it occurs in denser mixed chaparral vegetation.
Presence on site: Three individuals were observed in the northwestern portion of the study area on the eastern parcel. Additional individuals were observed off site to the north.

Nuttall's scrub oak (*Quercus dumosa*)
Listing: --/--; CRPR 1B.1; County List A
Distribution: San Diego, Orange, and Santa Barbara counties; Baja California, Mexico
Habitat: Chaparral with a relatively open canopy cover is the preferred habitat in flat terrain (also found in coastal scrub). On north-facing slopes, may grow in dense monotypic stands. Sandy or clay loam soils
Presence on site: This species is co-dominant throughout much of the southern maritime chaparral on the eastern parcel. Two individuals also were observed in disturbed habitat on the eastern parcel's study area.

Palmer's grapplinghook (*Harpagonella palmeri*)
Listing: --/--; CRPR 4.2; County List D
Distribution: Below approximately 3,300 feet in elevation in Los Angeles, Orange, Riverside, and San Diego counties; Baja California and Sonora, Mexico; San Clemente Island; Arizona
Habitat: Clay soils in annual grasslands and coastal sage scrub
Presence on site: Several hundred individuals were observed in Diegan coastal sage scrub in the northwest portion of the site.

San Diego thornmint (*Acanthomintha ilicifolia*)
Listing: FT/SE; CRPR 1B.1; County List A; Proposed Draft NC MSCP Covered
Distribution: San Diego County and Baja California, Mexico
Habitat: Grassy openings in the chaparral or sage scrub, or near vernal pools, with friable or broken clay soils are the preferred habitat
Presence on site: A patch of several hundred individuals was observed in an approximately 0.06-acre opening in southern maritime chaparral in the central portion of the eastern parcel study area.

Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)
Listing: --/--; CRPR 1B.2; County List A; Proposed Draft NC MSCP Covered
Distribution: Orange, Riverside, and San Diego counties south into Baja California, Mexico
Habitat: Mesic north-facing slopes in southern mixed chaparral are the preferred habitat of this large, showy shrub. Rugged steep drainages seem to be a preferred location for isolated shrubs.
Presence on site: Twenty individuals were observed in scattered locations within southern maritime chaparral on the eastern parcel study area.

Vernal barley (*Hordeum intercedens*)
Listing: --/--; CRPR 3.2; County List C
Distribution: Southwestern California, with some occurrences in the central coast
Habitat: Saline flats and depressions in grasslands or in vernal pool basins
Presence on site: Vernal barley was observed in a single vernal pool (Vernal Pool No. 7) by AMEC in 2005. The number of plants observed was not recorded.

Western dichondra (*Dichondra occidentalis*)
Listing: --/--; CRPR 4.2; County List D
Distribution: Santa Barbara County to Baja California, Mexico; San Miguel Island
Habitat: Dry, sandy banks in coastal sage scrub, chaparral, or southern oak woodland. Often proliferates on recently burned slopes.
Presence on site: One small patch of western dichondra covering approximately two square feet was observed in Diegan coastal sage scrub in the northwestern portion of the airport site. Because of its rhizomatous growth habit, it is difficult to determine visually where one dichondra plant ends and the next one begins. Thus, the number of plants present is indeterminate but is likely to be few based on the small area of coverage.

Special Status Plant Species with Potential to Occur

Special status plant species that were not observed but may have potential to occur on site are listed in Appendix C. Of these, two are considered to have high potential to occur: California adolphia (*Adolphia californica*) and graceful tarplant (*Holocarpha virgata* ssp. *elongata*). These species are further discussed in Appendix C.

1.4.10 Special Status Animal Species

Special status animal species include those that have been afforded special status and/or recognition by the USFWS, CDFW, and/or the County (see Section 1.3.6 for references). In general, the principal reason an individual taxon (species or subspecies) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss.

Special Status Animal Species Observed or Otherwise Detected

Two special status animal species were observed in the study area during biological surveys conducted for the project: California horned lark (*Eremophila alpestris actia*) and coastal California gnatcatcher. Each species is listed below in alphabetical order by common name, described, and shown on Figure 7. Status codes are defined in Appendix E.

Surveys for fairy shrimp were negative (Appendix G-2), no fairy shrimp have been observed on site. Results of dry season fairy shrimp sampling in 2005 and 2008 also were negative.

California Horned Lark (*Eremophila alpestris actia*)
Status: --/WL; County Group 2
Distribution: Observed year-round scattered throughout San Diego County
Habitat(s): Coastal strand, arid grasslands, and sandy desert floors
Presence on Site: Species was observed foraging along roads within Diegan coastal sage scrub and disturbed habitat in the northwestern portion of the airport site.

Coastal California Gnatcatcher (*Polioptila californica californica*)
Status: FT/SSC; County Group 1; Draft NC MSCP Covered
Distribution: In San Diego County, occurs throughout coastal lowlands.
Habitat(s): Coastal sage scrub, coastal bluff scrub, and coastal sage-chaparral scrub
Presence on Site: One nesting pair was observed in Diegan coastal sage scrub within the northwestern portion of the study area during 2016 protocol surveys, and a second pair was observed just off site to the north.

Special Status Animal Species with Potential to Occur

Special status animal species not observed but with potential to occur on site are included in Appendix D. Of these, four are considered to have high potential to occur: orange-throated whiptail (*Cnemidophorus hyperythrus*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), Coronado skink (*Eumeces skitonianus interparietalis*), and barn owl (*Tyto alba*). These species are further discussed in Appendix D. Refer to Appendix E for an explanation of status codes.

Raptor Foraging

The County (2010b) defines raptor foraging habitat as, "Land that is a minimum of five acres (not limited to project boundaries) of fallow or open areas with any evidence of foraging potential (i.e., burrows, raptor nests, etc.)." No raptor nests were observed in the study area, and no burrows were observed on the airport site. Only one species of raptor (red-tailed hawk [*Buteo jamaicensis*]) was observed on site during biological surveys conducted for the project. This species was observed flying over the western portion of the airport site. The red-tailed hawk is the most widespread bird of prey in San Diego County and in the United States. This species uses any open area for foraging, despite disturbance, and will take advantage of small patches of undeveloped land, although it favors grasslands with scattered trees. This species is known to tolerate considerable urbanization.

Although red-tailed hawk was observed flying over the airport site, this portion of the study area is not considered valuable foraging habitat due to constant physical and noise disturbances from standard airport operations and maintenance, combined with the airport's implementation of the WHMP, which minimizes populations of animals that pose a potential threat to aviation safety. Management actions taken under the WHMP include, but are not limited to, reducing wildlife attractants through habitat modifications, maintaining a perimeter fence to deter wildlife from entering the airfield, hazing and harassment, and implementing wildlife control measures such as trapping. These actions greatly diminish the value of the airport site as potential raptor foraging habitat.

Regarding the eastern parcel portion of the study area, suitable raptor foraging habitat occurs within non-native grassland areas on this parcel, which supports ground squirrels, pocket gophers, and other potential prey, although no raptors were observed in this area during biological surveys.

1.4.11 Jurisdictional Waters and Wetlands

The site supports areas that could be considered jurisdictional waters or wetlands by the USACE, RWQCB, and CDFW. These include vernal pools occurring in the northwest portion of the airport site (Figure 8), which are the only wetland habitat observed in the study area during the general biological surveys, and potential non-wetland waters of the U.S./ephemeral streambed observed in the northeastern corner of the eastern parcel study area (Figure 7). No potentially jurisdictional non-wetland waters of the U.S./ephemeral streambed were observed on the airport site. A jurisdictional delineation would be required to map the extent of potential USACE, RWQCB, and CFDW jurisdiction in the study area. Only the USACE, RWQCB, and CDFW can make a final determination of jurisdictional boundaries.

A total of 18 vernal pools were mapped in the study area, all of which occur within a narrow rectangular area in the northwest portion of the airport site (Figure 8). Six of these pools are located parallel to the north edge of the existing runway. The other 12 pools are located in the central and northern portions of this area. Survey results for fairy shrimp were negative; no fairy shrimp were observed on site.

Table 4
VERNAL POOLS WITHIN THE STUDY AREA

Vernal Pool Identification Number	Acreage (square feet)
VP-1	0.0232 (1,011)
VP-2	0.0310 (1,350)
VP-3	0.0287 (1,252)
VP-4	0.0789 (3,436)
VP-5	0.0122 (531)
VP-6	0.0475 (2,069)
VP-7	0.0686 (2,988)
VP-8	0.0052 (227)
VP-9	0.0018 (77)
VP-10	0.0028 (122)
VP-11	0.0107 (466)
VP-12	0.0096 (418)
VP-13	0.0019 (83)
VP-14	0.0338 (1,472)
VP-15	0.0004 (18)
VP-16	0.0004 (16)

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Vernal Pools

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0 100 Feet

Figure 8

Table 4 (cont.) **VERNAL POOLS WITHIN THE STUDY AREA**	
Vernal Pool Identification Number	**Acreage (square feet)**
VP-17	0.0016 (70)
VP-18	0.0027 (118)
TOTAL	**0.3609 (15,724)**

[1] Rounded to the nearest 0.0001 acre.

U.S. Army Corps of Engineers

Potential waters of the U.S. in the study area under the potential jurisdiction of the USACE pursuant to Section 404 of the CWA include ephemeral stream channel (potential non-wetland waters of the U.S.) and vernal pools (potential wetland waters of the U.S.). Coordination with the USACE regarding whether the on-site vernal pools would be regulated under the CWA would occur at the time that individual projects that could impact vernal pools are funded and proposed for construction. If on-site vernal pools are determined to be isolated, they would not be regulated under Section 404 of the CWA.

Regional Water Quality Control Board

Potential waters of the U.S. in the study area subject to RWQCB jurisdiction pursuant to CWA Section 401 include ephemeral stream channel (potential non-wetland waters of the U.S.) and vernal pools (potential wetland waters of the U.S.). If on-site vernal pools are considered isolated by the USACE, then they would not be regulated as waters of the U.S. by the USACE or RWQCB. In this situation, the 18 vernal pools comprising approximately 0.36 acre may be regulated as waters of the State subject to RWQCB jurisdiction pursuant to the Porter-Cologne Water Quality Control Act, rather than as waters of the U.S. pursuant to Section 401 of the CWA. Coordination with the RWQCB regarding whether the on-site vernal pools would be regulated under the CWA or Porter-Cologne would occur at the time that individual projects that could impact vernal pools are funded and proposed for construction.

California Department of Fish and Wildlife Jurisdiction

Potential waters of the State under the jurisdiction of the CDFW within the study area consist of an ephemeral stream channel within the study area of the eastern parcel. Vernal pools are not regulated by CDFW under Sections 1600 of the CFG Code and impacts to vernal pools would not require a Streambed Alteration Agreement.

1.4.12 Habitat Connectivity and Wildlife Corridors

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of their daily routine. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations. A corridor is a specific route that is

used for the movement and migration of species, and may be different from a linkage in that it represents a smaller or narrower avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of animals and genetic exchange by providing live-in habitat that connects to other habitat areas. Many linkages occur as stepping-stone linkages that are made up of a fragmented archipelago arrangement of habitat over a linear distance.

The PAMA in the region is based on the core and linkage concept of landscape-level conservation. The configuration of preserve lands includes large, contiguous areas of habitat supporting important species populations or habitat areas and important functional linkages and movement corridors between them. The airport site (i.e., the portion of the study area west of El Camino Real) occurs mostly outside of lands identified as PAMA under the Draft NC MSCP Plan (Figure 5). As stated in Section 1.4.1, only a small corner of the airport site is within proposed PAMA. The 17.4-acre study area on the eastern parcel (i.e., the portion of the study area east of El Camino Real) consists of County-owned open space that is designated as a combination of Preserve and PAMA under the Draft NC MSCP Plan (Figure 5).

With respect to wildlife movement, the northwestern corner of the airport site is not part of a wildlife corridor as it does not provide connectivity between habitats due to its location on the perimeter of the existing airport and adjacent development. Rather, this small area functions as an extension of the fingers of habitat preserved on the adjacent Crossings at Carlsbad golf course to the north and west, which are part of a larger mosaic of habitat areas identified as existing hardline preserve under the City's HMP. These off-site areas are part of Linkage F under the City's HMP, which is a stepping-stone linkage of fragmented sage scrub, chaparral, and grassland habitats that is probably most effective as a dispersal corridor for birds (City 1999). Its utility as a linkage for reptiles and mammals is limited due to fragmentation by numerous roads and other existing development. Coastal sage scrub within Carlsbad's HMP Linkage F is known to support several nesting gnatcatcher pairs.

The study area within the eastern parcel is part of a larger, mostly undeveloped County-owned tract of land that extends approximately 1,000 feet further east and 4,500 feet further north, connecting to Agua Hedionda Creek. Faraday Avenue bisects this area approximately 1,000 feet north of the study area. Habitat connectivity to this eastern portion the study area is only to the north, as existing roads and development to the east, west, and south limit its functions for wildlife movement. Furthermore, riparian corridors, which often concentrate wildlife movement, are not present in the study area. While this 17.4-acres within the eastern parcel connects to off-site lands identified as PAMA under the County's draft NC MSCP, the study area itself is not a wildlife corridor.

1.5 APPLICABLE REGULATIONS

Biological resources in the study area are subject to regulatory review by federal, state, and local agencies. Under CEQA, impacts associated with a proposed project or program are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, the County) pursuant to CEQA Guidelines. Biological resources-related laws and regulations that apply include federal Endangered Species Act (FESA), Migratory Bird Treaty Act (MBTA), CWA, CEQA, California Endangered Species Act (CESA), CFG Code, and County Resource Protection Ordinance (RPO).

With respect to the proposed project, the USFWS will be responsible for reviewing issues related to the coastal California gnatcatcher (and listed fairy shrimp, if present) pursuant to the FESA and migratory birds pursuant to the MBTA, Habitat Loss Permit (HLP), and regional conservation planning related to the Draft North County MSCP Plan. The USACE will be responsible for reviewing issues related to waters of the U.S. The RWQCB will be responsible for reviewing issues related to waters of the State pursuant to the CWA and State Porter-Cologne Water Quality Control Act. The CDFW will be responsible for reviewing issues related to vegetated and unvegetated streambeds pursuant CFG Code, nesting birds and raptors pursuant to CFG Code, HLP, and regional conservation planning related to the Draft North County MSCP Plan.

The County is the lead agency for the CEQA environmental review process in accordance with state law and local ordinances. During CEQA review, the County will be responsible for reviewing project issues per the Guidelines for Determining Significance for Biological Resources (County 2010b) and the County RPO. The County will also be responsible for reviewing the proposed project with respect to HLP and conservation planning related to the Draft North County MSCP Plan.

1.5.1 Federal Government

Federal Endangered Species Act

Administered by the USFWS, the FESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the FESA. Section 9(a) of the FESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

The USFWS designates critical habitat for endangered and threatened species. Critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. The ultimate goal is to restore healthy populations of listed species within their native habitats so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the FESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat. A total of 11.7 acres of designated critical habitat for coastal California gnatcatcher is present in the northwest portion of the airport site, and a total of 10.2 acres of designated critical habitat for San Diego thornmint is present within the study area on the eastern parcel (Figure 9).

Sections 7 and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or informal) is required whenever there is another responsible federal agency or federal action agency for the project, whereby their actions need to be

completed in conformance with the FESA. A common scenario when Section 7 applies is when habitat occupied by endangered species and/or critical habitat overlaps with an area requiring a CWA Section 404 permit from the USACE. Section 10(a) allows issuance of permits for incidental take of endangered or threatened species with preparation of a Habitat Conservation Plan (HCP) when there is no federal nexus. The term "incidental" applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species' survival must be submitted for issuance of Section 10(a) permits.

Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the federal MBTA, as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is now used to place restrictions on disturbance of active bird nests during the nesting season (generally February 1 to August 31). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

Clean Water Act and Rivers and Harbors Act

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the CWA. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting for projects filling waters of the U.S. is overseen by the USACE under Section 404 of the CWA. Most development projects are permitted using Individual Permits (IPs) or Nationwide Permit (NWP) verifications. Depending on the thresholds specified by the type of permit required (e.g., NWP 39 for institutional or commercial developments), the USACE may also require an IP for projects impacting greater than 300 linear feet of drainage, irrespective of the acreage affected, or it may issue a waiver for such impacts. An IP is required for any project that impacts vernal pools regulated as waters of the U.S. by the USACE. A CWA Section 401 Water Quality Certification administered by the State Water Resources Control Board (SWRCB) must be issued prior to any 404 Permit.

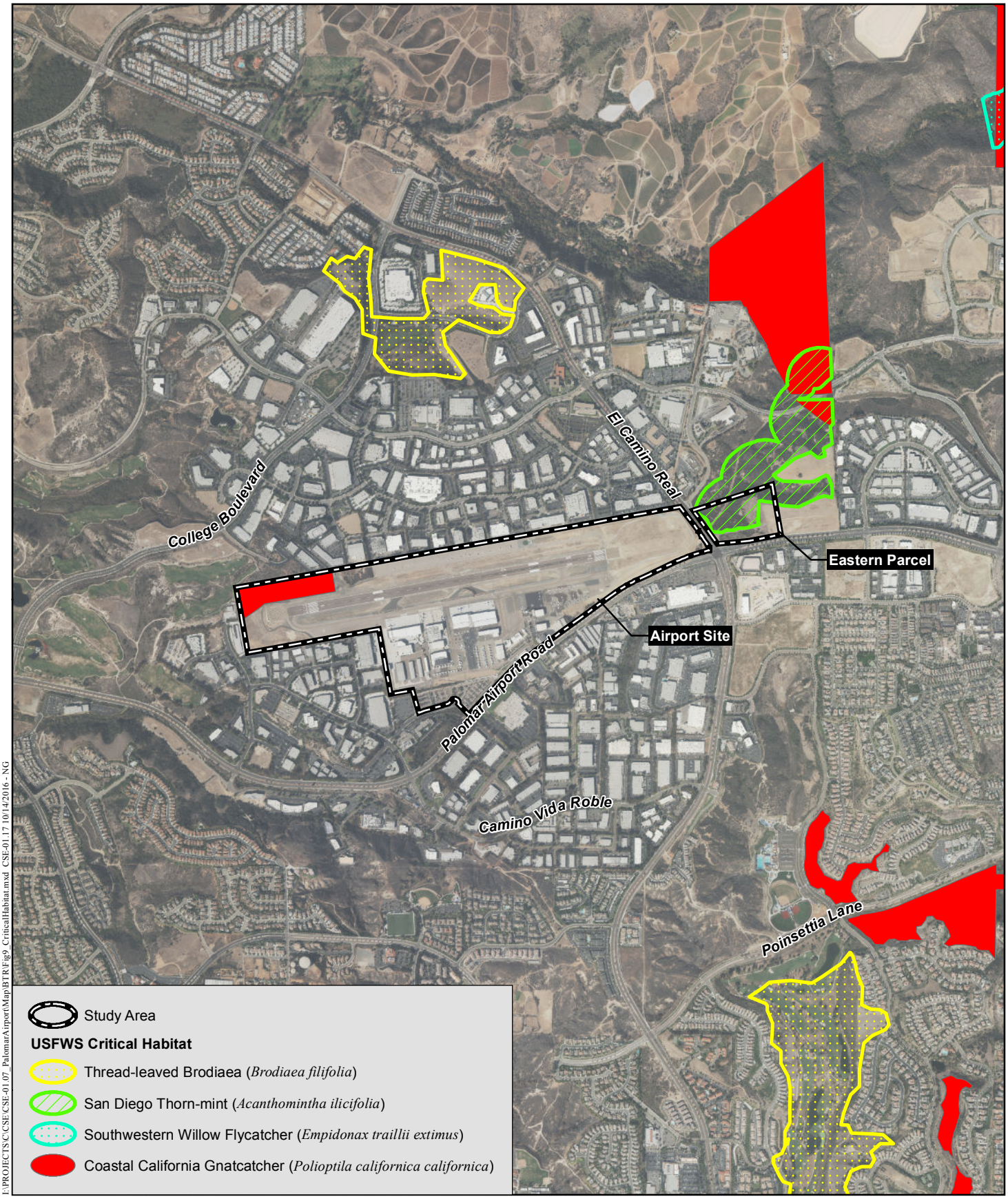
1.5.2 State of California

California Environmental Quality Act

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines), which require that projects with potential adverse effects (or impacts) on the environment undergo environmental review. Adverse environmental impacts are typically mitigated as a result of the environmental review process in accordance with existing laws and regulations.

California Endangered Species Act

The CESA established that it is state policy to conserve, protect, restore, and enhance state endangered species and their habitats. Under state law, plant and animal species may be formally



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USFWS Critical Habitat

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0 2,000 Feet

Figure 9

designated rare, threatened, or endangered by official listing by the California Fish and Game Commission. The CESA authorizes that private entities may "take" plant or wildlife species listed as endangered or threatened under the FESA and CESA, pursuant to a federal Incidental Take Permit if the CDFW certifies that the incidental take is consistent with CESA (CFG Code Section 2080.1[a]). For state-only listed species, Section 2081 of CFG Code authorizes the CDFW to issue an Incidental Take Permit for state listed threatened and endangered species if specific criteria are met.

Native Plant Protection Act

Sections 1900–1913 of the CFG Code (Native Plant Protection Act; NPPA) direct the CDFW to carry out the State legislature's intent to "…preserve, protect, and enhance endangered or rare native plants of this state." The NPPA gives the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take.

California Fish and Game Code

The CFG Code provides specific protection and listing for several types of biological resources. Section 1600 of CFG Code requires a Streambed Alteration Agreement for any activity that would alter the flow, change, or use any material from the bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, and/or lake. Typical activities that require a Streambed Alteration Agreement include excavation or fill placed within a channel, vegetation clearing, structures for diversion of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement. Notification is required prior to any such activities.

Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Raptors and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFW and/or USFWS.

Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning (NCCP) program is a cooperative effort to protect habitats and species. It began under the state's NCCP Act of 1991, legislation broader in its orientation and objectives than the CESA or FESA. These laws are designed to identify and protect individual species that have already declined significantly in number. The NCCP Act of 1991 and the associated Southern California Coastal Sage Scrub NCCP Process Guidelines (1993), Southern California Coastal Sage Scrub NCCP Conservation Guidelines (1993), and NCCP General Process Guidelines (1998) have been superseded by the NCCP Act of 2003.

The primary objective of the NCCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

This voluntary program allows the state to enter into planning agreements with landowners, local governments, and other stakeholders to prepare plans that identify the most important areas for a threatened or endangered species, and the areas that may be less important. These NCCP plans may become the basis for a state permit to take threatened and endangered species in exchange for conserving their habitat. The CDFW and USFWS worked to combine the NCCP program with the federal HCP process to provide take permits for state and federal listed species. Under the NCCP, local governments, such as the County, can take the lead in developing these NCCP plans and become the recipients of state and federal take permits. The County does not yet have an NCCP plan adopted for North County; the NC MSCP Plan is still in draft form (County 2009).

As stated in Section 1.4.1, the project is identified as a hardline development project under the draft NC MSCP. Hardline development projects have planned development footprints within the regional preserve network that have been factored into the Plan's conservation analysis. The USFWS, CDFW, and County met several times from November 2005 through August 2010 to discuss hardline requirements for the project, including footprint, preserve design, and mitigation criteria. An agreement was reached on the proposed hardline development footprint and mitigation strategy on October 28, 2010, and is memorialized in a letter dated March 1, 2011, hereafter referred to as the 2011 Hardline letter (USFWS and CDFW 2011), and included as Appendix H to this report. Mitigation for impacts to sensitive vegetation communities described herein is consistent with the mitigation strategy outlined in the 2011 letter. However, if the draft NC MSCP is not adopted prior to implementation of any project impacts, issuance of a Habitat Loss Permit (HLP) would be required for any impacts to coastal sage scrub. The HLP process is further discussed below in Section 1.5.3.

Porter-Cologne Water Quality Control Act

The SWRCB and the RWQCB regulate the discharge of waste to waters of the State via the 1969 Porter-Cologne Water Quality Control Act (Porter-Cologne) as described in the California Water Code. The California Water Code is the State's version of the Federal CWA. Waste, according to the California Water Code, includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

State waters that are not federal waters (i.e., areas not regulated by the CWA) may be regulated under Porter-Cologne. A Report of Waste Discharge must be filed with the RWQCB for projects that result in discharge of waste into waters of the State. The RWQCB will issue Waste Discharge Requirements (WDRs) or a waiver. The WDRs are the Porter-Cologne version of a CWA 401 Water Quality Certification.

1.5.3 County of San Diego

Habitat Loss Permit Ordinance

The HLP Ordinance was adopted in March of 1994 (County 1994) in response to both the listing of the coastal California gnatcatcher as a federal threatened species and the adoption of the NCCP Act by the State. Pursuant to the Special 4(d) Rule under the FESA, the County is authorized to issue "take permits" for the coastal California gnatcatcher (in the form of HLPs) in lieu of Section 7 or 10(a) permits typically required from the USFWS. Although issued by the County, the USFWS and CDFW must concur with the issuance of an HLP for it to become valid as take authorization under the FESA. The HLP Ordinance states that projects must obtain an HLP prior to the issuance of a grading permit, clearing permit, or improvement plan if the project would directly or indirectly impact any of several coastal sage scrub habitat types. The HLP Ordinance requires an HLP if coastal sage scrub or related habitat will be impacted, regardless of whether it is currently occupied by the coastal California gnatcatcher. An HLP is not required for projects within the boundaries of the MSCP that have an adopted subarea plan since take authorization is conveyed to those projects through compliance with the MSCP. The HLPs are also not required for projects that have separately obtained Section 7 or 10(a) permits for take of the coastal California gnatcatcher.

Approval of an HLP is based on findings made pursuant to the HLP Ordinance. Findings need to demonstrate that a project's loss of coastal sage scrub would not exceed the County's five percent interim allowable loss limit. It would also have to demonstrate that the habitat loss would not preclude connectivity between areas of high habitat values or preclude or prevent the preparation of a subregional NCCP plan. Additionally, the findings must show that the habitat loss has been minimized and mitigated to the maximum extent practicable in accordance with Section 4.3 of the Southern California Coastal Sage Scrub NCCP Process Guidelines, and that the habitat loss would not appreciably reduce the likelihood of survival and recovery of listed species in the wild. Finally, the habitat loss must be incidental to otherwise lawful activities. An HLP application must be filed with the County if the draft NC MSCP Plan has not been adopted at the time of environmental review of the proposed project since impacts to coastal sage scrub and the coastal California gnatcatcher would occur. An HLP requires concurrence from USFWS and CDFW.

2.0 PROJECT EFFECTS

Direct impacts are immediate impacts resulting from permanent habitat removal. Direct impacts were quantified by overlaying the limits of project-related impacts on the biological resources map of the site. Indirect impacts are actions that are not direct removal of habitat, but affect the surrounding biological resources either as a secondary effect of the direct impacts (e.g., construction noise, runoff, nighttime lighting, fugitive dust, etc.) or as the cause of degradation of a biological resource over time (e.g., edge effects and adjacency issues). Cumulative impacts are those caused by numerous projects in the region and their additive effect of multiple direct and indirect impacts to biological resources over time.

The total project study area encompasses 248.5 acres of County-owned land including the airport site (231.1 acres) and a small portion of the eastern parcel (17.4 acres). However, because the County is not responsible for improvements to the FAA-owned MALSR system, no improvements on the 17.4-acre site are proposed by the County. As such, the eastern parcel is not included in the impact analysis since no impacts are proposed. All proposed impacts would occur entirely within the airport site.

Following County Guidelines, up to 112.76 acres of the approximately 248.5-acre study area could be impacted by implementation of the master plan (Figure 10). This acreage includes anticipated improvements that would occur entirely within existing developed areas in the southern portion of the airport site; these areas consist entirely of existing buildings and pavement and redevelopment of portions of this area would have no effect on biological resources.

The impact footprint was determined by taking the proposed boundaries of all future projects proposed by the plan and adding 25 to 50 feet of area around each project to establish the potential limits of impact within airport property. Establishing the limits of impact in this way is intended to allow for flexibility in the final design and construction of individual projects and provide sufficient area for construction equipment to maneuver during buildout of each project. A 50-foot impact radius was used around all proposed project features except for the vehicle service road extension in the northwestern corner of the airport site, which was buffered by a 25-foot-wide impact radius. This narrower impact footprint was used for the vehicle service road to minimize impacts to sensitive biological resources around this smaller project feature.

2.1 SPECIAL STATUS SPECIES

2.1.1 Special Status Plant Species

The project would result in impacts to two special status plant species, including two County List D species (ashy spikemoss and Palmer's grapplinghook). Neither of these species is federal or state listed. Impacts are further discussed below.

Ashy Spikemoss

Construction of the vehicle service road and shift of the runway in the northwestern portion of the airport site would impact scattered patches of ashy spikemoss.

Palmer's Grapplinghook

Construction of the vehicle service road and shift of the runway in the northwestern portion of the airport site would impact scattered patches of Palmer's grapplinghook.

2.1.2 Special Status Animal Species

Coastal California Gnatcatcher

Coastal California gnatcatcher is a federally listed threatened, state Species of Special Concern, and County Group 1 species. One nesting pair was observed in Diegan coastal sage scrub within

Study Area

Impact Footprint

Vegetation

- Coastal Sage Scrub
- Coastal Sage Scrub - disturbed
- Developed
- Disturbed Habitat
- Eucalyptus Woodland
- Granitic Chamise Chaparral
- Non-Native Grassland
- Non-Native Vegetation
- Southern Maritime Chaparral
- Vernal Pool

Other

- Ephemeral Stream Channel

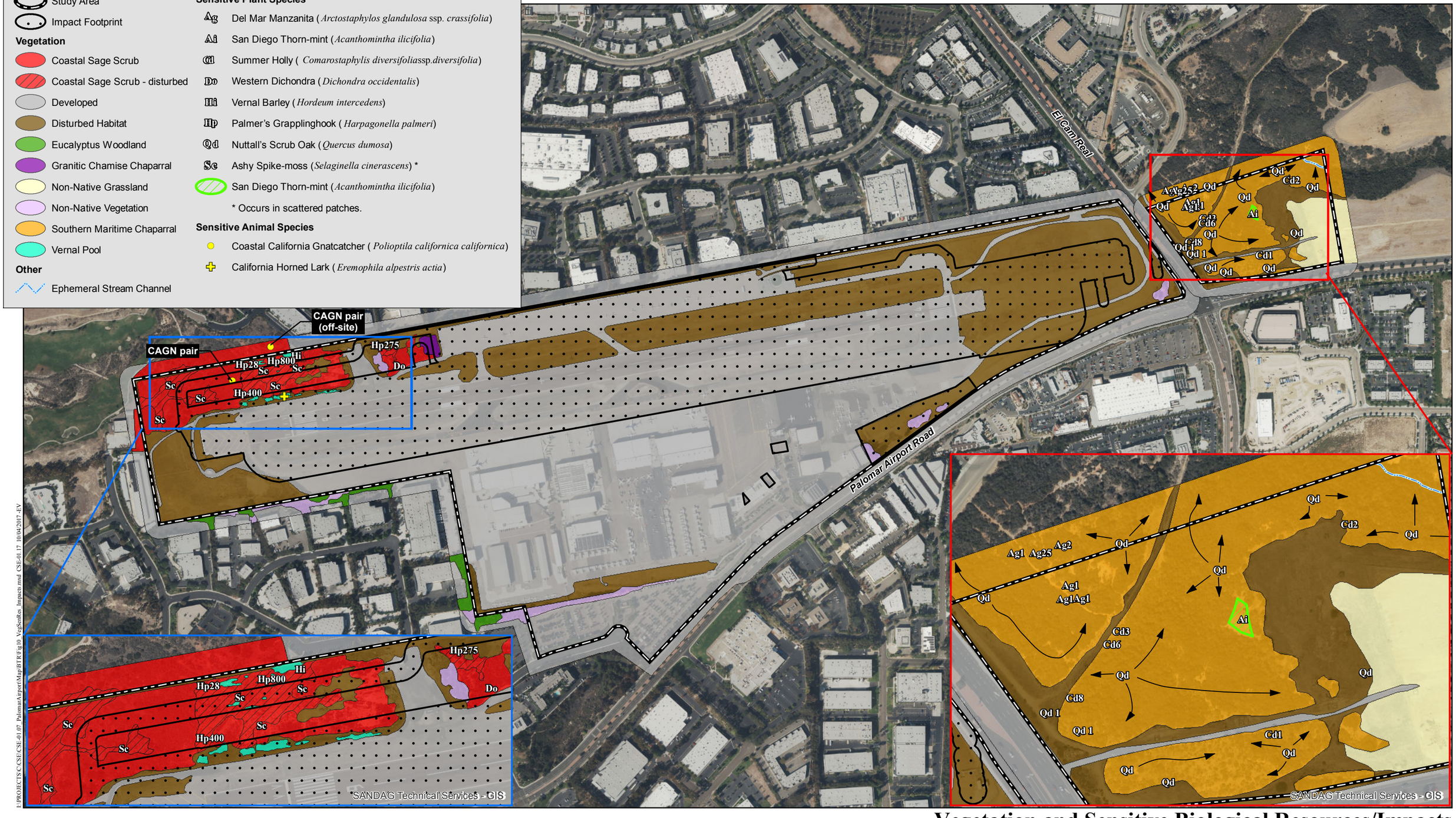
Sensitive Plant Species

- Ag Del Mar Manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*)
- Ai San Diego Thorn-mint (*Acanthomintha ilicifolia*)
- Cd Summer Holly (*Comarostaphylis diversifolia*ssp.*diversifolia*)
- Do Western Dichondra (*Dichondra occidentalis*)
- Hi Vernal Barley (*Hordeum intercedens*)
- Hp Palmer's Grapplinghook (*Harpagonella palmeri*)
- Qd Nuttall's Scrub Oak (*Quercus dumosa*)
- Sc Ashy Spike-moss (*Selaginella cinerascens*) *
- San Diego Thorn-mint (*Acanthomintha ilicifolia*)

* Occurs in scattered patches.

Sensitive Animal Species

- Coastal California Gnatcatcher (*Polioptila californica californica*)
- California Horned Lark (*Eremophila alpestris actia*)



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Vegetation and Sensitive Biological Resources/Impacts

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Figure 10

the northwestern portion of the airport site during 2016 protocol surveys, and a second pair was observed just off site to the north. The project would impact 3.1 acres of occupied Diegan coastal sage scrub from construction of the vehicle service road and future shift of the runway .

California Horned Lark

California horned lark is a County Group 2 and CDFW Watch List species. Project impacts would occur to disturbed habitat areas in the northwestern portion of the airport site where this species was observed foraging. Construction impacts would occur from shifting the runway to the north.

2.2 RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY

The project would result in impacts to 3.66 acres of sensitive natural communities, including 0.36 acre of vernal pool, 3.1 acres of Diegan coastal sage scrub (including disturbed), and 0.2 acre of granitic chamise chaparral. Impacts to these habitats would require mitigation. Disturbed habitat and developed lands also would be impacted; however, these are not considered sensitive natural communities.

The project would impact approximately 0.36 acre of areas mapped as vernal pool habitat. Impacts to vernal pools would occur in association with construction of the vehicle service road and future runway relocation in the northwestern portion of the airport site. All vernal pool impacts would occur within lands identified as Take Authorized in the draft NC MSCP plan.

The project would impact 3.1 acres of Diegan coastal sage scrub. These impacts would occur in association with construction of the vehicle service road extension, northerly shift of the runway, and future EMAS. A total of 2.5 acres of impact (81 percent) would occur within lands identified as Take Authorized in the draft NC MSCP plan. The remaining 0.6 acre of impact would occur within lands identified as PAMA in the draft NC MSCP plan, and 0.01 acre in lands outside of PAMA.

The project would impact 0.2 acre of granitic chamise chaparral. These impacts would occur in association with construction of PAPI for future runway relocation. All impacts would occur within lands identified as Take Authorized in the draft NC MSCP plan. However, the County is not responsible for these improvements. The FAA is the owner and responsible agency for this lighting system, and relocation of the lights would be considered a federal action.

Regarding potential impacts to draft NC MSCP designations, a total of 0.8 acre would be impacted (comprising 0.7 percent of the total impacts) within areas identified as PAMA, of which 0.2 acre is disturbed habitat or developed land, and 0.6 acre is native upland habitat. Impacts proposed within PAMA are in the far northwest corner of the airport site, where a small area of PAMA is mapped adjacent to Take Authorized lands and areas outside PAMA (Figure 5). All other proposed impacts (111.96 acres out of 112.76 acres or 99.3 percent or the total) would occur within Take Authorized lands or areas identified as outside PAMA under the draft NC MSCP. As stated previously, all project impacts are within the airport site/active airfield, and no impacts are proposed on the eastern parcel.

Table 5 provides a summary of project impacts to vegetation communities/habitat types, including sensitive habitat.

Table 5
VEGETATION COMMUNITIES/HABITAT TYPES IMPACTS[1]

Vegetation Community[2]	Existing within the Study Area[3]	PERMANENT IMPACTS			
		PAMA	Take Authorized	Outside PAMA	Total Impacts
Vernal Pools (44000)	0.36	0	0.36	0	**0.36**
Southern Maritime Chaparral (37C30)	9.8	0	0	0	**0**
Diegan Coastal Sage Scrub–including disturbed (32500)	10.1	0.6	2.5	<0.1[4]	**3.1**
Granitic Chamise Chaparral (37210)	0.4	0	0.2	0	**0.2**
Non-Native Grassland (42200)	2.9	0	0	0	**0**
Non-native Vegetation (11000)	1.8	0	0.3	0.3	**0.6**
Disturbed Habitat (11300)	66.6	0.1	28.2	8.8	**37.1**
Developed Land (12000)	156.5	0.1	15.0	56.3	**71.4**
TOTAL	**248.5**	**0.8**	**46.56**	**65.4**	**112.76**

[1] Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01.
[2] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).
[3] Vegetation mapping was conducted within the 248.5-acre study area (composed of the 231.1-acre active airfield area and the 17.4-acre eastern parcel area), as well as on lands extending 100 feet outward from the study area boundary. The 100-foot wide area of mapped habitat extending outward from the study area is for visual and contextual purposes and is not included within acreage calculations presented herein.
[4] Impacts to coastal sage scrub outside of PAMA total 0.01 acre.

2.3 JURISDICTIONAL WETLANDS AND WATERWAYS

The project would impact vernal pool habitat totaling 0.36 acre, located entirely within the northwestern portion of the airport site (Table 5). These impacts would occur in association with construction of the vehicle service road and future runway relocation in the northwestern portion of the airport site (Figure 11). While direct impacts are not anticipated to occur to all 0.36 acre of existing vernal pool habitat, degradation of remaining pools that are adjacent to construction is anticipated to occur, thus, all vernal pool habitat on site is considered impacted under this analysis. All impacts to vernal pools would occur within lands identified as Take Authorized in the draft NC MSCP plan.

No impacts to non-wetland waters of the U.S./ephemeral stream channel are anticipated, as there are no areas located within the proposed project footprint.

I:\PROJECTS\CSE\CSE-01.07_PalomarAirportMap\BTR\Fig11_VernalPools_Impacts-mxd CSE-01.17 10/20/2016 - NG

Vernal Pools/Impacts

MCCLELLAN-PALOMAR AIRPORT MASTER PLAN

HELIX Environmental Planning

0 100 Feet

Figure 11

2.4 WILDLIFE MOVEMENT AND NURSERY SITES

The study area does not serve as a nursery site, thus, no impact to nursery sites would occur.

Project implementation would impact small portions of stepping-stone gnatcatcher habitat in the northwestern portion of the airport site, but would not preclude birds from continuing to use the surrounding suitable area for nesting and dispersal. This area has limited function for terrestrial wildlife as it is relatively small and chain link fencing separates it from an already constricted connection to other native habitat to the north, with active airfield abutting its other sides. Thus, impacts on wildlife movement would be minimal.

2.5 INDIRECT IMPACTS

Potential significant indirect impacts may occur as a result of project implementation, as described further below.

Noise

Construction-related noise from such sources as clearing, grubbing, and grading can be a temporary impact to wildlife, as breeding birds and mammals may temporarily or permanently leave their territories to avoid noise disturbances from construction activities, which could lead to reduced reproductive success and increased mortality. A threshold of 60.0 dBA has been established as a guideline by the USFWS and CDFW for determining potential noise effects on nesting birds, particularly special-status species such as the coastal California gnatcatcher. Noise exceeding 60.0 dBA has the potential to result in nest abandonment and nest failure. The site is already subject to high levels of ambient noise from nearby heavily-trafficked roadways and existing aviation uses, including approaching and departing aircraft, thus, coastal California gnatcatcher nesting on the airport site would be expected to have a high tolerance to noise given the existing levels in the area. However, potential significant impacts could still result from the project if construction noise levels exceed a level of 60 dBA or ambient (whichever is greater) adjacent to nesting sensitive bird species, including coastal California gnatcatcher.

Lighting

Night lighting that extends from a developed area onto adjacent wildlife habitat can discourage nocturnal wildlife from moving through habitat, resulting in alteration of natural behavior, and can provide nocturnal predators with an unnatural advantage over their prey, resulting in a potentially significant impact.

Project implementation would not substantially increase the current night lighting on the airport site, which is required by the FAA for safety and as navigational aids. Shift of the airport lighting system is not anticipated to cause new indirect impacts to wildlife, as it a continuation of an existing use, the airport perimeter continues to be secured to preclude ground movement by wildlife, and the site is not a wildlife movement corridor.

3.0 SPECIAL STATUS SPECIES

3.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the USFWS or CDFW?

Any of the following conditions would be considered significant if:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

C. The project would impact the local long-term survival of a County List C or D plant species or a County Group 2 animal species.

D. The project may impact arroyo toad aestivation, foraging, or breeding habitat.

E. The project would impact golden eagle habitat.

F. The project would result in a loss of functional foraging habitat for raptors.

G. The project would impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species.

H. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive species over the long term.

I. The project would impact occupied burrowing owl habitat.

J. The project would impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.

K. The project would impact occupied Hermes copper butterfly habitat.

L. The project would impact nesting success of the following sensitive bird species through grading, clearing, fire fuel modification, and/or other noise generating activities such as construction:

- Coastal cactus wren
- Coastal California gnatcatcher
- Least Bell's vireo
- Southwestern willow flycatcher
- Tree-nesting raptors
- Ground-nesting raptors
- Golden eagle
- Light-footed clapper rail

3.2 ANALYSIS OF PROJECT EFFECTS

The proposed project would result in significant impacts under above guidelines 3.1.A, 3.1.B, and 3.1.L for the following reasons:

A. The project would impact one or more individuals of a species listed as federally or state endangered or threatened.

The project would result in significant impacts to the federal listed threatened coastal California gnatcatcher, further discussed below.

Coastal California Gnatcatcher

The project would impact 3.1 acres of occupied gnatcatcher habitat, which consists of Diegan coastal sage scrub in the northwestern portion of the airport site. Impacts to breeding gnatcatchers and occupied habitat would be significant.

B. The project would impact an on-site population of a County List A or B plant species, or a County Group 1 animal species, or a species listed as a state Species of Special Concern.

The project would impact County Group 1 species coastal California gnatcatcher.

Project impacts to County Group 1 species coastal California gnatcatcher are significant and are addressed above within Section 3.2.A.

C. The project could impact nesting success of coastal California gnatcatcher through grading, clearing, and/or other noise generating activities such as construction.

Project construction could impact the nesting success of coastal California gnatcatcher, which is known to nest on and/or within 300 feet of proposed impact areas. Noise-related impacts would be considered significant if coastal California gnatcatcher were displaced from their nests and failed to breed.

The project would not result in significant impacts under Guidelines 3.1.C, 3.1.D, 3.1.E, 3.1.F, 3.1.G, 3.1.H, 3.1.I, 3.1.J., and 3.1.K for the following reasons:

D. The project would not impact the local long-term survival of a County List C or D plant species or a County Group 2 animal species.

Two County List D plant species (ashy spikemoss and Palmer's grapplinghook) and one County Group 2 animal species (California horned lark) would be impacted by the project. Impacts are further discussed below.

Ashy Spikemoss

Construction of the vehicle service road and future northerly shift of the runway in the northwestern portion of the airport site would impact scattered patches of ashy spikemoss. The local long-term survival of this species would not be impacted, as this species is relatively widespread in the region, and also occurs in other on-site locations outside of the project footprint. No significant impact would occur.

Palmer's Grapplinghook

Construction of the vehicle service road and future northerly shift of the runway in the northwestern portion of the airport site would impact scattered patches of Palmer's grapplinghook. The local long-term survival of this species would not be impacted, as the project would impact only a portion of the on-site population. Furthermore, this species is relatively widespread in the region and is likely present on nearby preserved lands. No significant impact would occur.

California Horned Lark

California horned lark is a County Group 2 and CDFW Watch List species. This species was observed foraging along roads within Diegan coastal sage scrub and disturbed habitat in the northwestern portion of the airport site, which would be impacted by the future shift of the runway. The study area does not contain a regionally significant population of horned lark and project impacts would not affect the local long-term survival of this species. No significant impact would occur.

E. The project would not impact arroyo toad aestivation, foraging, or breeding habitat.

The study area does not support potential habitat for arroyo toad. No impact would occur.

F. The project would not impact golden eagle habitat.

The study area does not support potential habitat for golden eagle. No impacts would occur to golden eagle or its habitat.

G. The project would not result in a loss of functional foraging habitat for raptors.

The project would not result in significant impacts to functional foraging habitat for raptors, as the only open lands that would be impacted are associated with the active airfield on the airport site. Such areas are subject to the airport's WHMP and are unlikely to support a prey base for foraging raptors. No significant impact would occur.

H. The project would not impact the viability of a core wildlife area, defined as a large block of habitat (typically 500 acres or more not limited to project boundaries, though smaller areas with particularly valuable resources may also be considered a core wildlife area) that supports a viable population of a sensitive wildlife species or supports multiple wildlife species.

The site is not part of a core wildlife area; no impact would occur.

I. The project would not cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive species over the long term.

Potential indirect impacts from construction noise are discussed under Guideline 3.1.L.

J. The project would not impact occupied burrowing owl habitat.

The study area does not support occupied burrowing owl habitat. The project would have no impact on burrowing owl nesting habitat.

K. The project would not impact occupied cactus wren habitat, or formerly occupied coastal cactus wren habitat that has been burned by wildfire.

The study area does not support occupied coastal cactus wren habitat or suitable habitat for this species. The project would have no impact on coastal cactus wren.

L. The project would not impact occupied Hermes copper butterfly habitat.

The study area does not support occupied Hermes copper butterfly habitat or suitable habitat for this species. The project would have no impact on Hermes copper butterfly.

3.3 CUMULATIVE IMPACT ANALYSIS

The project has the potential to contribute to the cumulative impact on coastal California gnatcatcher and raptors (i.e., loss of foraging habitat). However, the study area is within County-owned lands that are surrounded by the City of Carlsbad, which has an approved subarea plan (City's HMP) under the MHCP. Cumulative losses in the project vicinity have been addressed by the implementation of the City's HMP. Furthermore, projects are required to implement avoidance measures so that direct, inadvertent take of gnatcatcher individuals and raptors is prevented. Although the project would contribute to a significant impact on special status wildlife species, these impacts would be mitigated and the proposed project's contribution to cumulative impacts on coastal California gnatcatcher would be less than significant.

3.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Direct impacts to coastal California gnatcatcher would be mitigated through implementation of the following measure **BIO-1**:

BIO-1 In accordance with the mitigation strategy described in the 2011 Hardline letter, mitigation for impacts to coastal California gnatcatcher habitat (Diegan coastal sage scrub) shall occur at a 2:1 ratio through the preservation southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel, or at another location deemed acceptable by the County and Wildlife Agencies. This would result in the preservation of 6.2 acres of southern maritime chaparral. The 2011 Hardline letter confirmed this mitigation strategy is adequate assuming adoption of the NC MSCP.

If the NC MSCP is not adopted at the time of project-specific implementation, then mitigation for impacts to Diegan coastal sage scrub shall occur pursuant to County guidelines and habitat mitigation ratios. The anticipated mitigation ratio in this scenario is 2:1. Regarding wildlife, take authorization for impacts to coastal California gnatcatcher would require approval of either an HLP from the County or Section 7 (or 10) permit from USFWS.

No grubbing or clearing of vegetation shall occur of occupied Diegan coastal sage scrub during the breeding season of the coastal California gnatcatcher (February 15-August 31). All grading permits, improvement plans, and the final map shall state the same. If clearing or grading would occur during the breeding season for the gnatcatcher, a pre-construction survey shall be conducted to determine whether gnatcatchers occur within the impact area(s). The pre-construction survey shall consist of three site visits with each site visit occurring seven days apart. If there are no gnatcatchers nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If, however, any gnatcatchers are observed, but no nesting or breeding behaviors are noted, additional surveys for breeding/nesting behaviors shall be conducted weekly. If any gnatcatchers are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional weekly surveys within the area, construction within 300 feet of any location at which birds have been observed shall be postponed until all nesting (or breeding/nesting behavior) has ceased or until after August 31. (See BIO-2 for mitigation for indirect noise effects.)

Indirect impacts to nesting gnatcatchers would be mitigated through implementation of the following measure **BIO-2**.

BIO-2 If operation of construction equipment occurs during the breeding season for the coastal California gnatcatcher (February 15-August 31), pre-construction survey(s) shall be conducted by a qualified biologist as appropriate to determine whether gnatcatcher occurs within the areas potentially impacted by noise. If it is determined at the completion of pre-construction surveys that active nests belonging to this species are absent from the potential impact area, construction shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to this species, then construction shall: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier or berm is constructed at the edge of the development footprint and/or around the piece of equipment to ensure that noise

levels are reduced to below 60 dBA or ambient, whichever is greater. Decibel output will be confirmed by a County-approved noise specialist and intermittent monitoring by a qualified biologist to ensure that conditions have not changed will be required. All grading permits, improvement plans, and the final map shall state the same.

3.5 CONCLUSION

Project implementation could result in significant impacts to federally listed animal species and County Group 1 animals. Potential significant impacts could result from direct disturbance, loss of habitat, and noise. Implementation of mitigation measures **BIO-1** and **BIO-2** would reduce impacts to less than significant.

4.0 RIPARIAN HABITAT OR SENSITIVE NATURAL COMMUNITY

4.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the USFWS or CDFW?

Any of the following conditions would be considered significant if:

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

B. Any of the following will occur to or within jurisdictional wetlands and/or riparian habitats as defined by the USACE, CDFW, and County: vegetation removal; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; road crossing construction; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity, and abundance.

C. The project would draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of three feet or more from historical low groundwater levels.

D. The project would cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive habitats over the long term.

E. The project does not include a wetland buffer adequate to protect the functions and values of existing wetlands.

4.2 ANALYSIS OF PROJECT EFFECTS

The proposed project would result in significant impacts under above guidelines 4.1.A and 4.1.B, for the following reasons:

A. Project-related grading, clearing, construction, or other activities would temporarily or permanently remove sensitive native or naturalized habitat (as listed in Table 5 in the County Guidelines for Determining Significance [County 2010b], excluding those without a mitigation ratio) on or off the Project site.

Implementation of the proposed project would result in direct impacts to approximately 3.66 acres of sensitive vegetation communities made up of: 0.36 acre of vernal pool, 3.1 acres of Diegan coastal sage scrub (including disturbed), and 0.2 acre of granitic chamise chaparral. These impacts would be significant according to County Guideline 4.1.A.

B. The following would occur to or within jurisdictional wetlands and/or riparian habitats as defined by the USACE, CDFW, and County: vegetation removal; grading; diversion of water flow; placement of fill; placement of structures; road crossing construction; placement of culverts; disturbance of the substratum; and activities that may cause an adverse change in native species composition, diversity, and abundance.

As addressed under County Guideline 4.1.A, the project would result in impacts to vernal pools, which may be considered jurisdictional wetlands by the USACE and/or RWQCB (refer to Section 1.4.11). A total of 0.36 acre of vernal pool could be impacted by project implementation. These impacts would be significant according to County Guideline 4.1.B.

The project would not result in significant impacts under the guidelines 4.1.C, 4.1.D, and 4.1.E for the following reasons:

C. The project would not draw down the groundwater table to the detriment of groundwater-dependent habitat, typically a drop of three feet or more from historical low groundwater levels.

The project does not propose groundwater withdrawals or activities that could result in lowering of the groundwater table. No significant impact would occur.

D. The project would not cause indirect impacts, particularly at the edge of proposed development adjacent to proposed or existing open space or other natural habitat areas, to levels that would likely harm sensitive habitats over the long term.

Potential indirect impacts from construction noise are discussed under Guideline 3.1.L.

Potentially significant indirect impacts to sensitive species resulting from lighting would be avoided through the following project design features: Lighting within the proposed project footprint adjacent to undeveloped habitat would be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from these

areas to the extent allowable under FAA regulations. Furthermore, lighting is already present on the airport site and additional lighting is not anticipated to have a significant impact. With implementation of these features, no significant impact from exotic plant species or night-time lighting would occur.

E. The project includes wetland buffers adequate to protect the functions and values of existing wetlands.

The only wetlands on site are vernal pools in the northwestern corner, all of which are anticipated to be impacted by the project. Thus, no wetland buffers are required for the project and no significant impact would occur.

4.3 CUMULATIVE IMPACT ANALYSIS

The project would contribute to the cumulative impact on wetland (vernal pool) habitat and other sensitive natural communities. The proposed project's impacts to wetland habitat and sensitive upland communities, while significant at the project level, are considered cumulatively significant but mitigable as the project would provide mitigation for these impacts in accordance with County and regulatory agency guidelines, as applicable. As such, the proposed project's contribution to cumulative impacts to sensitive vegetation communities is not considerable and would be less than significant.

4.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Mitigation for impacts to sensitive vegetation communities described herein is consistent with the mitigation strategy outlined in the 2011 Hardline letter, which assumed adoption of the NC MSCP prior to project-specific impacts. However, if the NC MSCP is not adopted at the time of project-specific implementation, then mitigation for impacts to sensitive vegetation communities shall occur pursuant to County guidelines and habitat mitigation ratios (i.e., Table 5 Habitat Mitigation Ratios [County 2010b]).

Impacts to sensitive habitat would be mitigated through implementation of the following measures **BIO-3a** through **BIO-3c**:

BIO-3a In accordance with the mitigation strategy described in the 2011 Hardline letter (and assuming adoption of NC MSCP), mitigation for impacts to 0.36 acre of vernal pool shall occur at a minimum 1:1 ratio through vernal pool creation/restoration within a 6.78-acre area on County-owned lands on or adjacent to the eastern parcel, or at another location deemed acceptable by the County and other regulating agencies, as applicable. If the NC MSCP is not adopted at the time of project implementation, then mitigation for impacts to vernal pools shall occur at a 5:1 ratio pursuant to County guidelines and habitat mitigation ratios (County 2010b). Impacts to vernal pools may require issuance of a CWA Section 404 permit from the USACE and a CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act WDRs from the RWQCB. Federally listed species have not been detected in onsite vernal pools, thus take authorization under the ESA is not anticipated to be required.

BIO-3b Mitigation for impacts to 3.1 acres of Diegan coastal sage scrub shall occur at a 2:1 ratio as specified in BIO-1a, above.

BIO-3c In accordance with the mitigation strategy described in the 2011 Hardline letter, mitigation for impacts to 0.2 acre of granitic chamise chaparral shall occur at a 2:1 ratio through the preservation of 0.4 acre of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel, or at another location deemed acceptable by the County and Wildlife Agencies. If the NC MSCP is not adopted at the time of project implementation, then mitigation for impacts to granitic chamise chaparral shall occur at a 0.5:1 ratio pursuant to County guidelines and habitat mitigation ratios applied for areas outside of approved MSCP Plans (County 2010b).

4.5 CONCLUSION

The project would result in significant impacts to sensitive natural communities and wetland habitat; however, a combination of avoidance through project design and mitigation measures to fully compensate the loss of habitat would reduce impacts to below a level of significance. Mitigation is proposed at ratios consistent with those required by the County, Wildlife Agencies, and Resource Agencies. With the implementation of mitigation measures **BIO-1a** and **BIO-3a** through **BIO-3c,** impacts on sensitive natural communities, including wetland habitat, would be reduced to less than significant.

5.0 JURISDICTIONAL WETLANDS AND WATERWAYS

5.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The following condition would be considered significant if:

A. The project would impact federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means.

5.2 ANALYSIS OF PROJECT EFFECTS

The project would impact up to 0.36 acre of vernal pool habitat that may be considered federal wetland by the USACE. Coordination with the USACE regarding whether the on-site vernal pools would be regulated under the CWA would occur at the time that individual projects that could impact vernal pools are funded and proposed for construction. If on-site vernal pools are determined to be wetlands regulated pursuant the CWA, impacts would be significant under County Guideline 5.1.A.

5.3 CUMULATIVE IMPACT ANALYSIS

The proposed project's impacts to 0.36 acre of vernal pool habitat, while significant at the project level, would be fully mitigated by creation and restoration of vernal pools at a minimum 1:1 ratio at a site approved by the resource agencies. Mitigation would conform to the USACE's no net loss policy, thus no cumulatively significant impact would occur.

5.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Impacts to vernal pool would be mitigated through implementation of the following measure:

BIO-4 Mitigation for impacts to 0.36 acre of vernal pool shall occur at a minimum 1:1 ratio as specified in BIO-3a, above. If the NC MSCP is not adopted at the time of project implementation, then mitigation for impacts to vernal pools shall occur at a 5:1 ratio pursuant to County guidelines and habitat mitigation ratios (County 2010b). Impacts to vernal pools may require issuance of a CWA Section 404 permit from the USACE and a CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act WDRs from the RWQCB. Federally listed species have not been detected in onsite vernal pools, thus take authorization under the ESA is not anticipated to be required.

5.5 CONCLUSION

Implementation of the proposed project would result in impacts to federally protected wetlands, unless on-site vernal pools are determined to be isolated wetlands not subject to regulation under the CWA. Mitigation measures, as determined in consultation with the USACE and/or RWQCB, are anticipated.

Impacts to jurisdictional areas would require permitting through the appropriate regulatory agencies, as discussed below. Notification for securing necessary wetland permits prior to issuance of a grading permit is a regulatory requirement. Potential wetland permits include a CWA Section 404 permit from the USACE for impacts to vernal pools (if considered waters of the U.S.), and CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act WDRs from the RWQCB for impacts to vernal pools. Final mitigation requirements would be determined through consultation with the USACE and/or RWQCB, and would reduce impacts to less than significant.

6.0 WILDLIFE MOVEMENT AND NURSERY SITES

6.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Any of the following conditions would be considered significant if:

A. The project would impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

B. The project would substantially interfere with connectivity between blocks of habitat, or would potentially block or substantially interfere with a local or regional wildlife corridor or linkage.

C. The project would create artificial wildlife corridors that do not follow natural movement patterns.

D. The project would increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels proven to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.

E. The project does not maintain an adequate width for an existing wildlife corridor or linkage and/or would further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, and placement of barriers in the movement path.

F. The project does not maintain adequate visual continuity (i.e., long lines-of-site) within wildlife corridors or linkage.

6.2 ANALYSIS OF PROJECT EFFECTS

The project would not result in significant impacts under the above guidelines for the following reasons:

A. The project would not impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction.

The airport is subject to a WHMP which requires the County to maximize safety to airport users and wildlife by precluding use of the site for wildlife movement, particularly adjacent to aircraft movement areas. The proposed project will not substantially change the current use of the site, the perimeter remains fully fenced, and is not currently considered a wildlife movement corridor. Although the project would impact small areas used by coastal California gnatcatcher and other species for foraging and breeding, the proposed project is a continuation of existing uses and would not further constrain existing connections to off-site lands. Impacts would be less than significant.

B. The project would not substantially interfere with connectivity between blocks of habitat and would not potentially block or substantially interfere with a local or regional wildlife corridor or linkage.

The study area does not provide core wildlife habitat and does not support wildlife corridors. The project would not substantially interfere with the adjoining linkage for

avian dispersal due to the relatively small area of impact to this area and its location along the outer edge of the linkage. Furthermore, the airport is fully fenced and the proposed project is a continuation of existing uses, which would not further constrain existing connections to off-site lands. Impacts would be less than significant.

C. The project would not create artificial wildlife corridors that do not follow natural movement patterns.

The project does not create artificial corridors. The airport is fully fenced and the proposed project is a continuation of existing uses. Movement patterns currently present in the area would continue in the study area under post-project conditions. No impact would occur.

D. The project would not increase noise and/or nighttime lighting in a wildlife corridor or linkage to levels proven to affect the behavior of the animals identified in a site-specific analysis of wildlife movement.

The study area is not part of a wildlife corridor. Habitat in the northwestern corner of the airport site functions as a small extension of Linkage F, identified in the City's HMP as an area that is used primarily for avian dispersal. This area is already subject to noise and nighttime lighting from the existing airport as well as from adjacent development. Project implementation would not substantially increase noise or nighttime lighting in this area; impacts would be less than significant.

E. The project maintains an adequate width for an existing wildlife corridor or linkage and would not further constrain an already narrow corridor through activities such as (but not limited to) reduction of corridor width, removal of available vegetative cover, placement of incompatible uses adjacent to it, or placement of barriers in the movement path.

The study area is not part of an existing wildlife corridor. Habitat in the northwestern corner of the airport site functions as a small extension of Linkage F identified in the City's HMP as an area that is used primarily for avian dispersal. Although project implementation would impact portions of this area, adequate widths would remain within the identified linkage for continued avian (including gnatcatcher) breeding and dispersal, thus, no significant impact would occur.

F. The project maintains adequate visual continuity (i.e., long lines-of-site) within wildlife corridors and linkage.

The study area is not part of an existing wildlife corridor. The project would not impair visual continuity within corridors or linkages. No significant impact would occur.

6.3 CUMULATIVE IMPACT ANALYSIS

The proposed project results in less than significant impacts for each of the six guidelines in Section 6.0. The project would not result in significant impacts to wildlife movement or nursery sites, no cumulative impact would occur.

6.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

No additional mitigation measures are required.

6.5 CONCLUSION

Impacts would be less than significant and no additional mitigation measures are required.

7.0 LOCAL POLICIES, ORDINANCES, AND ADOPTED PLANS

7.1 GUIDELINES FOR DETERMINING SIGNIFICANCE

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? Would the project conflict with the provisions of an adopted HCP, NCCP plan, or other approved local, regional or state HCP?

Any of the following conditions would be considered significant if:

A. For lands outside of the MSCP, the project would impact Diegan coastal sage scrub vegetation in excess of the County's five percent habitat loss threshold, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

B. The project would preclude or prevent the preparation of the subregional NCCP. For example, the project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat preserves.

C. The project will impact any amount of wetlands or sensitive habitat lands as outlined in the RPO.

D. The project would not minimize and/or mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the NCCP Guidelines.

E. The project does not conform to goals and requirements outlined in any applicable HCP, Resource Management Plan (RMP), Special Area Management Plan, Watershed Plan, or similar regional planning effort.

F. For lands within the MSCP, the project would not minimize impacts to a Biological Resource Core Area (BRCA), as defined in the Biological Mitigation Ordinance (BMO; County 2010c).

G. The project would preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

H. The project does not maintain existing movement corridors and/or habitat linkages, as defined by the BMO.

I. The project does not avoid impacts to MSCP narrow endemic species and would impact core populations of narrow endemics.

J. The project would reduce the likelihood of survival and recovery of listed species in the wild.

K. The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (MBTA).

L. The project would result in the take of eagles, eagle eggs, or any part of an eagle (Bald and Golden Eagle Protection Act; BGEPA).

7.2 ANALYSIS OF PROJECT EFFECTS

The project would result in significant impacts under above guideline 7.1.K for the following reasons:

A. The project could result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (MBTA).

Construction of the project during avian breeding seasons could potentially result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs protected under the MBTA. Project construction could directly impact individuals or cause breeding birds to temporarily or permanently leave their territories, which could lead to reduced reproductive success and increased mortality. These impacts would be significant.

The project would not result in significant impacts under above guidelines 7.1.A, 7.1.B, 7.1.C, 7.1.D, 7.1.E, 7.1.F, 7.1.G, 7.1.H, 7.1.I, 7.1.J, and 7.1.L for the following reasons:

B. The project would not impact Diegan coastal sage scrub vegetation outside of the MSCP in excess of the County's five percent habitat loss threshold, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

The project would impact 3.1 acres of Diegan coastal sage scrub outside of adopted MSCP areas. The loss of 3.1 acres would not be in excess of the County's five percent habitat loss threshold. No impact would occur.

C. The project would not preclude or prevent the preparation of the subregional NCCP. For example, the project proposes development within areas that have been identified by the County or resource agencies as critical to future habitat preserves.

A total of 111.96 acres (99.3 percent) of the 112.76-acre impact footprint is within areas identified either as Take Authorized under the draft NC MSCP, or as lands otherwise outside of PAMA. Only 0.8 acre of impact would occur within lands identified as PAMA under the draft NC MSCP. This small area of proposed impact, which occurs in the northwest corner of the airport site/active airfield, is not a critical area for assemblage of the preserve, particularly considering the existing City of Carlsbad HMP preserve lands

northwest of the airport site and the large areas of PAMA that would remain unaffected on County-owned lands within and adjacent to the eastern parcel. The proposed project would not preclude or prevent approval and adoption of the Draft NC MSCP, and no significant impact would occur.

D. The project is exempt from the RPO.

The proposed project is an essential public project that is exempt from the RPO under Section 86.605(c). No impact would occur.

E. The project would mitigate coastal sage scrub habitat loss in accordance with Section 4.3 of the NCCP Guidelines.

The project would impact 3.1 acres of Diegan coastal sage scrub, the loss of which will be fully mitigated in accordance with the 2011 Hardline letter (as integrated into the NC MSCP, once adopted). If the NC MSCP is not adopted at the time of project-specific implementation, then mitigation for impacts to Diegan coastal sage scrub shall occur pursuant to County guidelines and habitat mitigation ratios (County 2010b). The anticipated mitigation ratio in this scenario is 2:1. Further, take authorization for impacts to coastal California gnatcatcher would require approval of either an HLP from the County or a Section 7 (or 10) permit from USFWS. Therefore, no significant impact would occur.

F. The project conforms to goals and requirements outlined in any applicable HCP, RMP, Special Area Management Plan, Watershed Plan, or similar regional planning effort.

No adopted HCP, RMP, Special Area Management Plan, Watershed Plan, or other regional planning efforts are applicable to the project. As such, the project would not conflict with any adopted plans. No impact would occur.

G. For lands within the MSCP, the project would not minimize impacts to BRCA, as defined in the BMO (County 2010c).

The project does not occur within an adopted MSCP planning area and the BMO does not apply. No impact would occur.

H. The project would not preclude connectivity between areas of high habitat values, as defined by the Southern California Coastal Sage Scrub NCCP Guidelines.

The majority of the airport site is shown as developed under the County's Habitat Evaluation Model (HEM [County 2008]). Only the extreme western end of the airport site is identified as very high habitat value, and the development proposed in this area would not further constrain connectivity to off-site areas to the north and west, as the site is already separated from off-site areas by a chain link fence. The project would not change or preclude connectivity between high habitat value areas in the region and no significant impact would occur.

I. The project maintains existing movement corridors and/or habitat linkages, as defined by the BMO.

The project does not occur within an adopted MSCP planning area and the BMO does not apply. No impact would occur.

J. The project avoids impacts to MSCP narrow endemic species and would not impact core populations of narrow endemics.

The project does not occur within an adopted MSCP planning area and protection of MSCP narrow endemics does not apply. No impact would occur.

K. The project would not reduce the likelihood of survival and recovery of listed species in the wild.

Coastal California gnatcatcher is the only listed species anticipated to be impacted by the project. As addressed within Section 2.1.2, the project would impact one location where breeding coastal California gnatcatchers were detected, affecting 3.1 acres of Diegan coastal sage scrub. The project would not constrain gnatcatcher movement between on-site and off-site gnatcatcher habitat. Therefore, the project would not reduce the likelihood of survival or recovery of coastal California gnatcatcher. A less than significant impact would occur.

L. The project would not result in the take of eagles, eagle eggs, or any part of an eagle (BGEPA).

The study area does not support potential habitat for golden eagle. No impacts would occur to golden eagle or its habitat.

7.3 CUMULATIVE IMPACT ANALYSIS

Projects within the unincorporated County are required to conform to County Guidelines 7.1.A through 7.1.L and provide mitigation as appropriate. Projects within surrounding lands within the City of Carlsbad are required to conform to the HMP and provide mitigation as appropriate. The proposed project results in less than significant impacts for 11 of the 12 guidelines in Section 7.0. Mitigation is proposed to reduce project-level impacts to migratory birds. Conformance or mitigation, as appropriate, would be required for the proposed project and for other projects in the vicinity in order to obtain a recommendation for approval, thus, no cumulative impacts would occur.

7.4 MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Potential impacts to nesting birds protected under the MBTA would be mitigated through implementation of the following measure **BIO-5**:

BIO-5 No grubbing or clearing of vegetation shall occur during the general avian breeding season (February 15-August 31). All grading permits, improvement plans, and the final map shall state the same. If grubbing, clearing, or grading would occur during

the general avian breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than three days prior to the commencement of the activities to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, clearing, grubbing, and grading shall be allowed to proceed. Furthermore, if construction activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted. If active nests or nesting birds are observed within the area, the biologist shall flag the active nests and construction activities shall avoid active nests until nesting behavior has ceased, nests have failed, or young have fledged.

7.5 CONCLUSION

Implementation of the project would result in potentially significant impacts to breeding migratory birds. Implementation of mitigation measure **BIO-5**, which proposes avoiding clearing of vegetation during the bird breeding season, would reduce these impacts to below a level of significance.

8.0 SUMMARY OF PROJECT IMPACTS AND MITIGATION

Implementation of the project would result in significant impacts to special status plant and animal species, sensitive natural communities, jurisdictional wetlands, and local policies. Table 6A provides a summary of project impacts and mitigation pertaining to sensitive natural communities should the NC MSCP be adopted at the time of project-specific implementation (in accordance with 2011 Hardline letter). Table 6B provides a summary of project impacts and mitigation pertaining to sensitive natural communities should the NC MSCP not be adopted at the time of project-specific implementation. Table 7 provides a summary of the proposed mitigation measures.

Table 6A
SCENARIO 1: SUMMARY OF VEGETATION COMMUNITIES IMPACTS AND MITIGATION IF NC MSCP IS ADOPTED AT TIME OF PROJECT-SPECIFIC IMPLEMENTATION[1]

Vegetation Community/ Habitat[2]	Total Existing in Study Area[3]	Total Impacts	Mitigation[4]	
			Ratio	Required
Vernal Pool (44000)	0.36	0.36	1:1	0.36
Southern Maritime Chaparral (37C30)	9.8	0	3:1	0
Diegan Coastal Sage Scrub– including disturbed (32500)	10.1	3.1	2:1	6.2
Granitic Chamise Chaparral (37210)	0.4	0.2	2:1	0.4
Non-Native Grassland (42200)	2.9	0	0.5:1	0
Non-native Vegetation (11000)[5]	1.8	0.6	--	0
Disturbed Habitat (11300)[5]	66.6	37.1	--	0
Developed Land (12000)[5]	156.5	71.4	--	0
TOTAL	**248.5**	**112.76**	--	**6.96**

[1] Area presented in acre(s) rounded to the nearest hundredth for wetlands and the nearest tenth for uplands. Totals reflect rounding.

[2] Vegetation categories and numerical codes are from Oberbauer (2008)

[3] Vegetation mapping was conducted within the 248.5-acre study area (composed of the 231.1-acre active airfield area and the 17.4-acre eastern parcel area), as well as on lands extending 100 feet outward from the study area boundary. The 100-foot wide area of mapped habitat extending outward from the study area is for visual and contextual purposes and is not included within acreage calculations presented herein.

[4] Pursuant to 2011 Hardline Letter (USFWS and CDFW 2011).

[5] Mitigation is not required for impacts to non-native vegetation, disturbed habitat, or developed lands.

Table 6B
SCENARIO 2: SUMMARY OF VEGETATION COMMUNITIES IMPACTS AND MITIGATION IF NC MSCP IS NOT ADOPTED AT TIME OF PROJECT-SPECIFIC IMPLEMENTATION[1]

Vegetation Community/ Habitat[2]	Total Existing in Study Area[3]	Total Impacts	Mitigation[4]	
			Ratio	Required
Vernal Pool (44000)	0.36	0.36	5:1	1.8
Southern Maritime Chaparral (37C30)	9.8	0	3:1	0
Diegan Coastal Sage Scrub– including disturbed (32500)	10.1	3.1	2:1	6.2
Granitic Chamise Chaparral (37210)	0.4	0.2	0.5:1	0.1
Non-Native Grassland (42200)	2.9	0	0.5:1	0
Non-native Vegetation (11000)[5]	1.8	0.6	--	0
Disturbed Habitat (11300)[5]	66.6	37.1	--	0
Developed Land (12000)[5]	156.5	71.4	--	0
TOTAL	**248.5**	**112.76**	--	**8.1**

[1] Area presented in acre(s) rounded to the nearest hundredth for wetlands and the nearest tenth for uplands. Totals reflect rounding.

[2] Vegetation categories and numerical codes are from Oberbauer (2008)

[3] Vegetation mapping was conducted within the 248.5-acre study area (composed of the 231.1-acre active airfield area and the 17.4-acre eastern parcel area), as well as on lands extending 100 feet outward from the study area boundary. The 100-foot wide area of mapped habitat extending outward from the study area is for visual and contextual purposes and is not included within acreage calculations presented herein.

[4] Pursuant to Table 5 Habitat Mitigation Ratios (County 2010b).

[5] Mitigation is not required for impacts to non-native vegetation, disturbed habitat, or developed lands.

Table 7
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES

Summary of Impacts	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
Direct impacts to 3.1 acre of occupied gnatcatcher habitat. Potential indirect noise impacts to gnatcatcher.	**BIO-1** In accordance with the mitigation strategy described in the 2011 Hardline letter, mitigation for impacts to 3.1 acres of coastal California gnatcatcher habitat (Diegan coastal sage scrub) shall occur at a 2:1 ratio through the preservation of 6.2 acres of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel, or at another location deemed acceptable by the County and Wildlife Agencies. If the NC MSCP is not adopted at the time of project implementation, then mitigation for impacts to Diegan coastal sage scrub shall occur pursuant to County guidelines and habitat mitigation ratios applied for areas outside of approved MSCP Plans. The anticipated mitigation ratio in this scenario is 2:1. If the NC MSCP is not adopted prior to project implementation, take authorization for impacts to coastal California gnatcatcher would be required to be obtained either through approval of an HLP or through a Section 7 or 10 take permit from USFWS. No grubbing or clearing of vegetation shall occur of occupied Diegan coastal sage scrub during the breeding season of the coastal California gnatcatcher (February 15-August 31). All grading permits, improvement plans, and the final map shall state the same. If clearing or grading would occur during the breeding season for the gnatcatcher, a pre-construction survey shall be conducted to determine whether gnatcatchers occur within the impact area(s). The pre-construction survey shall consist of three site visits with each site visit occurring seven days apart. If there are no gnatcatchers nesting (includes nest building or other breeding/nesting behavior) within that area, grading and clearing shall be allowed to proceed. If, however, any gnatcatchers are observed, but no nesting or breeding behaviors are noted, additional surveys for breeding/nesting behaviors shall be conducted weekly. If any gnatcatchers are observed nesting or displaying breeding/nesting behavior during the pre-construction survey or additional weekly surveys within the area, construction within 300 feet of any location at which birds have been observed shall be postponed until all nesting (or breeding/nesting behavior) has ceased or until after August 31. (See BIO-4 for mitigation for indirect noise effects.)	Less than significant	3.1.A 3.1.B 4.1.A 7.1.K

Table 7 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES

Summary of Impacts	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
Direct impacts to 3.1 acre of occupied gnatcatcher habitat. Potential indirect noise impacts to gnatcatcher.	**BIO-2** If operation of construction equipment occurs during the breeding season for the coastal California gnatcatcher (February 15 through August 31), pre-construction survey(s) shall be conducted by a qualified biologist as appropriate to determine whether gnatcatcher occurs within the areas potentially impacted by noise. If it is determined at the completion of pre-construction surveys that active nests belonging to this species are absent from the potential impact area, construction shall be allowed to proceed. If pre-construction surveys determine the presence of active nests belonging to this species, then construction shall: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier or berm is constructed at the edge of the development footprint and/or around the piece of equipment to ensure that noise levels are reduced to below 60 dBA or ambient, whichever is greater. Decibel output will be confirmed by a County-approved noise specialist and intermittent monitoring by a qualified biologist to ensure that conditions have not changed will be required. All grading permits, improvement plans, and the final map shall state the same.		

Table 7 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES

Summary of Impacts	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
Direct and indirect impacts to 0.36 acre vernal pool.	**BIO-3a** In accordance with the mitigation strategy described in the 2011 Hardline letter, mitigation for impacts to 0.36 acre of vernal pool shall occur at a minimum 1:1 ratio through vernal pool creation/restoration within a 6.78-acre area on County-owned lands on or adjacent to the eastern parcel, or at another location deemed acceptable by the County and other regulating agencies, as applicable. If the NC MSCP is not adopted at the time of project implementation, then mitigation for impacts to vernal pools shall occur at a 5:1 ratio pursuant to County guidelines and habitat mitigation ratios applied for areas outside of approved MSCP Plans (County 2010b). Impacts to vernal pools may require issuance of a CWA Section 404 permit from the USACE and a CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act WDRs from the RWQCB. Federally listed species have not been detected in onsite vernal pools, thus take authorization under the ESA is not anticipated to be required.	Less than significant	4.1.A 4.1.B 5.1.A
Direct impacts to 3.1 acres Diegan coastal sage scrub.	**BIO-3b** Mitigation for impacts to 3.1 acres of Diegan coastal sage scrub shall occur at a 2:1 ratio as specified in BIO-1a, above.	Less than significant	4.1.A
Direct impacts to 0.2 acre granitic chamise chaparral.	**BIO-3c** In accordance with the mitigation strategy described in the 2011 Hardline letter, mitigation for impacts to 0.2 acre of granitic chamise chaparral shall occur at a 2:1 ratio through the preservation of 0.4 acre of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel, or at another location deemed acceptable by the County and Wildlife Agencies. If the NC MSCP is not adopted at the time of project implementation, then mitigation for impacts to granitic chamise chaparral shall occur at a 0.5:1 ratio pursuant to County guidelines and habitat mitigation ratios applied for areas outside of approved MSCP Plans (County 2010b).	Less than significant	4.1.A

Table 7 (cont.)
SUMMARY OF BIOLOGICAL RESOURCES MITIGATION MEASURES

Summary of Impacts	Proposed Mitigation	Level of Significance After Mitigation	Guideline Number
Direct and indirect impacts to 0.36 acre of vernal pool habitat that may be considered federal wetlands.	**BIO-4** Mitigation for impacts to 0.36 acre of vernal pool shall occur at a minimum 1:1 ratio as specified in BIO-3a, above. If the NC MSCP is not adopted at the time of project implementation, then mitigation for impacts to vernal pools shall occur at a 5:1 ratio pursuant to County guidelines and habitat mitigation ratios applied for areas outside of approved MSCP Plans (County 2010b). Impacts to vernal pools may require issuance of a CWA Section 404 permit from the USACE and a CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act WDRs from the RWQCB. Federally listed species have not been detected in onsite vernal pools, thus take authorization under the ESA is not anticipated to be required.	Less than significant	4.1.A 4.1.B 5.1.A
Construction of the project during avian breeding seasons could potentially impact migratory birds protected under the MBTA.	**BIO-5** No grubbing or clearing of vegetation shall occur during the general avian breeding season (February 15-August 31). All grading permits, improvement plans, and the final map shall state the same. If grubbing, clearing, or grading would occur during the general avian breeding season, a pre-construction survey shall be conducted by a qualified biologist no more than three days prior to the commencement of the activities to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, clearing, grubbing, and grading shall be allowed to proceed. Furthermore, if construction activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted. If active nests or nesting birds are observed within the area, the biologist shall flag the active nests and construction activities shall avoid active nests until nesting behavior has ceased, nests have failed, or young have fledged.	Less than significant	7.1.K

With implementation of the mitigation measures for significant impacts to sensitive biological resources, all project-specific impacts would be mitigated to less than significant.

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Appendix A

PLANT SPECIES OBSERVED

Appendix A
PLANT SPECIES OBSERVED

FAMILY	SPECIES NAME	COMMON NAME	HABITAT*
Native Species			
Adoxaceae	*Sambucus nigra* ssp. *canadensis*	blue elderberry	SMC
Agavaceae	*Chlorogalum parviflorum*	small-flower soap-plant	DCSS
	Yucca schidigera	Mohave yucca	SMC
Anacardiaceae	*Malosma laurina*	laurel sumac	DCSS
	Rhus integrifolia	lemonadeberry	DCSS, SMC
Apiaceae	*Apiastrum angustifolium*	mock parsley	DCSS
	Daucus pusillus	rattlesnake weed	DCSS, SMC
	Sanicula arguta	sharp-tooth sanicle	DCSS, SMC
Asteraceae	*Artemisia californica*	California sagebrush	DCSS, SMC
	Baccharis pilularis	coyote brush	DCSS, SMC
	Baccharis salicifolia	mule fat	DCSS
	Corethrogyne filaginifolia var. *filaginifolia*	common sand aster	DCSS
	Deinandra fasciculata	fascicled tarplant	DCSS, NNG, SMC
	Encelia californica	California encelia	DCSS
	Erigeron canadensis	horseweed	DCSS, DH, NNG, SMC
	Eriophyllum confertiflorum	golden-yarrow	DCSS, SMC
	Hazardia squarrosa var. *grindelioides*	saw-toothed goldenbush	DCSS, SMC
	Heterotheca grandiflora	telegraph weed	DH, NNG
	Isocoma menziesii	goldenbush	DCSS, DH, NNG, SMC
	Laennecia coulteri	Coulter's fleabane	SMC
	Lasthenia californica	goldfields	DCSS, VP
	Pseudognaphalium californicum	California everlasting	DCSS, CC, SMC
	Psilocarphus brevissimus var. *brevissimus*	dwarf woolly-heads	DCSS. VP
	Stephanomeria sp.	wreath-plant	DCSS
	Uropappus lindleyi	silver puffs	DCSS, SMC
Boraginaceae	*Amsinckia intermedia*	rancher's fiddleneck	DCSS, NNG
	Cryptantha intermedia	nievitas	DCSS, CC, SMC
	Cryptantha sp.	cryptantha	DCSS
	Eucrypta chrysanthemifolia var. *chrysanthemifolia*	common eucrypta	DCSS, SMC

Appendix A (cont.)
PLANT SPECIES OBSERVED

FAMILY	SPECIES NAME	COMMON NAME	HABITAT*
Native Species (cont.)			
Boraginaceae (cont.)	*Harpagonella palmeri*†	Palmer's grapplinghook†	DCSS
	Pectocarya sp.	pectocarya	DCSS, SMC
	Pholistoma racemosum	San Diego fiesta flower	DCSS, SMC
	Plagiobothrys sp.	popcornflower	DCSS, CC, SMC, VP
Cactaceae	*Opuntia littoralis*	coastal prickly pear	DCSS, SMC
	Opuntia oricola	tall coastal prickly pear	DCSS, SMC
Caprifoliaceae	*Lonicera subspicata* var. *denudata*	San Diego honeysuckle	DCSS, SMC
Caryophyllaceae	*Cardionema ramosissima*	tread-lightly	DCSS
Chenopodiaceae	*Atriplex lentiformis*	quail saltbush	DCSS
Convolvulaceae	*Calystegia macrostegia*	morning-glory	DCSS, CC, SMC
	Dichondra occidentalis†	western dichondra†	DCSS
Crassulaceae	*Crassula aquatica*	water pygmyweed	DCSS, VP
	Crassula connata	pygmy-weed	DCSS
Cucurbitaceae	*Marah macrocarpa*	wild cucumber	DCSS, SMC
Cyperaceae	*Bolboschoenus maritimus* ssp. *paludosus*	prairie bulrush	SMC
Ericaceae	*Arctostaphylos glandulosa* ssp. *crassifolia*†	Del Mar manzanita†	SMC
	Comarostaphylis diversifolia ssp. *diversifolia*†	summer holly†	SMC
	Xylococcus bicolor	mission manzanita	SMC
Euphorbiaceae	*Croton setigerus*	dove weed	DCSS
Fabaceae	*Acmispon americanus*	Spanish-clover	NNG
	Acmispon glaber	deerweed	DCSS, SMC
	Acmispon micranthus	grab lotus	DCSS, NNG
Fagaceae	*Quercus agrifolia* var. *agrifolia*	coast live oak	SMC
	Quercus dumosa†	Nuttall's scrub oak†	SMC
Iridaceae	*Sisyrinchium bellum*	blue-eyed grass	DCSS, SMC, NNG
Juncaceae	*Juncus bufonius*	toad rush	DCSS, VP
Lamiaceae	*Acanthomintha ilicifolia*†	San Diego thornmint†	SMC
	Salvia mellifera	black sage	DCSS, SMC
	Stachys bergii	hedge-nettle	DCSS

Appendix A (cont.)
PLANT SPECIES OBSERVED

FAMILY	SPECIES NAME	COMMON NAME	HABITAT*
Native Species (cont.)			
Malvaceae	*Malacothamnus fasciculatus*	chaparral mallow	SMC
	Sidalcea sparsifolia	checker-bloom	DCSS
Marsiliaceae	*Pilularia americana*	American pillwort	DCSS, VP
Nyctaginaceae	*Mirabilis laevis* ssp. *crassifolia*	wishbone bush	DCSS, SMC
Onagraceae	*Camissoniopsis bistorta*	California sun cup	DCSS
Orobanchaceae	*Castilleja exserta*	purple owl's clover	DCSS, NNG
Phrymaceae	*Mimulus aurantiacus*	bush monkeyflower	DCSS, SMC
Plantaginaceae	*Antirrhinum nuttallianum*	Nuttall's snapdragon	DCSS, CC, SMC
	Plantago elongata	plantain	DCSS, VP
	Plantago erecta	dwarf plantain	DCSS
Poaceae	*Bromus carinatus* var. *carinatus*	California brome	DCSS
	Elymus condensatus	giant wild rye	SMC
	Stipa lepida	foothill needlegrass	DCSS
	Stipa pulchra	purple needlegrass	DCSS, SMC
Polemoniaceae	*Navarretia hamata*	skunkweed	DCSS
Polygonaceae	*Eriogonum fasciculatum*	buckwheat	DCSS, SMC
	Persicaria lapathifolia	willow weed	SMC
	Pterostegia drymarioides	California thread-stem	DCSS
Portulacaceae	*Calandrinia ciliata*	red maids	DCSS, CC, SMC
Primulaceae	*Dodecatheon clevelandii* ssp. *clevelandii*	Cleveland's shooting star	DCSS
Rhamnaceae	*Rhamnus crocea*	spiny redberry	SMC
Rosaceae	*Adenostoma fasciculatum*	chamise	CC, SMC
	Heteromeles arbutifolia	toyon	DCSS, SMC
Rubiaceae	*Galium angustifolium* ssp. *angustifolium*	narrow-leaved bedstraw	DCSS
Selaginellaceae	*Selaginella cinerascens*†	ashy spike-moss†	DCSS
Solanaceae	*Datura wrightii*	jimson weed	DCSS, DH
	Solanum xanti	purple nightshade	DCSS
Themidaceae	*Dichelostemma capitatum*	blue dicks	DCSS, NNG, SMC

Appendix A (cont.)
PLANT SPECIES OBSERVED

FAMILY	SPECIES NAME	COMMON NAME	HABITAT*
Non-native Species			
Aizoaceae	*Carpobrotus edulis*	hottentot-fig	DH
	Mesembryanthemum crystallinum	crystalline iceplant	DH
	Mesembryanthemum nodiflorum	slender-leaved iceplant	DH
Apiaceae	*Conium maculatum*	poison-hemlock	DH
	Foeniculum vulgare	fennel	DCSS, DH, NNG, SMC
Arecaceae	*Washingtonia robusta*	Mexican fan palm	NNG
Asphodelaceae	*Asphodelus fistulosus*	onion weed	DH
Asteraceae	*Carduus pycnocephalus*	Italian thistle	DH
	Centaurea melitensis	tocalote	DCSS, DH, NNG
	Cirsium vulgare	bull thistle	DH
	Cotula coronopifolia	common brassbuttons	DH, VP
	Cynara cardunculus	artichoke thistle	DH
	Gazania linearis	treasure flower	DCSS, DH, NNG
	Glebionis coronaria	garland daisy	DH
	Hedypnois cretica	Crete hedypnois	DH
	Helminthotheca echioides	bristly ox-tongue	DCSS, NNG
	Hypochaeris glabra	smooth catsear	DH
	Lactuca serriola	wild lettuce	DCSS
	Logfia gallica	narrow-leaf filago	DCSS, SMC
	Matricaria discoidea	pineapple weed	DH
	Osteospermum fruticosum	African daisy	DH
	Senecio vulgaris	common groundsel	DH, NNG
	Silybum marianum	milk thistle	DH
	Sonchus asper	prickly sow thistle	DH, NNG
	Sonchus oleraceus	common sow thistle	DCSS, NNG
Brassicaceae	*Brassica nigra*	black mustard	DH, NNG
	Hirschfeldia incana	short-pod mustard	DH, NNG
	Raphanus sativus	wild radish	DH, NNG
	Sisymbrium sp.	mustard	NNG
Caryophyllaceae	*Silene gallica*	common catchfly	DCSS
	Spergularia sp.	sand-spurrey	DH
	Stellaria media	common chickweed	DCSS

Appendix A (cont.)
PLANT SPECIES OBSERVED

FAMILY	SPECIES NAME	COMMON NAME	HABITAT*
Non-native Species (cont.)			
Chenopodiaceae	*Amaranthus albus*	white tumbleweed	DH
	Atriplex semibaccata	Australian saltbush	DH
	Chenopodium murale	nettle-leaf goosefoot	DH
	Salsola tragus	Russian thistle	DH, NNG
Convolvulaceae	*Convolvulus arvensis*	bindweed	NNG
Euphorbiaceae	*Euphorbia peplus*	petty spurge	DH
	Ricinus communis	castor-bean	DH
Fabaceae	*Acacia* sp.	acacia	NNV
	Medicago polymorpha	burclover	DH
	Melilotus albus	white sweet clover	DCSS
	Melilotus indicus	Indian sweet clover	DH
Geraniaceae	*Erodium botrys*	long-beak filaree	DH
	Erodium cicutarium	red-stem filaree	DH
	Erodium moschatum	green-stem filaree	DH
	Geranium dissectum	cutleaf geraniium	DH
Lamiaceae	*Marrubium vulgare*	horehound	DH, NNG
Lythraceae	*Lythrum hyssopifolia*	grass poly	DCSS, DH, VP
Malvaceae	*Malva parviflora*	cheeseweed	DH, NNG
Myrsinaceae	*Anagallis arvensis*	scarlet pimpernel	DH
Oxalidaceae	*Oxalis pes-caprae*	Bermuda buttercup	DH, NNG
Poaceae	*Avena* sp.	oats	DH, NNG
	Brachypodium distachyon	purple false brome	DH
	Bromus diandrus	common ripgut grass	DH, NNG
	Bromus hordeaceus	soft brome	NNG
	Bromus madritensis	foxtail chess	DH, NNG, SMC
	Chloris virgata	showy chloris	DH
	Cortaderia jubata	pink pampas grass	SMC
	Cynodon dactylon	Bermuda grass	DH, NNG
	Festuca myuros	fescue	DH
	Festuca perennis	Italian ryegrass	DH, NNG
	Hordeum murinum	Mediterranean barley	NNG
	Lamarckia aurea	goldentop	DH
	Pennisetum setaceum	purple fountain grass	DH
	Phalaris sp.	canary grass	DCSS
	Schismus barbatus	Mediterraneangrass	DCSS, DH

Appendix A (cont.)
PLANT SPECIES OBSERVED

FAMILY	SPECIES NAME	COMMON NAME	HABITAT*
Non-native Species (cont.)			
Polygonaceae	*Rumex crispus*	curly dock	NNG
Scrophulariaceae	*Myoporum parvifolium*	creeping myoporum	DH
Solanaceae	*Nicotiana glauca*	tree tobacco	DH
	Solanum nigrum	black nightshade	DCSS
Urticaceae	*Urtica urens*	dwarf nettle	DH

†Sensitive species
*CC=chamise chaparral; DCSS=Diegan coastal sage scrub; DH=disturbed habitat; NNG=non-native grassland; NNV=non-native vegetation; SMC=southern maritime chaparral; VP=vernal pool.

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Appendix B

ANIMAL SPECIES OBSERVED OR DETECTED

Appendix B
ANIMAL SPECIES OBSERVED OR DETECTED

FAMILY	SCIENTIFIC NAME	COMMON NAME
Invertebrates		
Acrididae	*Trimeroptropis pallidipennis*	pallid-winged grasshopper
Apidae	*Apis* sp.	honey bee
Armadillidiidae	*Armadillidum vulgare*	common pillbug
Coccinellidae	*Hippodamia convergens*	convergent ladybug beetle
Hesperiidae	*Hylephila phyleus*	fiery skipper
Lycaenidae	*Glaucopsyche lygdamus*	silvery blue
	Leptotes marina	marine blue
Nymphalidae	*Vanessa annabella*	west coast lady
Papilionidae	*Papilio zelicaon*	anise swallowtail
Pieridae	*Anthocharis sara*	Sara orangetip
	Colias philodice	clouded sulphur
	Nathalis iole	dainty sulphur
	Pieris rapae	cabbage white
	Pontia protodice	checkered white
Riodinidae	*Apodemia mormo virgulti*	Behr's metalmark
Vertebrates		
Reptiles		
Phrynosomatidae	*Sceloporus occidentalis*	western fence lizard
	Uta stansburiana	side-blotched lizard
Viperidae	*Crotalus oreganus*	western rattlesnake
Birds		
Accipitridae	*Buteo jamaicensis*	red-tailed hawk
Aegithalidae	*Psaltriparus minimus*	bushtit
Alaudidae	*Eremophila alpestris actia*†	California horned lark†
Apodidae	*Aeronautes saxatalis*	white-throated swift
Charadriidae	*Charadrius vociferous*	killdeer
Columbidae	*Columba livia*	rock pigeon
	Zenaida macroura	mourning dove

Appendix B (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED

FAMILY	SCIENTIFIC NAME	COMMON NAME
Vertebrates (cont.)		
Birds (cont.)		
Corvidae	*Aphelocoma californica*	western scrub-jay
	Corvus brachyrhynchos	American crow
	Corvus corax	common raven
Emberizidae	*Melospiza melodia*	song sparrow
	Melozone crissalis	California towhee
	Pipilo maculatus	spotted towhee
	Zonotrichia leucophrys	white-crowned sparrow
Falconidae	*Falco sparverius*	American kestrel
Fringillidae	*Haemorhous mexicanus*	house finch
	Spinus psaltria	lesser goldfinch
Hirundinidae	*Stelgidopteryx serripennis*	northern rough-winged swallow
Icteridae	*Icterus cucullatus*	hooded oriole
	Sturnella neglecta	western meadowlark
Mimidae	*Mimus polyglottos*	northern mockingbird
	Toxostoma redivivum	California thrasher
Odontophoridae	*Callipepla californica*	California quail
Parulidae	*Geothlypis trichas*	common yellowthroat
	Oreothlypis celata	orange-crowned warbler
	Setophaga coronata	yellow-rumped warbler
Picidae	*Colaptes auratus*	northern flicker
Polioptilidae	*Polioptila californica californica*†	coastal California gnatcatcher†
Sturnidae	*Sturnus vulgaris*	European starling
Sylviidae	*Chamaea fasciata*	wrentit
Trochilidae	*Calypte anna*	Anna's hummingbird
Troglodytidae	*Thryomanes bewickii*	Bewick's wren
	Troglodytes aedon	house wren
Tyrannidae	*Sayornis nigricans*	black phoebe
	Sayornis saya	Say's phoebe
	Tyrannus vociferans	Cassin's kingbird

Appendix B (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED

FAMILY	**SCIENTIFIC NAME**	**COMMON NAME**
Vertebrates (cont.)		
Mammals		
Canidae	*Canis latrans*	coyote
Geomyidae	*Thomomys bottae*	Botta's pocket gopher
Leporidae	*Sylvilagus audubonii*	desert cottontail
Muridae	*Neotoma* sp.	woodrat
Sciuridae	*Otospermophilus beecheyi*	California ground squirrel

†Special-status Species

Appendix C

SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR

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Appendix C
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status[1]	Habit, Ecology and Life History	Potential to Occur
Acanthomintha ilicifolia	San Diego thorn-mint	FT/SE CRPR 1B.1 County List A Draft NC MSCP Covered	Small annual herb. Occurs on clay soils near vernal pools and in grassy openings in coastal sage scrub and chaparral. Flowering period April – June. Elevation 100-3,150 feet (30-960 meters).	**Present.** Species observed within an open patch of chaparral on cracked clay soils in the eastern parcel. Species is not expected to occur on the airport site.
Adolphia californica	San Diego adolphia	--/-- CRPR 2B.1 County List B Draft NC MSCP Covered	Perennial shrub. Most often found in sage scrub but occasionally occurs in peripheral chaparral habitats, particularly hillsides near creeks. Flowering period December – April. Elevation 20-655 feet (6-200 meters).	**High.** Suitable habitat is present on portions of the project site; however, this species was not observed during biological surveys. Species has been observed in offsite portions of the eastern parcel. Species is not expected to occur on the airport site.
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	FE/-- CRPR 1B.1 County List A Draft NC MSCP Covered	Perennial evergreen shrub blooming December-June. Found in relatively open, coastal chaparral. Elevation 0-1,198 feet (0-365 meters).	**Present.** Species observed in the northern portion of the eastern parcel. Suitable habitat is not present on the airport site.
Artemisia palmeri	San Diego sagewort	--/-- CRPR 4.2 County List D	Shrub. Typically found along stream courses, often within coastal sage scrub and southern mixed chaparral. Flowering period May – September. Elevation 16-3,540 feet (5-1,080 meters).	**Low.** Suitable habitat is not present on site.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status[1]	Habit, Ecology and Life History	Potential to Occur
Atriplex pacifica	South coast saltscale	--/-- CRPR 1B.2 County List A	Annual herb. Found in xeric, often mildly disturbed locales of coastal bluff scrub as well as on alkaline flats in areas devoid of taller shrubs. Flowering period March-October. Elevation 0-459 feet (0-140 meters).	**Low.** Suitable habitat is not present on site.
Bloomeria clevelandii	San Diego goldenstar	--/-- CRPR 1B.1 County List A Draft NC MSCP Covered	Perennial bulbiferous herb. Habitat includes clay soils on valley grasslands, particularly near mima mound topography or in the vicinity of vernal pools. Flowering period April-May. Elevation 164-1,525 feet (50-465 meters).	**Low.** Suitable habitat is present; however species was not observed during project surveys, and would likely have been observed if present.
Brodiaea filifolia	Thread-leaved brodeaia	FE/SE CRPR 1B.1 County List A Draft NC MSCP Covered	Perennial herb blooming March – June. Occurs on clay soils near chaparral openings, cismontane woodlands, coastal scrub, playas, grasslands, and vernal pools. Elevation 130-3,700 feet (40-1130 meters).	**Moderate.** Small areas of suitable habitat are present on the eastern parcel, however species was not observed during project surveys.
Ceanothus verrucosus	Wart-stemmed ceanothus	--/-- CRPR 2.B2 County List B Draft NC MSCP Covered	Perennial evergreen shrub occurring in xeric chamise or southern maritime chaparral. Blooms January through April. Elevation 23-2,165 feet (7-660 meters).	**Moderate.** Southern maritime chaparral on the eastern parcel could support this species, however, it was not observed during project surveys.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status[1]	Habit, Ecology and Life History	Potential to Occur
Comarostaphylis diversifolia ssp. *diversifolia*	Summer-holly	--/-- CRPR 1B.2 County List A Draft NC MSCP Covered	Perennial evergreen shrub. Mesic north-facing slopes in southern mixed chaparral are the preferred habitat of this large, showy shrub. Blooms April-June. Elevation 100-2,690 feet (30-820 meters).	**Present.** Species observed within southern maritime chaparral in the eastern parcel. Species is not expected to occur on the airport site.
Corethrogyne filaginifolia var. linifolia	Del Mar Mesa sand aster	--/-- CRPR 1B.1 County List A	Perennial herb associated with sandy and disturbed areas within southern maritime chaparral and coastal scrub. Flowering period May-September. Elevation 49-492 feet (15-150 meters).	**Low.** Suitable habitat is present; however species was not observed during project surveys, and would likely have been observed if present.
Cryptantha wigginsii	Wiggins' cryptantha	--/-- CRPR 1B.2 No County Listing	Annual herb blooming February-June. Occurs on clay soils in coastal scrub. Elevation 65-902 feet (20-275 meters).	**Moderate.** Small areas of suitable habitat are present on the eastern parcel, however species was not observed during project surveys.
Dichondra occidentalis	Western dichondra	--/-- CRPR 4.2 County List D	Perennial rhizomatous herb blooming January – July. Occurs in chaparral, cismontane woodland, coastal scrub, and grassland habitats. Elevation 10-2,100 feet (4-630 meters).	**Present.** Species observed within Diegan coastal sage scrub on the airport site.
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	--/-- CRPR 1B.1 County List A	Perennial herb blooming April – June. Occurs on rocky, clay or serpentine soils in coastal bluff scrub, chaparral, coastal scrub, and grassland. Elevation 16-1,505 feet (5-459 meters).	**Moderate.** Small areas of suitable habitat are present on the eastern parcel, however species was not observed during project surveys.

Appendix C (cont.) **SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR**				
Species Name	**Common Name**	**Status[1]**	**Habit, Ecology and Life History**	**Potential to Occur**
Dudleya viscida	Sticky dudleya	--/-- CRPR 1B.2 County List A Draft NC MSCP Covered	Perennial herb blooming May – June. Occurs in rocky soil within coastal bluff scrub, chaparral, cismontane woodland, and coastal scrub habitats. Elevation 30-2,590 feet (10-790 meters).	**Low.** Suitable habitat is not present on site.
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE CRPR 1B.1 County List A Draft NC MSCP Covered	Annual/perennial herb blooming April-June. Vernal pools or mima mound areas with vernally moist conditions are preferred habitat. Elevation 65-2,034 feet (20-620 meters).	**Low.** Suitable habitat is present; however species was not observed during project surveys, and would likely have been observed if present.
Euphorbia misera	Cliff spurge	--/-- CRPR 2B.2 County List B	Perennial shrub blooming December – October. Occurs in rocky habitat in coastal scrub. Elevation 32-1,640 feet (10-500 meters).	**Low.** Suitable habitat is not present on site.
Ferocactus viridescens	San Diego barrel cactus	--/-- CRPR 2B.1 County List B Draft NC MSCP Covered	Perennial stem succulent blooming May-June. Optimal habitat for this cactus appears to be Diegan coastal sage scrub hillsides, often at the crest of slopes and growing among cobbles. Occasionally found on vernal pool periphery and mima mound topography. Elevation 10-1,476 feet (3-450 meters).	**Low.** Suitable habitat is present on site, however species would likely have been observed if present.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status[1]	Habit, Ecology and Life History	Potential to Occur
Harpagonella palmeri	Palmer's grappling hook	--/-- CRPR 4.2 County List B	Annual herb blooming March-May. Occurs on clay soils in annual grasslands and coastal sage scrub. Elevation 42-3,970 feet (13-1,210 meters).	**Present.** Species observed within Diegan coastal sage scrub on the airport site.
Hazardia orcuttii	Orcutt's hazardia	--/ST CRPR 1B.1 County List A	Perennial evergreen shrub blooming August-October. Habitat includes maritime chaparral and coastal scrub. Elevation 262-279 feet (80-85 meters).	**Moderate.** Southern maritime chaparral on the eastern parcel could support this species, however, it was not observed during project surveys.
Holocarpha virgata spp. *elongata*	Graceful tarplant	--/-- CRPR 4.2 County List D	Annual herb occurring in chaparral, cismontane woodland, coastal scrub, and grassland habitats. Blooms May – November. Elevation 260-3,280 feet (80-1000 meters).	**High.** Suitable habitat is present on site.
Hordeum intercedens	Vernal barley	--/-- CRPR 3.2 County List C	Annual herb. Occurs on saline flats and depressions in grasslands or in vernal pool basins. Flowering period March-June. Elevation 16-3,280 feet (5-1,000 meters).	**Present.** Species was observed in Vernal Pool #7 in 2005 by AMEC biologists. The number of individuals was not recorded.
Isocoma menziesii var. *decumbens*	Decumbent goldenbush	--/-- CRPR 1B.2 County List A	Perennial shrub blooming April-November. Occurs in coastal sage scrub habitat intermixed with grassland, and is more partial to clay soils than other closely related varieties. Elevation 32-442 feet (10-135 meters).	**Low.** Small areas of suitable habitat are present on site, however species would likely have been observed if present.

Appendix C (cont.) **SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR**				
Species Name	**Common Name**	**Status[1]**	**Habit, Ecology and Life History**	**Potential to Occur**
Iva hayesiana	San Diego marsh-elder	--/-- CRPR 2B.2 County List B	Perennial herb. Intermittent stream channels are preferred habitat for this low-growing, conspicuous shrub. Typically, the riparian canopy is open, allowing substantial sunlight to reach this marsh-elder. Sandy alluvial embankments with cobbles are frequently utilized. Flowering period April-October. Elevation 32-1,640 feet (10-500 meters).	**Low.** Suitable habitat is not present on site.
Juncus acutus ssp. *leopoldii*	Southwestern spiny rush	--/-- CRPR 4.2 County List D	Perennial rhizomatous herb. Occurs in alkaline meadows and seeps, coastal salt marshes, and coastal dunes. Flowering period March – June. Elevation 0-3,117 feet (0-950 meters).	**Low.** Suitable habitat is not present on site.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	--/-- CRPR 1B.1 County List A	Annual herb. Coastal salt marsh, upper end of tidal inundation areas, and vernal pools are typical habitats for this species. Flowering period February-June. Elevation 3-4,002 feet (1-1,220 meters).	**Low.** Small areas of suitable habitat are present on site, however species would likely have been observed if present.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status[1]	Habit, Ecology and Life History	Potential to Occur
Myosurus minimus ssp. *apus*	Little mousetail	--/-- CRPR 3.1 County List C Draft NC MSCP Covered	Annual herb. Occurs in vernal pools and alkaline marshes. This cryptic species typically grows in the deeper portions of vernal pool basins, sprouting immediately after the surface water has evaporated. Flowering period March-June. Elevation 65-2,099 feet (20-640 meters).	**Low.** Vernal pools occur on site; however species was not observed during project surveys, and would likely have been observed if present.
Navarretia fossalis	Spreading navarretia	FT/-- CRPR 1B.1 County List A Draft NC MSCP Covered	Small annual herb. Occurs in vernal pools, chenopod scrub, marshes, swamps, and playas. Flowering period April – June. Elevation 295-3,510 feet (90-1070 meters).	**Low.** Vernal pools occur on site; however species was not observed during project surveys, and would likely have been observed if present.
Quercus dumosa	Nuttall's scrub oak	--/-- CRPR 1B.1 County List A Draft NC MSCP Covered	Perennial evergreen shrub. Chaparral with a relatively open canopy cover is the preferred habitat in flat terrain (also found in coastal scrub). On north-facing slopes, may grow in dense monotypic stands. Flowering period February-August. Elevation 49-1,312 feet (15-400 meters).	**Present.** Species observed within southern maritime chaparral in the eastern parcel, where it is a co-dominant species with chamise. Species is not expected to occur on the airport site.
Selaginella cinerascens	Ashy spike-moss	--/-- CRPR 4.1 County List D	Perennial rhizomatous herb occurring in chaparral and coastal scrub habitats. Elevation 25-2,035 feet (8-620 meters).	**Present.** Species observed within Diegan coastal sage scrub on the airport site.

Appendix C (cont.)
SENSITIVE PLANT SPECIES POTENTIAL TO OCCUR

[1]Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; CRPR = California Rare Plant Rank: 1A – presumed extinct; 1B – rare, threatened, or endangered in California and elsewhere; 2A – presumed extirpated in California but more common elsewhere; 2B – rare, threatened, or endangered in California but more common elsewhere; 3 – more information needed; 4 – watch list for species of limited distribution. Extension codes: .1 – seriously endangered; .2 – moderately endangered; .3 – not very endangered

Appendix D

SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

Appendix D
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
Invertebrates				
Danaus plexippus	Monarch butterfly	--/-- County Group 2	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* spp.).	**Low.** Suitable roosting habitat is not present on site. However, suitable nectar sources are present which may be used by dispersing individuals.
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/-- County Group 1	Occurs in seasonally astatic pools, which occur in tectonic swales or earth slump basins and other areas of shallow, standing water often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral.	**Low.** Vernal pools occur on site; however, non-protocol surveys conducted in 2005 were negative for fairy shrimp. Updated protocol surveys are planned for the 2016-2017 rainy season.
Amphibians and Reptiles				
Cnemidophorus hyperythrus	Orange-throated whiptail	--/SSC County Group 2 Draft NC MSCP Covered	Coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Also found in weedy, disturbed areas adjacent to these habitats. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites (*Reticulitermes* sp.).	**High.** Suitable habitat is present on site and species is known to occur within the project vicinity.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
Amphibians and Reptiles (cont.)				
Cnemidophorus tigris multiscutatus	Coastal western whiptail	--/-- County Group 2	Open coastal sage scrub, chaparral, and woodlands. Frequently found along the edges of dirt roads traversing its habitats. Important habitat components include open, sunny areas, shrub cover with accumulated leaf litter, and an abundance of insects, spiders, or scorpions.	**High.** Suitable habitat is present in the northwestern portion of the airport site and in native habitats east of El Camino Real.
Eumeces skitonianus interparietalis	Coronado skink	--/SSC County Group 2	Occurs in grasslands, coastal sage scrub, and open chaparral where there is abundant leaf litter or low herbaceous growth.	**High.** Suitable grassland and sage scrub habitats are present on site.
Phrynosoma coronatum blainvillii	San Diego horned lizard	--/SSC County List 2 Draft NC MSCP Covered	Coastal sage scrub, chaparral, grassland, and woodlands up to 6,000 ft. Not common where Argentine ants (*Linepithema humile*) have excluded native harvester ants (*Pogonomyrmex* sp.).	**Low.** Suitable habitat present on site, but species unlikely to occur due to lack of typical prey species. Harvester ant colonies were not observed during biological surveys.
Salvadora hexalepis virgultea	Coast patch-nosed snake	--/SSC County Group 2	Inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains.	**Moderate.** Suitable brushy habitat is present in the canyons on the eastern parcel.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
Birds				
Accipiter cooperii	Cooper's hawk	--/WL County Group 1 Draft NC MSCP Covered	Occurs year-round throughout San Diego County's coastal slope where stands of trees are present Found in oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests.	**Low.** Suitable nesting habitat is not present in the study area. Some potential foraging habitat is present, however species was not observed during surveys.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	--/WL County Group 1 Draft NC MSCP Covered	Occurs in coastal sage scrub and sparse mixed chaparral on rocky hillsides and in canyons; also found in open sage scrub/grassy areas of successional growth.	**Low.** Suitable sage scrub habitat is present in the study area; however, species would likely have been detected during surveys if present.
Ammodramus savannarum	Grasshopper sparrow	--/SSC County Group 1 Draft NC MSCP Covered	Typical habitat is dense grasslands that have little or no shrub cover.	**Low.** Grassland habitat is present in the study area is unlikely to support this species as it is regularly mowed.
Athene cunicularia hypugea	Burrowing owl	BCC/SSC County Group 1 Draft NC MSCP Covered	Typical habitat is grasslands, open scrublands, agricultural fields, and other areas where there are ground squirrel burrows or other areas in which to burrow. All breeding season records of burrowing owl in northwestern San Diego County are prior to 1997 (Unitt 2004).	**Low**. Species is not known from project vicinity.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
Birds (cont.)				
Buteo lineatus	Red-shouldered hawk	--/-- County Group 1	Riparian woodland, oak woodland, orchards, eucalyptus groves, or other areas with tall trees.	**Low.** Suitable nesting habitat is not present in the study area. Some potential foraging habitat is present, however species was not observed during surveys.
Charadrius alexandrinus nivosus	Western snowy plover	FT/SSC County Group 1	Species breeds primarily on coastal beach from southern Washington to southern Baja California. Nests on coastal beaches, sand pits, and sparsely-vegetated dunes.	**Not Expected.** Suitable habitat for the species does not occur within the project site.
Circus cyaneus	Northern harrier	--/SSC County Group 1 Draft NC MSCP Covered	Within San Diego County, distribution is primarily scattered throughout lowlands but can also be observed in foothills, mountains, and desert. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas. Typical habitat consists of open grassland and marsh.	**Low.** Suitable foraging habitat occurs on site as well as small areas of potential breeding habitat. However, this species was not observed during multiple project surveys and is considered unlikely to be present on site.
Dendroica petechia brewsteri	Yellow warbler	BCC/SSC County Group 2	Occurs in riparian woodland and swamp edges. Often found near streams.	**Not expected.** Suitable habitat not present on site.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
Birds (cont.)				
Elanus caeruleus	White-tailed kite	--/FP County Group 1	Riparian woodlands and oak or sycamore groves adjacent to grassland.	**Low.** Suitable nesting habitat does not occur on site. The species could utilize grasslands within the project site for foraging.
Eremophila alpestris actis	Horned lark	--/WL County Group 2	Found on sandy beaches and in agricultural fields, grassland, and open areas.	**Present.** Species observed foraging along roads within Diegan coastal sage scrub and disturbed habitat in the northwestern portion of the airport site. Not expected to breed on site.
Falco mexicanus	Prairie falcon	--/WL County Group 1	Nests on cliff or bluff ledges or occasionally in old hawk or raven nests; forages in grassland or desert habitats. Observed year-round in San Diego County but more commonly during winter.	**Low**. Suitable dry, open habitat occurs on the site; however, this species was not observed or otherwise detected during project surveys. This species could forage over the site.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	--/SE County Group 1	Occurs on coastal marshes dominated by pickleweed (*Salicornia* spp.).	**Not Expected.** Suitable habitat does not occur on the project site.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
Birds (cont.)				
Polioptila californica californica	Coastal California gnatcatcher	FT/SSC County Group 1 Draft NC MSCP Covered	Occurs in coastal sage scrub with California sagebrush (*Artemesia californcia*) as a dominant or co-dominant species, at elevations below 2,500 feet.	**Present.** One nesting pair was observed in Diegan coastal sage scrub within the northwestern portion of the airport site. A second pair was observed offsite to the north of the onsite pair.
Rallus obsoletus levipes	Light-footed Ridgway's rail	FE/SE County Group 1 Draft NC MSCP Covered	Species occurs in coastal salt marshes, especially those dominated by cordgrass (*Spartina* sp.), but has been known to use brackish and freshwater sites.	**Not Expected.** Suitable habitat does not occur on the project site.
Sternula antillarum browni	California least tern	FE/SE County Group 1	Species nests in sandy, coastal areas close to the ocean.	**Not Expected.** Suitable habitat does not occur on the project site.
Tyto alba	Common barn owl	--/-- County Group 2	Require large areas of open land over which to hunt. Marsh, grasslands, or mixed agricultural fields. For nesting and roosting they need cavities in trees or man-made structures such as barns or silos.	**Low for nesting, High for foraging.** Suitable grassland habitat occurs onsite for hunting and foraging activities. Suitable nesting habitat occurs offsite in the project vicinity.
Vireo bellii pusillus	Least Bell's vireo	FE/SE County Group 1 Draft NC MSCP Covered	Occurs in riparian thickets, usually willow and cottonwood. Summer resident of Southern California. Typically arrives in San Diego County during the third week of March (Unitt 2004).	**None.** Suitable habitat does not occur within the project site.

Appendix D (cont.)
SENSITIVE ANIMAL SPECIES POTENTIAL TO OCCUR

Species Name	Common Name	Status[1]	Habitat Associations	Potential to Occur
Mammals				
Chaetodipus californicus femoralis	Dulzura pocket mouse	--/SSC County Group 2	Variety of habitats including coastal scrub, chaparral, and grasslands in San Diego County. Associated with grass-chaparral edges	**Low.** Suitable grassland habitat present in the eastern parcel but no sign of this species was observed during surveys.
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	--/SSC County Group 2	Occurs in open areas of coastal sage scrub and weedy growth, often on sandy substrates.	**Low.** Suitable habitat occur onsite but no sign of this species was observed during surveys.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	--/SSC County Group 2 Draft NC MSCP Covered	Found primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.	**Low.** Suitable habitat occurs on site; however, species would likely have been observed if present.
Neotoma lepida intermedia	San Diego desert woodrat	--/SSC County Group 2	Open chaparral and coastal sage scrub, often building large, stick nests in rock outcrops or around clumps of cactus or yucca.	**Moderate.** Suitable habitat is present in onsite chaparral and sage scrub.

[1]Listing is as follows: F = Federal; S = State of California; E = Endangered; T = Threatened; C=Candidate; R = Rare; FP = Fully Protected; BCC = Bird of Conservation Concern; SSC = State Species of Special Concern; WL = Watch List.

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Appendix E

EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

Appendix E
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

FEDERAL, STATE, AND LOCAL CODES

U.S. Fish and Wildlife Service (USFWS)

FE	Federally listed endangered
FT	Federally listed threatened
FC	Federal candidate for listing
BCC	Birds of Conservation Concern (discussed in more detail, below)
BGEPA	Bald and Golden Eagle Protection Act (discussed in more detail below)

California Department of Fish and Wildlife (CDFW)

SE	State listed endangered
SR	State listed rare
ST	State listed threatened
SSC	State species of special concern
WL	Watch List

Fully Protected — Fully Protected species refer to all vertebrate and invertebrate taxa of concern to the Natural Diversity Data Base regardless of legal or protection status. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW.

County of San Diego

Plant sensitivity:

List A	Plants rare, threatened, or endangered in California or elsewhere
List B	Plants rare, threatened, or endangered in California but more common elsewhere
List C	Plants that may be quite rare, but more information is needed to determine rarity status
List D	Plants of limited distribution and are uncommon, but not presently rare or endangered

Animal sensitivity:

Group 1	Animals that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met.
Group 2	Animals that are becoming less common but are not yet so rare extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

Multiple Species Conservation Program (MSCP) Covered

Multiple Species Conservation Program covered species for which the County has take authorization within the MSCP area.

MSCP Narrow Endemic (NE)

Narrow endemic species are native species that have "restricted geographic distributions, soil affinities, and/or habitats." The MSCP participants' subarea plans have specific conservation measures to ensure impacts to narrow endemics are avoided to the maximum extent practicable.

OTHER CODES AND ABBREVIATIONS

USFWS Bald and Golden Eagle Protection Act (BGEPA)

In 1782, Continental Congress adopted the bald eagle as a national symbol. During the next one and a half centuries, the bald eagle was heavily hunted by sportsmen, taxidermists, fisherman, and farmers. To prevent the species from becoming extinct, Congress passed the Bald Eagle Protection Act in 1940. The Act was extremely comprehensive, prohibiting the take, possession, sale, purchase, barter, or offer to sell, purchase, or barter, export or import of the bald eagle "at any time or in any manner."

In 1962, Congress amended the Eagle Act to cover golden eagles, a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. The golden eagle, however, is accorded somewhat lighter protection under the Act than the bald eagle. Another 1962 amendment authorizes the Secretary of the Interior to grant permits to Native Americans for traditional religious use of eagles and eagle parts and feathers.

USFWS Birds of Conservation Concern (BCC)

This report from 2002 aims to identify accurately the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS' highest conservation priorities and draw attention to species in need of conservation action. USFWS hopes that by focusing attention on these highest priority species, the report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. The report is available online at http://migratorybirds.fws.gov/reports/bcc2002.pdf.

OTHER CODES AND ABBREVIATIONS (cont.)

California Native Plant Society (CNPS) California Rare Plant Ranking (CRPR)

Lists

1A = Presumed extinct.

1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.

2 = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.

3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.

4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

List/Threat Code Extensions

.1 – Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)

.2 – Fairly endangered in California (20 to 80 percent occurrences threatened)

.3 – Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known)

A "CA Endemic" entry corresponds to those taxa that only occur in California.

All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.

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Appendix F

REPRESENTATIVE SITE PHOTOGRAPHS

Photo 1. A portion of the existing airfield.

Photo 2. A portion of the existing airfield.

Photo 3. Diegan coastal sage scrub and disturbed habitat in the northwestern portion of the airport site.

Photo 4. Diegan coastal sage scrub and disturbed habitat in the northwestern portion of the airport site. The Crossings at Carlsbad golf course is visible in the background, just west of the site.

Photo 5. Looking east at Vernal Pool #7 along the northern property boundary of the airport site.

Photo 6. Looking northwest at southern maritime chaparral on the eastern parcel.

Photo 7. Looking east at the service road for the existing navigational aids on the eastern parcel. Southern maritime chaparral is present on either side of the road.

Photo 8. Looking west at the service road and existing navigational aids on the eastern parcel. Southern maritime chaparral is present on either side of the road. El Camino Real and the eastern slope of the airport site are visible in the background.

Appendix G-1

CALIFORNIA GNATCATCHER 2016 SURVEY REPORT

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May 26, 2016 CSE-01.07

Ms. Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Ave., Suite 250
Carlsbad, CA 92008

Subject: 2016 Coastal California Gnatcatcher (*Polioptila californica californica*) Survey Report for the McClellan-Palomar Airport Master Plan Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey of the federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*; CAGN) conducted by HELIX Environmental Planning, Inc. (HELIX) for the McClellan-Palomar Airport Master Plan Project (project). This report describes the methods used to perform the survey and the results. It is being submitted to the USFWS as a condition of HELIX's Threatened and Endangered Species Permit TE778195-12.

PROJECT LOCATION

The 272-acre project site is located within the City of Carlsbad (City), San Diego County, California, and includes the approximately 250-acre airport property immediately northwest of the intersection of Palomar Airport Road and El Camino Real, and an approximately 22-acre portion of the Eastern Parcel located north of Palomar Airport Road and east of El Camino Real (Figure 1). The project site is further located within portions of the U.S. Geological Survey (USGS) 7.5-minute San Luis Rey and Encinitas quadrangle maps (Figure 2). The project site is located within the municipal limits of the City of Carlsbad and is owned by the County of San Diego. An aerial photograph of the site is provided as Figure 3.

METHODS

The survey consisted of three visits that were performed by HELIX biologist Erica Harris (TE778195-12) in accordance with the current (1997) USFWS protocol. The surveys were conducted on foot with the aid of binoculars, and the route was arranged to ensure complete survey coverage of all potential CAGN habitat. Potential CAGN habitat consisted of 10.4 acres of Diegan coastal sage scrub (including disturbed). Taped CAGN vocalizations were played periodically in an attempt to illicit a response from CAGNs. Weather conditions, time of day, and season were appropriate for the detection of CAGNs (Table 1).

The surveys were conducted by walking along the edges of, as well as within, suitable CAGN habitat. The survey covered all habitat with potential for occupancy by CAGN. All surveys were conducted with binoculars to aid in bird detection. Recorded CAGN vocalizations were played sparingly and only if other means of detection had failed. If a CAGN was detected before playing recorded vocalizations, the recordings were not played. Once CAGNs were initially detected in an area, use of playback was discontinued. The approximate survey route followed is depicted on Figures 4a and 4b.

Table 1
COASTAL CALIFORNIA GNATCATCHER SURVEY INFORMATION

SITE VISIT	SURVEY DATE	BIOLOGIST(S)	START / STOP TIMES	APPROX. ACRES SURVEYED/ ACRES PER HOUR	START/STOP WEATHER CONDITIONS	SURVEY RESULTS
1	3/31/16	Erica Harris	0900/ 1130	10.4 ac/ 4.2 ac/hr	57°F, wind, 0-1 mph, 0% cloud cover 64°F, wind, 3-6 mph, 0% cloud cover	1 single male observed within the northwestern portion of the airport site. 1 additional pair observed off site immediately north of the airport site boundary (the male from this pair was also observed approximately 800 feet to the west of where the pair was first documented).
2	4/14/16	Erica Harris	0900/ 1100	10.4 ac/ 5.2 ac/hr	63°F, wind, 1-3 mph, 60% cloud cover 66°F, wind, 1-3 mph, 30% cloud cover	1 pair with nest observed within northwestern portion of airport site. 1 single male observed off site immediately north of the airport site boundary.
3	4/22/16	Erica Harris	1015/ 1200	10.4 ac/ 5.9 ac/hr	67°F, wind, 0-1 mph, 70% cloud cover 70°F, wind, 2-3 mph, 10% cloud cover	1 pair observed feeding 3 fledglings in northwestern portion of airport site. 1 single male observed off site to the north of the airport site boundary.

VEGETATION COMMUNITIES/LAND USE TYPES

A total of eight vegetation communities/land use types have been identified within the property: Diegan coastal sage scrub (including disturbed), southern maritime chaparral, chamise chaparral, non-native grassland, non-native vegetation, eucalyptus woodland, disturbed habitat, and developed land. Vegetation communities were mapped according to Holland (1986), as modified by Oberbauer (2008). Descriptions of vegetation communities and land uses found on site are provided below beginning with the community considered suitable CAGN habitat (Diegan coastal sage scrub).

Diegan Coastal Sage Scrub (including disturbed)

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Diegan coastal sage scrub may be dominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), laurel sumac (*Malosma laurina)*, and black sage (*Salvia mellifera*). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed Diegan coastal sage scrub but is sparser and has a higher proportion of non-native annual species.

Characteristic species present in this habitat on site include California sagebrush, California buckwheat, and black sage. A total of 10.4 acres of Diegan coastal sage scrub (including disturbed) occurs within the survey area, including 7.4 acres within the project site.

Southern Maritime Chaparral

Southern maritime chaparral is restricted to weathered sands within the coastal fog belt in San Diego County from La Jolla to Carlsbad, with some scattered patches further to the south at Point Loma, Spooner's Mesa, and Peñasquitos Canyon. Characteristic species include chamise (*Adenostoma fasciculatum*), wart-stemmed ceanothus (*Ceanothus verrucosus*), mission manzanita (*Xylococcus bicolor*), Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*), Nuttall's scrub oak (*Quercus dumosa*), and summer-holly (*Comarostaphylis diversifolia* ssp. *diversifolia*).

Characteristic species in this vegetation community within the project site include Nuttall's scrub oak, mission manzanita, black sage, and lemonadeberry (*Rhus integrifolia*). Approximately 3.5 acres of southern maritime chaparral occur within the project site.

Chamise Chaparral

Chamise chaparral is the most widely distributed chaparral habitat and is dominated by the species chamise (*Adenostoma fasciculatum)*. This vegetation community is found from Baja to northern California in pure or mixed stands. Chamise chaparral's ubiquitous distribution may be

the result of chamise being the only chaparral species that regenerates from fire from both an underground root crown and the production of seeds. It often dominates at low elevations and on xeric south facing slopes with 60 to 90 percent canopy cover. Along its lower elevation limit, chamise chaparral intergrades with coastal sage scrub. Mission manzanita and black sage are minor plant species associated within this vegetation community.

Typical species observed in this vegetation community within the project site include chamise, bush monkeyflower (*Mimulus aurantiacus*), and toyon (*Heteromeles arbutifolia*). Approximately 0.3 acre of chamise chaparral occurs within the project site.

Non-native Grassland

Non-native grassland typically supports a sparse to dense cover of annual grasses often associated with numerous species of showy-flowered native annual forbs. This association occurs on gradual slopes with deep, fine-textured, usually clay soils. Most of the annual, introduced species that make up the majority of species and biomass within the non-native grassland originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. These grasslands are common throughout San Diego County.

Typical species observed in this habitat on site include Mediterranean barley (*Hordeum murinum*), ripgut grass (*Bromus diandrus*), oats (*Avena* sp.), and red brome (*Bromus madritensis*).

Non-native Vegetation

Non-native vegetation is a category describing stands of naturalized trees or shrubs, many of which are also used in ornamental landscaping. On site, this habitat consists of a small stand of acacia (*Acacia* sp.).

Eucalyptus Woodland

Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* spp.), an introduced species that has often been planted for wind blocking, ornamental, and hardwood production purposes. Most groves are monotypic with the most common species being either the blue gum (*Eucalyptus gunnii*) or red gum (*E. camaldulensis* ssp. *obtusa)*. The understory within well-established groves is usually very sparse due to the closed canopy and allelopathic nature of the abundant leaf and bark litter. If sufficient moisture is available, this species becomes naturalized and is able to reproduce and expand its range.

Eucalyptus woodland occurs along a revegetated slope on the eastern parcel of the project site. Eucalyptus is the dominant species present. The understory comprises primarily a combination of eucalyptus leaf litter, Perez's sea lavender (*Limonium perezii*), big saltbush (*Atriplex lentiformis*), and occasional California sagebrush.

Disturbed Habitat

Disturbed habitat includes unvegetated or sparsely vegetated areas, particularly where the soil has been heavily compacted by prior development or where agricultural lands have been abandoned. Disturbed habitat is generally dominated by non-native weedy species that adapt to frequent disturbance, and may also consist of dirt trails and roads. Disturbed habitat on site consists of previously disturbed soils that are made up of bare ground or dominated by non-native vegetation such as Russian thistle (*Salsola tragus*), milk thistle (*Silybum marianum*), filaree (*Erodium* spp.), and black mustard (*Brassica nigra*).

Developed

Developed land is where permanent structures and/or pavement have been placed, which prevents the growth of vegetation, or where landscaping is clearly tended and maintained. Developed portions of the site consist of the airport administration building and other airport-related buildings and structures, parking lots, and runways.

RESULTS

Two CAGN pairs were observed in separate locations during the protocol survey effort, though not all individuals or pairs were detected during each of the three surveys (Figure 4a). One pair was observed off site approximately 30 feet to the north of the project boundary (CAGN pair no. 1). One pair was observed within the northwestern portion of the project site (CAGN pair no. 2). A detailed description of CAGN observations and locations is included below.

During the first survey, a CAGN pair (no. 1) was observed calling and foraging off site, immediately to the north of the project site (Figure 4a). A male was observed calling approximately 665 feet west of the pair and is believed to be the same male associated with the pair. A single, CAGN male (CAGN pair no. 2) was observed calling and foraging within the northwestern portion of the project site in two separate locations.

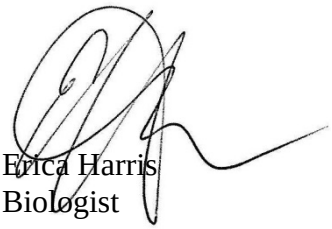
A single, male CAGN was observed calling and foraging to the north of the project site in the same location as the previously detected CAGN pair no. 1. A pair of CAGN (no. 2) was observed with a nest in the northwestern portion of the project site. The nest was located 142 feet south of the northern boundary, 2 feet off in the ground, in a California sagebrush shrub. The adults were both observed carrying food material to the nest and feeding nestlings.

During the third survey, a single, male CAGN was observed calling and foraging to the north of the project site in the same location as the previously detected CAGN pair no. 1. A pair of CAGN (no. 2) was observed foraging and feeding 3 recent fledglings in the northwestern portion of the project site.

CERTIFICATION

I certify that the information in this survey report and enclosed exhibit fully and accurately represent our work.

Sincerely,



Erica Harris
Biologist

Enclosures:
Figure 1 Regional Location Map
Figure 2 Project Vicinity (USGS Topography)
Figure 3 Project Vicinity (Aerial Photograph)
Figure 4a 2016 Coastal California Gnatcatcher Locations/Survey Route (West)
Figure 4b 2016 Coastal California Gnatcatcher Locations/Survey Route (East)

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Oberbauer, Thomas. 2008. Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions. Revised from 1996 and 2005. July.

U.S. Fish and Wildlife Service. 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol. 5pp.

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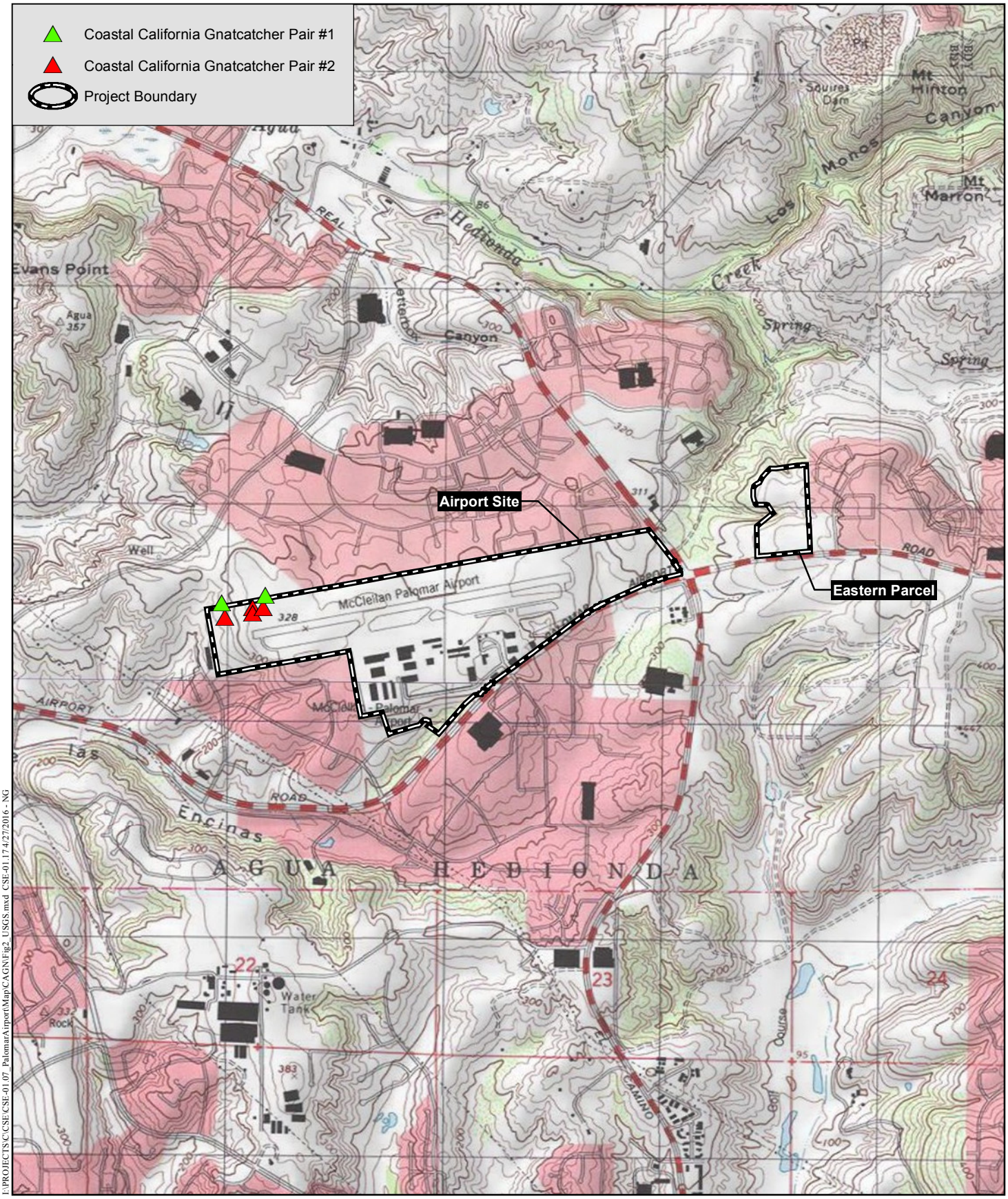
Regional Location Map

MCCLELLAN-PALOMAR AIRPORT

HELIX Environmental Planning

N 0 8 Miles

Figure 1



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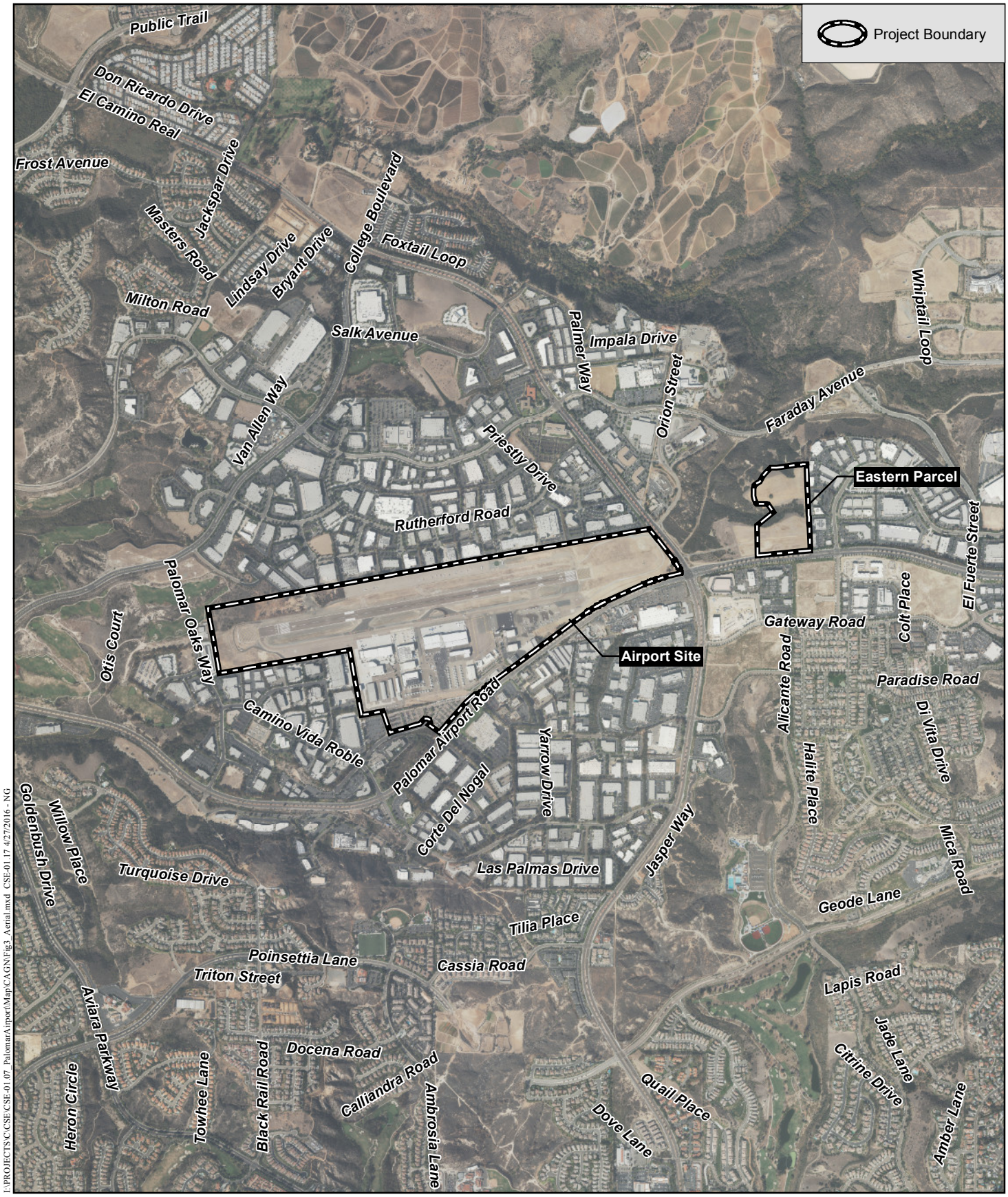
Project Vicinity (USGS Topography)

MCCLELLAN-PALOMAR AIRPORT

HELIX Environmental Planning

Figure 2



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Project Vicinity (Aerial Photograph)

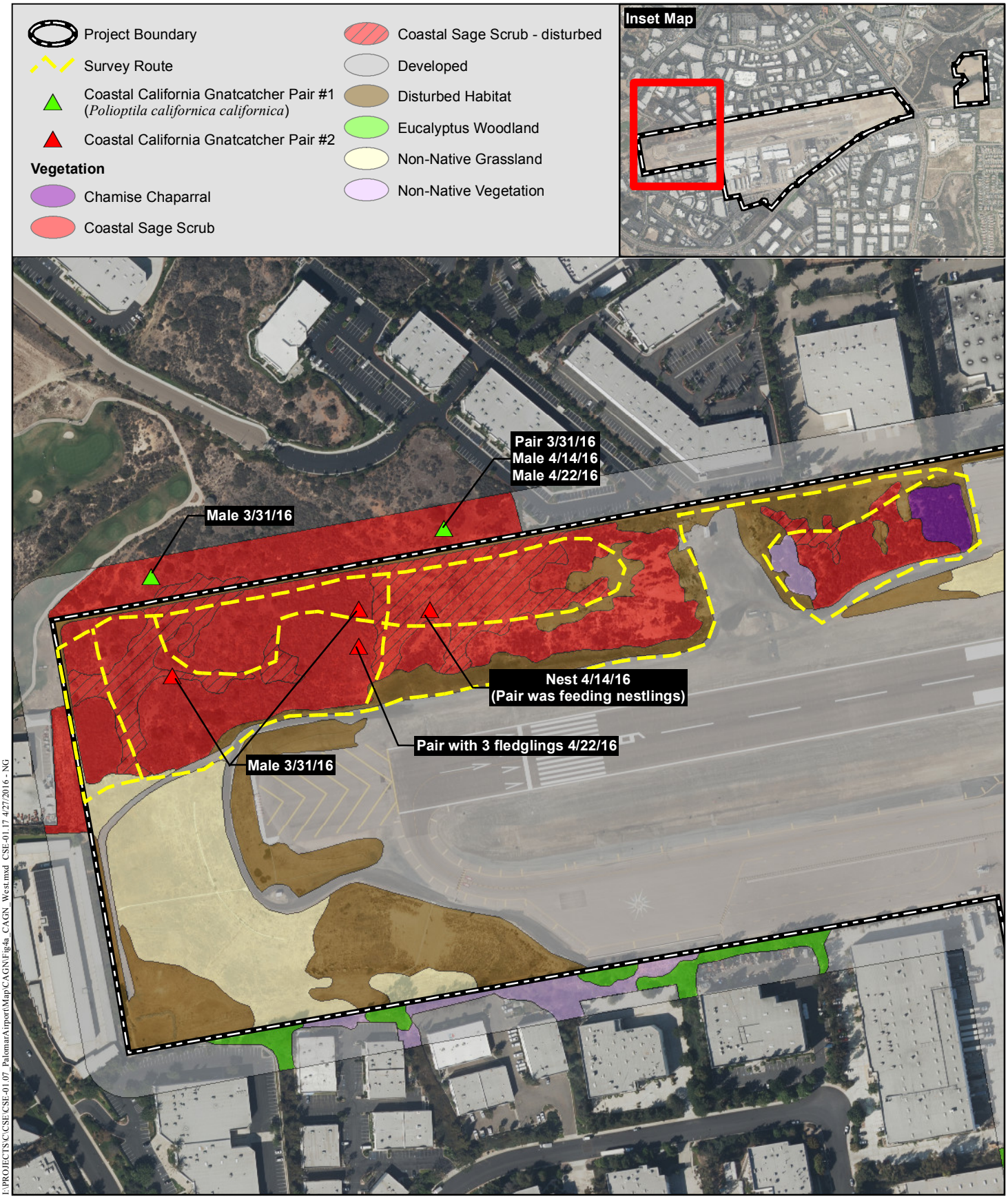
MCCLELLAN-PALOMAR AIRPORT

HELIX Environmental Planning

N

0 2,000 Feet

Figure 3



I:\PROJECTS\CCSE\CSE-01.07_PalomarAirport\MapCAGNFig4a_CAGN_West.mxd CSE-01.17 4/27/2016 - NG

2016 Coastal California Gnatcatcher Locations/Survey Route (West)

MCCLELLAN-PALOMAR AIRPORT

HELIX Environmental Planning

N 0 300 Feet

Figure 4a

2016 Coastal California Gnatcatcher Locations/Survey Route (East)

MCCLELLAN-PALOMAR AIRPORT

HELIX Environmental Planning

N 0 250 Feet

Figure 4b

Appendix G-2

2017 WET SEASON FAIRY SHRIMP SURVEY REPORT

HELIX Environmental Planning

McClellan-Palomar Airport Master Plan

Wet Season San Diego and Riverside Fairy Shrimp Survey Report

June 6, 2017

Prepared for:

County of San Diego
Department of Public Works
5510 Overland Avenue, Suite 410
San Diego, CA 92123-1239

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

I certify that the information in this survey report and attached exhibits fully and accurately represent my work:

Jason Kurnow

Amy Mattson

McClellan-Palomar Airport Master Plan Project
2016-2017 Wet Season Fairy Shrimp Survey Report

TABLE OF CONTENTS

Section	Title	Page
1.0	INTRODUCTION	1
	1.1 Species Information	1
2.0	METHODS	1
3.0	RESULTS	2
	3.1 Fairy Shrimp	2
	3.2 Rainfall	2
4.0	DISCUSSION	4
5.0	REFERENCES	5

LIST OF APPENDICES

A Data Sheets
B Representative Site Photos

LIST OF FIGURES

No.	Title	Follows Page No.
1	Regional Location Map	2
2	Project Vicinity (Aerial Photograph)	2
3	Project Vicinity (USGS Topography)	2
4	Sampled Basins	2

LIST OF TABLES

No.	Title	Page
1	2016-2017 Rain Season Survey Results for the McClellan-Palomar Airport Master Plan Project	4

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1.0 INTRODUCTION

This report presents the findings of the 2016-2017 wet season fairy shrimp survey conducted for the proposed McClellan-Palomar Airport Master Plan project (Figure 1). The proposed project is a phased 20-year strategy to prioritize projects at the airport. The Master Plan uses technical studies, forecast data, Federal Aviation Administration design engineering standards, and public involvement to support the modernization of the airport while maximizing use of the existing airport property.

The proposed project is located on County-owned lands within the City of Carlsbad in northwestern San Diego County, California (Figure 1). The project site includes an approximately 231.2-acre area immediately northwest of the intersection of Palomar Airport Road and El Camino Real, and an approximately 17.4-acre area located north of Palomar Airport Road and east of El Camino Real (Figure 2). The site is depicted within Sections 13, 14, 15, 22, and 23 of Township 12 South, Range 4 West of the U.S. Geological Survey (USGS) 7.5-minute topographic Encinitas and San Luis Rey quadrangle maps (Figure 3). The project site contains depressions/basins that have the potential to hold water for long enough periods to support fairy shrimp. The survey area included all potential depressions/basins occurring within the project site.

The purpose of this survey was to determine the presence/absence of the federally listed endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*) and federally listed endangered Riverside fairy shrimp (*Streptocephalus woottoni*) within the survey area.

1.1 SPECIES INFORMATION

There are three species of fairy shrimp with potential to occur on site: San Diego fairy shrimp, Riverside fairy shrimp, and versatile fairy shrimp (*Branchinecta lindahli*). The San Diego and Riverside fairy shrimp are federally listed as endangered, while the versatile fairy shrimp is relatively common and is not listed or considered sensitive. San Diego fairy shrimp are found in San Diego and Orange counties and occur in vernal pools and other ephemeral ponds or basins. Riverside fairy shrimp can be found in Riverside, Orange, and San Diego counties and occur in vernal pools and other ephemeral basins with long inundation times. The versatile fairy shrimp is common in pools throughout California and can co-occur with both San Diego and Riverside fairy shrimp.

2.0 METHODS

HELIX Environmental Planning, Inc. (HELIX) permitted biologists Jason Kurnow and Amy Mattson (Permit TE778195-13) conducted the wet season survey according to U.S. Fish and Wildlife Service (USFWS) protocol (USFWS 2015) to determine the presence/absence of San Diego and Riverside fairy shrimp. Sixteen site visits were conducted within the study area. The first site visit occurred on November 22, 2016, which was a ponding check following the November 21, 2016 rain event. This was the initial major rain event of the 2016-2017 season (rain event where the precipitation total exceeded 0.5 inches).

Subsequent visits occurred on November 29, December 19, and 23, 2016, as well as January 4, 6, 13, 20, and 27, February 3, 10, 16, and 23, March 2, 10, and 17, 2017. The November 29, 2016 and December 19, 2016 visits were ponding checks; all other visits were survey visits. All basins were dry on March 17, 2017, the last visit for this report.

The water-holding basins were sampled using fine mesh aquarium nets. No fairy shrimp were detected during the surveys; therefore, no collections of individuals occurred. Basin depth, area, water temperature, air temperature, and habitat condition were noted and recorded on USFWS vernal pool data sheets (Appendix A). Data sheets were not filled out when a basin was dry during a survey visit. Representative site photos are included in Appendix B.

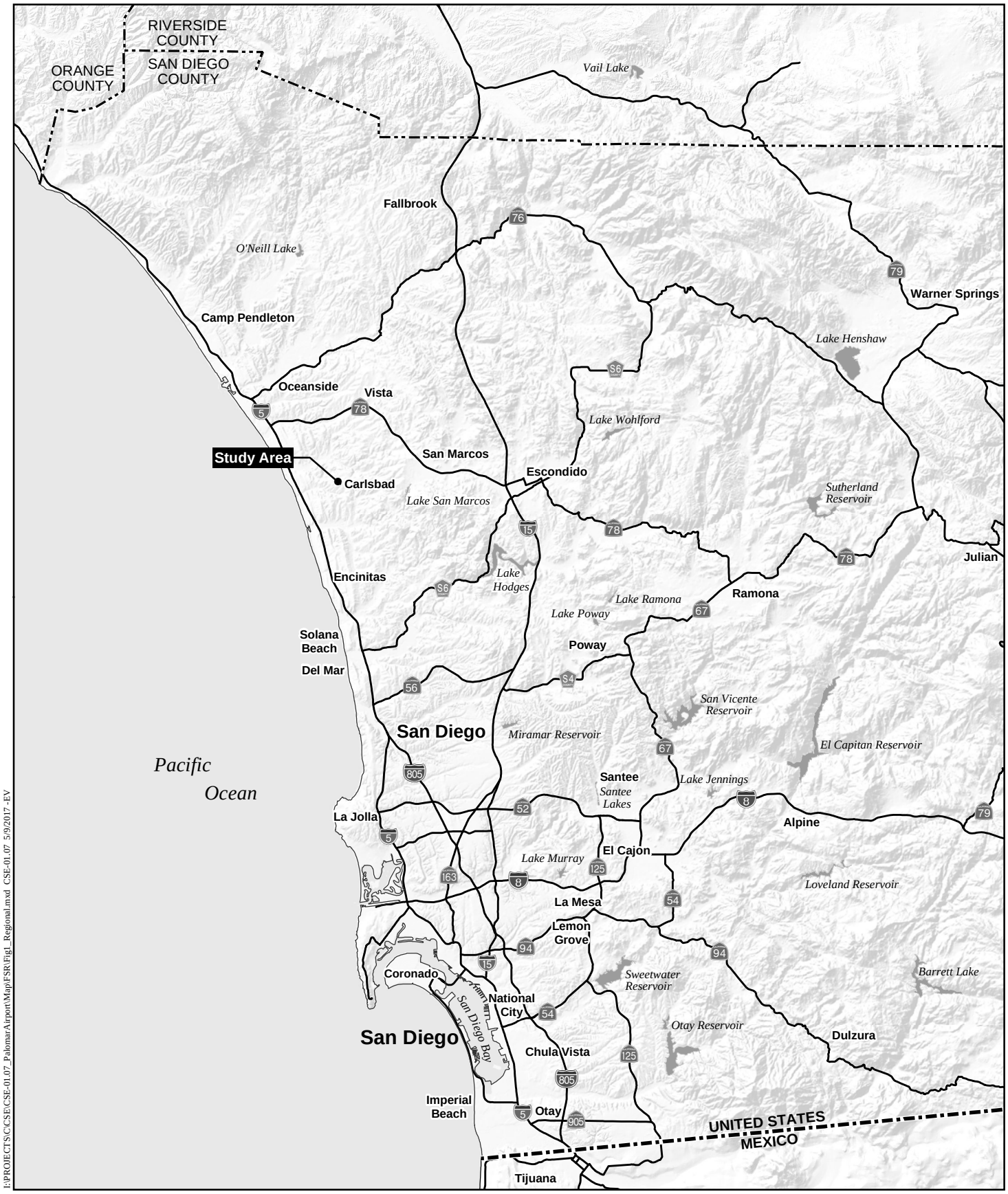
3.0 RESULTS

3.1 FAIRY SHRIMP

Fairy shrimp were not observed in this wet season fairy shrimp survey. Twenty-seven basins held water for a long enough period to sample for fairy shrimp (Figure 4; Table 1).

3.2 RAINFALL

Based on the National Oceanic and Atmospheric Administration (NOAA)'s Carlsbad Airport Station, the precipitation total for the 2016-2017 rain season is 15.33 inches (NOAA 2016 and 2017a). The precipitation average for the region is 10.13 inches (NOAA 2013). This translates to a precipitation total that is 51 percent above average for the region.



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Regional Location Map

MCCLELLAN-PALOMAR AIRPORT

HELIX Environmental Planning

N 0 8 Miles

Figure 1

I:\PROJECTS\CG\GSE\GSE-01.07_PalomarAirport\Map\FSR\Fig2_Aerial.mxd GSE-01.17 05/09/2017 - EV

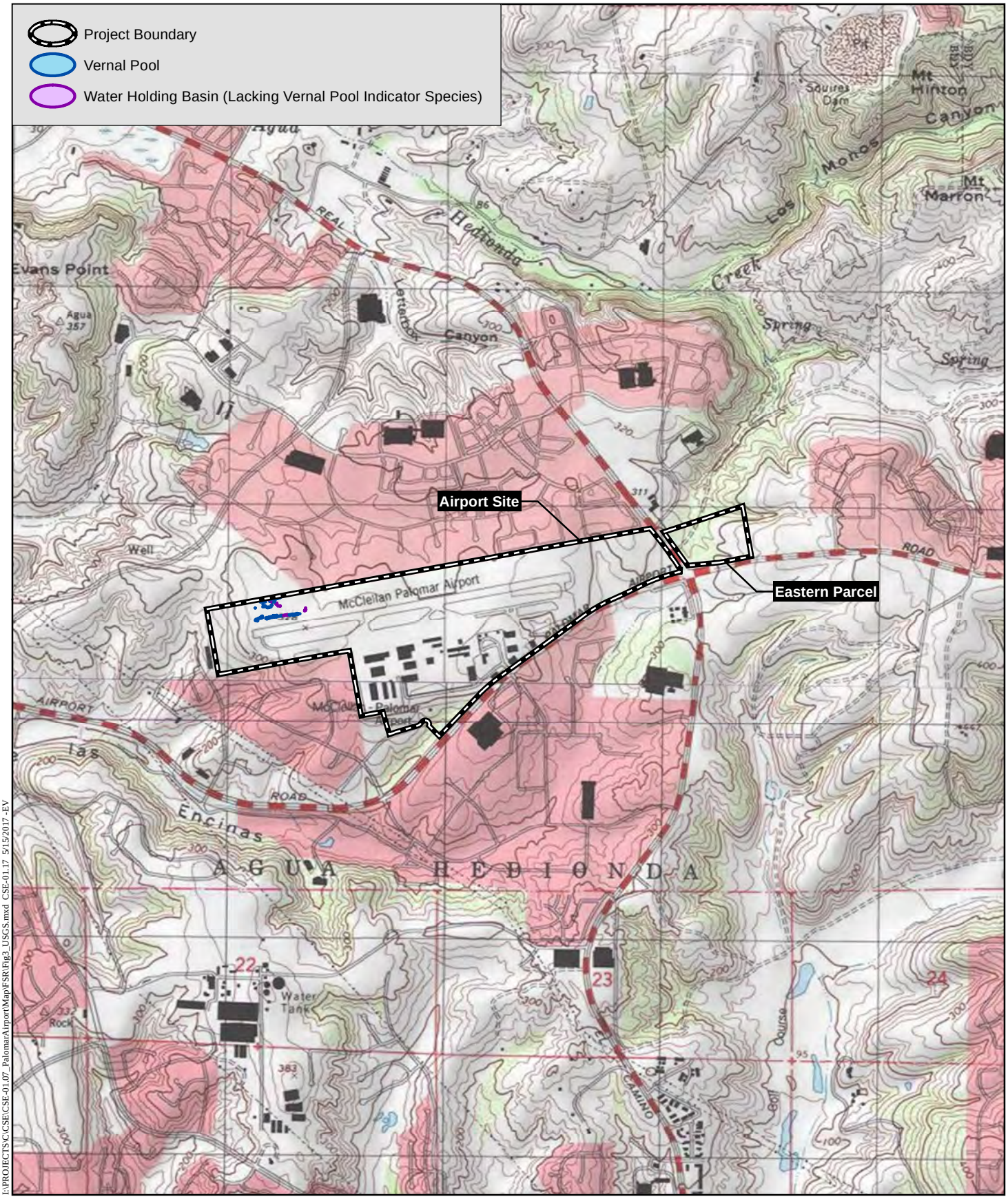
Project Vicinity (Aerial Photograph)

MCCLELLAN-PALOMAR AIRPORT

HELIX Environmental Planning

N 0 2,000 Feet

Figure 2



I:\PROJECTS\CG\GSE\GSE-01.07_PalomarAirport\Map\FSR\Fig3_USGS.mxd GSE-01.17 5/15/2017 -EV

Project Vicinity (USGS Topography)

MCCLELLAN-PALOMAR AIRPORT

HELIX Environmental Planning

N

0 2,000 Feet

Figure 3

I:\PROJECTS\C\CSE\CSE-01 07_PalomarAirport\Map\FSR\Fig4_SampledBasins_2017_0607.mxd CSE-01 07 0607/17 EV

Sampled Basins

MCCLELLAN-PALOMAR AIRPORT

HELIX Environmental Planning

N 0 50 Feet

Figure 4

Table 1
2016-2017 RAIN SEASON SURVEY RESULTS
FOR THE MCCLELLAN-PALOMAR AIRPORT MASTER PLAN PROJECT

BASIN	SURVEY DATES															
	2016				2017											
	11/22[1]	11/29[1]	12/19[1]	12/23	1/4	1/6	1/13	1/20	1/27	2/3	2/10	2/16	2/23	3/2	3/10	3/17
1	DRY	DRY	SWP	---	---	---	---	---	---	---	---	---	---	---	DRY	DRY
2	DRY	DRY	SWP	---	---	---	---	---	---	---	Dry	Dry	Dry	---	DRY	DRY
3	DRY	DRY	SWP	---	---	---	---	---	---	---	---	---	Dry	---	DRY	DRY
4	DRY	DRY	SWP	---	---	---	---	---	---	---	---	---	---	---	DRY	DRY
5	DRY	DRY	SWP	---	---	---	---	---	---	---	---	---	---	---	DRY	DRY
6	DRY	DRY	SWP	---	---	---	---	---	---	---	---	---	---	---	DRY	DRY
7	DRY	DRY	SWP	---	---	---	---	---	---	---	---	---	---	---	---	DRY
8	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	---	DRY	DRY
9	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
10	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
11	DRY	DRY	SWP	---	---	---	---	---	---	---	DRY	DRY	---	---	DRY	DRY
12	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
13	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
14	DRY	DRY	SWP	---	---	---	---	---	---	---	---	---	---	---	---	DRY
15	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
16	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
17	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
18	DRY	DRY	SWP	---	DRY	---	---	---	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY
19	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
20	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
21	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
22	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
23	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
24	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
25	DRY	DRY	SWP	---	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
26	DRY	DRY	SWP	---	---	---	---	---	---	---	---	---	---	---	DRY	DRY
27	DRY	DRY	SWP	---	---	---	---	---	---	---	---	---	---	---	DRY	DRY

[1] Ponding check. Basins were not sampled during these visits; they were just checked for surface water.
--- : Basin sampled, but no fairy shrimp observed
SWP: Surface Water Present

4.0 DISCUSSION

According to the Palmer Drought Severity Index (NOAA 2017b), the region where the survey occurred was in a period classified as mid-range throughout much of the 2016-2017 rain season. According to the 2015 USFWS protocol, a wet season survey may be considered unreliable if moderate to extreme drought conditions persist through the wet season as determined by this index. This index categorizes precipitation into ranges that fall either above or below what is classified as average precipitation. Areas are considered to be mid-range when precipitation ranges from 1.99 inches below average to 1.99 inches above average. This classification is not consistent with more specific rainfall data obtained by the local NOAA Station, which puts the precipitation total 5.20 inches above normal. This translates to an extremely moist classification based on the index.

It is our opinion that this survey meets protocol and confirms that fairy shrimp are not present on the project site. This determination is made based on:

- Basins on site held water long enough to sample for fairy shrimp; and
- The precipitation total for the 2016-2017 rain season is within the range of rainfall needed to meet protocol conditions.

5.0 REFERENCES

Eriksen, C.H. and D. Belk. 1999. Fairy Shrimps of California's Puddles, Pools, and Playas. Mad River Press. Eureka, California. 196pp.

National Oceanic and Atmospheric Administration (NOAA).

2017a. http://www.wrh.noaa.gov/sgx/obs/rtp/rtp_CRQ_17

2017b. http://www.ncdc.noaa.gov/temp-and-precip/drought/historical-palmers/psi/201410-201504

2016. http://www.wrh.noaa.gov/sgx/obs/rtp/rtp_CRQ_16

2013. http://www.wrcc.dri.edu/cgi-bin/cliMONtpre.pl?ca7740

U.S. Fish and Wildlife Service (USFWS). 2015. Survey Guidelines for the Listed Large Branchiopods. May 31.

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Appendix A

DATA SHEETS

U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name:	County:	Quad:	Township:	Range:	Section:
McClellan-Palomar Airport Master Plan	San Diego	San Luis Rey	12 South	4 West	Unsectioned

Surveyor/Permit Number: Jason Kurnow/TE-778195-13

Date: 23 December 2016 **Time:** 0800-1200 **Weather Conditions:** 100% cloud cover, with wind ranging from 3-7 mph

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3665463.71N 473134.33E	15	13	8	13	1 X 3	10 x 6	---	---	---	---	---	---	---	---	---	---	D	---
2	3665475.82N 473154.46E	15	13	18	18	14 X 5	17 x 7	---	---	---	---	---	---	---	---	---	---	D	---
3	3665473.37N 473184.60E	15	13	6	13	7 X 2	20 x 4.5	---	--	---	---	---	---	---	---	---	---	D	---
4	3665480.54N 473212.21E	15	13	15	15	4.3 X 23	47 x 7	---	---	---	---	---	---	---	---	---	---	D	---
5	3665483.84N 473245.00E	15	13	13	18	10 X 1.3	30 x 5	---	---	---	---	---	---	---	---	---	---	D	---
6	3665491.38N 473307.90E	15	13	13	18	33 X 3	34 x 5	---	---	---	---	---	---	---	---	---	---	D	---
7	3665568.28N 473228.83E	15	13	13	20	22 X 6	47 x 11.5	---	---	---	---	---	---	---	---	---	---	D	---
8	3665558.40N 473211.69E	15	13	3	6	1 X 1	1.5 x 1.5	---	---	---	---	---	---	---	---	---	---	D	---
9	3665547.23N 473213.27E	15	13	3	6	1.5 x 1	1.5 x 1.5	---	---	---	---	---	---	---	---	---	---	D	---
10	3665533.19N 473203.06E	15	13	4	6	2 x 1	2 x 2	---	---	---	---	---	---	---	---	---	---	D	---
11	3665522.93N 473188.67E	15	13	9	15	3 x 10	18 x 4	---	---	---	---	---	---	---	---	---	---	D	---
12	3665526.51N 473170.23E	15	13	5	8	4 x 3	7 x 3.5	---	---	---	---	---	---	---	---	---	---	D	---
13	3665534.68N 473162.68E	15	13	3	6	0.5 x 0.5	1 x 1	---	---	---	---	---	---	---	---	---	---	D	---
14	3665550.02N 473162.69E	15	13	13	16	16 x 4	12 x 25	---	---	---	---	---	---	---	---	---	---	D	---

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP= Natural Pool, GP= Constructed Pool; UD = undisturbed, D = disturbed: with TT= tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name:	County:	Quad:	Township:	Range:	Section:
McClellan-Palomar Airport Master Plan	San Diego	San Luis Rey	12 South	4 West	Unsectioned

Surveyor/Permit Number: Jason Kurnow/TE-778195-13

Date: 23 December 2016 **Time:** 0800-1200 **Weather Conditions:** 100% cloud cover, with wind ranging from 3-7 mph

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
15	3665519.03N 473127.21E	15	13	3	6	0.5 x 0.5	1 x 1	---	---	---	---	---	---	---	---	---	---	D	---
16	3665554.87N 473146.55E	15	13	3	6	1 x 0.5	1.5 x 1	---	---	---	---	---	---	---	---	---	---	D	---
17	3665552.05N 473216.35E	15	13	3	6	2 x 1	2.5 x 2.5	---	--	---	---	---	---	---	---	---	---	D	---
18	3665550.89N 473197.88E	15	13	6	11	3 x 1	12 x 2.5	---	---	---	---	---	---	---	---	---	---	D	---
19	3665546.07N 473205.03E	15	13	4	6	2 x 0.5	2 x 1	---	---	---	---	---	---	---	---	---	---	D	---
20	3665539.65N 473225.51E	15	13	4	6	2 x 2	2.5 x 2.5	---	---	---	---	---	---	---	---	---	---	D	---
21	3665529.96N 473231.68E	15	13	3	6	1 x 1	1.5 x 1.5	---	---	---	---	---	---	---	---	---	---	D	---
22	3665529.33N 473241.27E	15	13	4	8	3.5 x 1.25	4 x 2	---	---	---	---	---	---	---	---	---	---	D	---
23	3665558.42N 473189.12E	15	13	3	6	2 x 0.75	3 x 1	---		---		---	---	---	---	---	---	D	---
24	3665561.91N 473190.05E	15	13	3	6	1 x 1	1.5 x 1.75	---	---	---	---	---	---	---	---	---	---	D	---
25	3665560.07N 473186.41E	15	13	3	6	1.25 x 1.25	2 x 2	---	---	---	---	---	---	---	---	---	---	D	---
26	3665487.40N 473268.31E	15	13	15	18	12 x 2	24 x 5	---	---	---	---	---	---	---	---	---	---	D	---
27	3665513.05N 473358.57E	15	13	10	18	8 x 3	20 x 10	---	---	---	---	---	---	---	---	---	---	D	---

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(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name:	County:	Quad:	Township:	Range:	Section:
McClellan-Palomar Airport Master Plan	San Diego	San Luis Rey	12 South	4 West	Unsectioned

Surveyor/Permit Number: Jason Kurnow/TE-778195-13

Date: 4 January 2017 **Time:** 1200-1400 **Weather Conditions:** 0% cloud cover, with wind ranging from 2-3 mph

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3665463.71N 473134.33E	16	13	9	13	10 x 1.5	10 x 6	---	---	---	---	---	---	---	---	---	---	D	---
2	3665475.82N 473154.46E	16	13	9	18	1.3 x 5.3	17 x 7	---	---	---	---	---	---	---	---	---	---	D	---
3	3665473.37N 473184.60E	16	13	4	13	1.6 x 4	20 x 4.5	---	--	---	---	---	---	---	---	---	---	D	---
4	3665480.54N 473212.21E	16	13	13	15	3 x 21	47 x 7	---	---	---	---	---	---	---	---	---	---	D	---
5	3665483.84N 473245.00E	16	13	14	18	2 x 7	30 x 5	---	---	---	---	---	---	---	---	---	---	D	---
6	3665491.38N 473307.90E	16	13	18	18	2 x 30	34 x 5	---	---	---	---	---	---	---	---	---	---	D	---
7	3665568.28N 473228.83E	16	13	15	20	3.2 x 21	47 x 11.5	---	---	---	---	---	---	---	---	---	---	D	---
11	3665522.93N 473188.67E	16	13	6	15	1 x 6.6	18 x 4	---	---	---	---	---	---	---	---	---	---	D	---
14	3665550.02N 473162.69E	16	13	9	16	6 x 12	12 x 25	---	---	---	---	---	---	---	---	---	---	D	---
26	3665487.40N 473268.31E	16	13	13	18	2.5 x 13	24 x 5	---	---	---	---	---	---	---	---	---	---	D	---
27	3665513.05N 473358.57E	16	13	8	18	4 x 9	20 x 10	---	---	---	---	---	---	---	---	---	---	D	---

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

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(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

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Site or Project Name:	County:	Quad:	Township:	Range:	Section:
McClellan-Palomar Airport Master Plan	San Diego	San Luis Rey	12 South	4 West	Unsectioned

Surveyor/Permit Number: Jason Kurnow/TE-778195-13

Date: 6 January 2017 **Time:** 1300-1500 **Weather Conditions:** 100% cloud cover, with wind ranging from 2-4 mph

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3665463.71N 473134.33E	17	16	8	13	0.75 x 8	10 x 7	---	---	---	---	---	---	---	---	---	---	D	---
2	3665475.82N 473154.46E	17	16	5	18	1 x 4	17 x 7	---	---	---	---	---	---	---	---	---	---	D	---
3	3665473.37N 473184.60E	17	16	3	13	1 x 7	20 x 4.5	---	--	---	---	---	---	---	---	---	---	D	---
4	3665480.54N 473212.21E	17	16	11	15	2.5 x 18	47 x 7	---	---	---	---	---	---	---	---	---	---	D	---
5	3665483.84N 473245.00E	17	16	13	18	1.5 x 7	30 x 5	---	---	---	---	---	---	---	---	---	---	D	---
6	3665491.38N 473307.90E	17	16	15	18	2 x 25	34 x 5	---	---	---	---	---	---	---	---	---	---	D	---
7	3665568.28N 473228.83E	17	16	14	20	3 x 16	47 x 11.5	---	---	---	---	---	---	---	---	---	---	D	---
11	3665522.93N 473188.67E	17	16	3	15	2 x 5	18 x 4	---	---	---	---	---	---	---	---	---	---	D	---
14	3665550.02N 473162.69E	17	16	6	16	5 x 11	12 x 25	---	---	---	---	---	---	---	---	---	---	D	---
18	3665550.89N 473197.88E	17	16	2	11	0.5 x 0.5	12 x 2.5	---	---	---	---	---	---	---	---	---	---	D	---
26	3665487.40N 473268.31E	17	16	10	18	2 x 10	24 x 5	---	---	---	---	---	---	---	---	---	---	D	---
27	3665513.05N 473358.57E	17	16	5	18	3 x 7	20 x 10	---	---	---	---	---	---	---	---	---	---	D	---

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP= Natural Pool, GP= Constructed Pool; UD = undisturbed, D = disturbed: with TT= tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name:	County:	Quad:	Township:	Range:	Section:
McClellan-Palomar Airport Master Plan	San Diego	San Luis Rey	12 South	4 West	Unsectioned

Surveyor/Permit Number: Jason Kurnow/TE-778195-13

Date: 13 January 2017 **Time:** 1300-1600 **Weather Conditions:** 100% cloud cover, raining, with wind ranging from 1-2 mph

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3665463.71N 473134.33E	16	14	10	13	4 x 3	10 x 6	---	---	---	---	---	---	---	---	---	---	D	---
2	3665475.82N 473154.46E	16	14	13	18	12 x 3.5	17 x 7	---	---	---	---	---	---	---	---	---	---	D	---
3	3665473.37N 473184.60E	16	14	8	13	9 x 3	20 x 4.5	---	--	---	---	---	---	---	---	---	---	D	---
4	3665480.54N 473212.21E	16	14	10	15	23 x 6	47 x 7	---	---	---	---	---	---	---	---	---	---	D	---
5	3665483.84N 473245.00E	16	14	15	18	12 x 2	30 x 5	---	---	---	---	---	---	---	---	---	---	D	---
6	3665491.38N 473307.90E	16	14	15	18	26 x 3	34 x 5	---	---	---	---	---	---	---	---	---	---	D	---
7	3665568.28N 473228.83E	16	14	15	20	19 x 4	47 x 11.5	---	---	---	---	---	---	---	---	---	---	D	---
11	3665522.93N 473188.67E	16	14	13	15	13 x 3	18 x 4	---	---	---	---	---	---	---	---	---	---	D	---
14	3665550.02N 473162.69E	16	14	10	16	11 x 4	12 x 25	---	---	---	---	---	---	---	---	---	---	D	---
18	3665550.89N 473197.88E	16	14	8	11	5 x 2	12 x 2.5	---	---	---	---	---	---	---	---	---	---	D	---
26	665487.40N 473268.31E	16	14	14	18	12 x 3	24 x 5	---	---	---	---	---	---	---	---	---	---	D	---
27	3665513.05N 473358.57E	16	14	10	18	8 x 3.5	20 x 10	---	---	---	---	---	---	---	---	---	---	D	---

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).
For habitat conditions use two letter abbreviation as follows: NP= Natural Pool, GP= Constructed Pool; UD = undisturbed, D = disturbed: with TT= tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name:	County:	Quad:	Township:	Range:	Section:
McClellan-Palomar Airport Master Plan	San Diego	San Luis Rey	12 South	4 West	Unsectioned

Surveyor/Permit Number: Jason Kurnow/TE-778195-13

Date: 20 January 2017 **Time:** 1300-1645 **Weather Conditions:** 85% cloud cover, with wind ranging from 1-3 mph

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3665463.71N 473134.33E	16	19	13	13	10 x 6	10 x 6	---	---	---	---	---	---	---	---	---	---	D	---
2	3665475.82N 473154.46E	16	19	15	18	17 x 5	17 x 7	---	---	---	---	---	---	---	---	---	---	D	---
3	3665473.37N 473184.60E	16	19	13	13	14 x 4	20 x 4.5	---	--	---	---	---	---	---	---	---	---	D	---
4	3665480.54N 473212.21E	16	19	15	15	30 x 7	47 x 7	---	---	---	---	---	---	---	---	---	---	D	---
5	3665483.84N 473245.00E	16	19	18	18	17 x 3	30 x 5	---	---	---	---	---	---	---	---	---	---	D	---
6	3665491.38N 473307.90E	16	19	18	18	30 x 3.5	34 x 5	---	---	---	---	---	---	---	---	---	---	D	---
7	3665568.28N 473228.83E	16	19	20	20	6 x 23	47 x 11.5	---	---	---	---	---	---	---	---	---	---	D	---
11	3665522.93N 473188.67E	16	19	13	15	11 x 3	18 x 4	---	---	---	---	---	---	---	---	---	---	D	---
14	3665550.02N 473162.69E	16	19	15	16	16 x 4	12 x 25	---	---	---	---	---	---	---	---	---	---	D	---
18	3665550.89N 473197.88E	16	19	10	11	10 x 1	12 x 2.5	---	---	---	---	---	---	---	---	---	---	D	---
26	3665487.40N 473268.31E	16	19	18	18	18 x 3	24 x 5	---	---	---	---	---	---	---	---	---	---	D	---
27	3665513.05N 473358.57E	16	19	13	18	11 x 5	20 x 10	---	---	---	---	---	---	---	---	---	---	D	---

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

For habitat conditions use two letter abbreviation as follows: NP= Natural Pool, GP= Constructed Pool; UD = undisturbed, D = disturbed: with TT= tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.

(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name:	County:	Quad:	Township:	Range:	Section:
McClellan-Palomar Airport Master Plan	San Diego	San Luis Rey	12 South	4 West	Unsectioned

Surveyor/Permit Number: Jason Kurnow/TE-778195-13

Date: 27 January 2017 **Time:** 1000-1230 **Weather Conditions:** 0% cloud cover, with wind ranging from 0-1 mph

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3665463.71N 473134.33E	15	12	8	13	4 x 1.5	10 x 6	---	---	---	---	---	---	---	---	---	---	D	---
2	3665475.82N 473154.46E	15	12	10	18	6 x 1.5	17 x 7	---	---	---	---	---	---	---	---	---	---	D	---
3	3665473.37N 473184.60E	15	12	3	13	5 x 1.3	20 x 4.5	---	--	---	---	---	---	---	---	---	---	D	---
4	3665480.54N 473212.21E	15	12	10	15	18 x 5	47 x 7	---	---	---	---	---	---	---	---	---	---	D	---
5	3665483.84N 473245.00E	15	12	13	18	8 x 1.5	30 x 5	---	---	---	---	---	---	---	---	---	---	D	---
6	3665491.38N 473307.90E	15	12	10	18	21 x 2.5	34 x 5	---	---	---	---	---	---	---	---	---	---	D	---
7	3665568.28N 473228.83E	15	12	18	20	4 x 20	47 x 11.5	---	---	---	---	---	---	---	---	---	---	D	---
11	3665522.93N 473188.67E	15	12	8	15	2 x 6	18 x 4	---	---	---	---	---	---	---	---	---	---	D	---
14	3665550.02N 473162.69E	15	12	8	16	4.6 x 12	12 x 25	---	---	---	---	---	---	---	---	---	---	D	---
18	3665550.89N 473197.88E	15	12	3	11	1 x 0.3	12 x 2.5	---	---	---	---	---	---	---	---	---	---	D	---
26	3665487.40N 473268.31E	15	12	9	18	2 x 12	24 x 5	---	---	---	---	---	---	---	---	---	---	D	---
27	3665513.05N 473358.57E	15	12	10	18	5 x 3	20 x 10	---	---	---	---	---	---	---	---	---	---	D	---

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

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(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name:	County:	Quad:	Township:	Range:	Section:
McClellan-Palomar Airport Master Plan	San Diego	San Luis Rey	12 South	4 West	Unsectioned

Surveyor/Permit Number: Jason Kurnow/TE-778195-13

Date: 3 February 2017 **Time:** 1000-1230 **Weather Conditions:** 0% cloud cover, with wind ranging from 0-1 mph

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3665463.71N 473134.33E	18	18	5	13	3 x 3	10 x 6	---	---	---	---	---	---	---	---	---	---	D	---
2	3665475.82N 473154.46E	18	18	6	18	5 x 1	17 x 7	---	---	---	---	---	---	---	---	---	---	D	---
3	3665473.37N 473184.60E	18	18	10	13	4 x 1	20 x 4.5	---	--	---	---	---	---	---	---	---	---	D	---
4	3665480.54N 473212.21E	18	18	8	15	12 x 3.5	47 x 7	---	---	---	---	---	---	---	---	---	---	D	---
5	3665483.84N 473245.00E	18	18	8	18	5 x 1	30 x 5	---	---	---	---	---	---	---	---	---	---	D	---
6	3665491.38N 473307.90E	18	18	8	18	18 x 2	34 x 5	---	---	---	---	---	---	---	---	---	---	D	---
7	3665568.28N 473228.83E	18	18	13	20	3.5 x 14	47 x 11.5	---	---	---	---	---	---	---	---	---	---	D	---
11	3665522.93N 473188.67E	18	18	3	15	1 x 1.5	18 x 4	---	---	---	---	---	---	---	---	---	---	D	---
14	3665550.02N 473162.69E	18	18	5	16	3 x 9	12 x 25	---	---	---	---	---	---	---	---	---	---	D	---
26	3665487.40N 473268.31E	18	18	4	18	1 x 7	24 x 5	---	---	---	---	---	---	---	---	---	---	D	---
27	3665513.05N 473358.57E	18	18	5	18	3 x 1	20 x 10	---	---	---	---	---	---	---	---	---	---	D	---

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).

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(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name:	**County:**	**Quad:**	**Township:**	**Range:**	**Section:**
McClellan-Palomar Airport Master Plan	San Diego	San Luis Rey	12 South	4 West	Unsectioned

Surveyor/Permit Number: Jason Kurnow/TE-778195-13

Date: 10 February 2017 **Time:** 1030-1200 **Weather Conditions:** 0% cloud cover, with wind ranging from 0-1 mph

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3665463.71N 473134.33E	17	14	5	13	3 x 1	10 x 6	---	---	---	---	---	---	---	---	---	---	D	---
3	3665473.37N 473184.60E	17	14	3	18	5 x 1.5	17 x 7	---	---	---	---	---	---	---	---	---	---	D	---
4	3665480.54N 473212.21E	17	14	10	13	30 x 4	20 x 4.5	---	--	---	---	---	---	---	---	---	---	D	---
5	3665483.84N 473245.00E	17	14	13	15	16 x 1.5	30 x 5	---	---	---	---	---	---	---	---	---	---	D	---
6	3665491.38N 473307.90E	17	14	10	18	34 x 3	34 x 5	---	---	---	---	---	---	---	---	---	---	D	---
7	3665568.28N 473228.83E	17	14	10	20	25 x 3	47 x 11.5	---	---	---	---	---	---	---	---	---	---	D	---
14	3665550.02N 473162.69E	17	14	8	16	8 x 2	12 x 25	---	---	---	---	---	---	---	---	---	---	D	---
26	3665487.40N 473268.31E	17	14	10	18	19 x 2	24 x 5	---	---	---	---	---	---	---	---	---	---	D	---
27	3665513.05N 473358.57E	17	14	9	18	7 x 3	20 x 10	---	---	---	---	---	---	---	---	---	---	D	---

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).
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(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name:	**County:**	**Quad:**	**Township:**	**Range:**	**Section:**
McClellan-Palomar Airport Master Plan	San Diego	San Luis Rey	12 South	4 West	Unsectioned

Surveyor/Permit Number: Jason Kurnow/TE-778195-13

Date: 16 February 2017 **Time:** 1030-1200 **Weather Conditions:** 100% cloud cover, with wind ranging from 4-5 mph

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3665463.71N 473134.33E	23	20	3	13	2 x 0.5	10 x 6	---	---	---	---	---	---	---	---	---	---	D	---
3	3665473.37N 473184.60E	23	20	3	13	3 x 1	20 x 4.5	---	---	---	---	---	---	---	---	---	---	D	---
4	3665480.54N 473212.21E	23	20	7	15	25 x 4	47 x 7	---	--	---	---	---	---	---	---	---	---	D	---
5	3665483.84N 473245.00E	23	20	6	18	14 x 1	30 x 5	---	---	---	---	---	---	---	---	---	---	D	---
6	3665491.38N 473307.90E	23	20	8	18	20 x 2	34 x 5	---	---	---	---	---	---	---	---	---	---	D	---
7	3665568.28N 473228.83E	23	20	8	20	16 x 2	47 x 11.5	---	---	---	---	---	---	---	---	---	---	D	---
14	3665550.02N 473162.69E	23	20	5	16	8 x 2	12 x 25	---	---	---	---	---	---	---	---	---	---	D	---
26	3665487.40N 473268.31E	23	20	7	18	16 x 2	24 x 5	---	---	---	---	---	---	---	---	---	---	D	---
27	3665513.05N 473358.57E	23	20	5	18	5 x 2	20 x 10	---	---	---	---	---	---	---	---	---	---	D	---

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).
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(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: McClellan-Palomar Airport Master Plan	**County:** San Diego	**Quad:** San Luis Rey	**Township:** 12 South	**Range:** 4 West	**Section:** Unsectioned
Surveyor/Permit Number: Jason Kurnow/TE-778195-13					
Date: 23 February 2017	**Time:** 1100-1245	**Weather Conditions:** 0% cloud cover, with wind ranging from 2-3 mph			

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3665463.71N 473134.33E	20	18	5	13	3 x 0.6	10 x 6	---	---	---	---	---	---	---	---	---	---	D	---
4	3665480.54N 473212.21E	20	18	8	15	24 x 4	47 x 7	---	---	---	---	---	---	---	---	---	---	D	---
5	3665483.84N 473245.00E	20	18	10	18	12 x 2	30 x 5	---	--	---	---	---	---	---	---	---	---	D	---
6	3665491.38N 473307.90E	20	18	13	18	31 x 3	34 x 5	---	---	---	---	---	---	---	---	---	---	D	---
7	3665568.28N 473228.83E	20	18	10	20	27 x 2.5	47 x 11.5	---	---	---	---	---	---	---	---	---	---	D	---
11	3665522.93N 473188.67E	20	18	4	15	8 x 2	18 x 4	---	---	---	---	---	---	---	---	---	---	D	---
14	3665550.02N 473162.69E	20	18	9	16	12 x 3	12 x 25	---	---	---	---	---	---	---	---	---	---	D	---
26	3665487.40N 473268.31E	20	18	8	18	17 x 2	24 x 5	---	---	---	---	---	---	---	---	---	---	D	---
27	3665513.05N 473358.57E	20	18	8	18	6 x 3	20 x 10	---	---	---	---	---	---	---	---	---	---	D	---

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).
For habitat conditions use two letter abbreviation as follows: NP= Natural Pool, GP= Constructed Pool; UD = undisturbed, D = disturbed: with TT= tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name: McClellan-Palomar Airport Master Plan	**County:** San Diego	**Quad:** San Luis Rey	**Township:** 12 South	**Range:** 4 West	**Section:** Unsectioned
Surveyor/Permit Number: Amy Mattson/TE-778195-13					
Date: 2 March 2017	**Time:** 0900-1200	**Weather Conditions:** 0% cloud cover, with wind ranging from 2-3 mph			

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
1	3665463.71N 473134.33E	15	14	10	13	6 x 2	10 x 6	---	---	---	---	---	---	---	---	---	---	D	---
2	3665475.82N 473154.46E	15	14	10	18	13.5 x 7	17 x 7	---	---	---	---	---	---	---	---	---	---	D	---
3	3665473.37N 473184.60E	15	14	5	13	20 x 4.5	20 x 4.5	---	--	---	---	---	---	---	---	---	---	D	---
4	3665480.54N 473212.21E	15	14	17	15	47 x 9	47 x 9	---	---	---	---	---	---	---	---	---	---	D	---
5	3665483.84N 473245.00E	15	14	15	18	30 x 5	30 x 5	---	---	---	---	---	---	---	---	---	---	D	---
6	3665491.38N 473307.90E	15	14	18	18	17 x 5	34 x 5	---	---	---	---	---	---	---	---	---	---	D	---
7	3665568.28N 473228.83E	15	14	14	20	47 x 11.5	47 x 11.5	---	---	---	---	---	---	---	---	---	---	D	---
8	3665558.40N 473211.69E	15	14	3	5	7.75 x 0.75	8 x 2	---	---	---	---	---	---	---	---	---	---	D	---
11	3665522.93N 473188.67E	15	14	10	15	16 x 3.5	18 x 4	---	---	---	---	---	---	---	---	---	---	D	---
14	3665550.02N 473162.69E	15	14	8	16	10 x 24	12 x 25	---	---	---	---	---	---	---	---	---	---	D	---
26	3665487.40N 473268.31E	15	14	15	18	24 x 5	24 x 5	----	---	---	---	---	---	---	---	---	---	D	---
27	3665513.05N 473358.57E	15	14	9	18	17 x 7	20 x 10	---	---	---	---	---	---	---	---	---	---	D	---

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).
For habitat conditions use two letter abbreviation as follows: NP= Natural Pool, GP= Constructed Pool; UD = undisturbed, D = disturbed: with TT= tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

U.S. Fish and Wildlife Service – Data Sheet for Wet Season Surveys for Listed Large Branchiopods

Site or Project Name:	County:	Quad:	Township:	Range:	Section:
McClellan-Palomar Airport Master Plan	San Diego	San Luis Rey	12 South	4 West	Unsectioned

Surveyor/Permit Number: Jason Kurnow/TE-778195-13

Date: 10 March 2017 **Time:** 1300-1345 **Weather Conditions:** 0% cloud cover, with winds ranging from 0-1 mph

Feature ID No.	UTM (Northing, Easting, Datum)	Temp (°C)		Depth (cm)		Surface Area (m x m)		Crustaceans					Insects				Platyhelminths (flatworms)	Habitat Condition	Notes/Voucher Information
		Air	Water	Average	Est. Max.	Present	Est. Max.	Anostracans	Notostracans	Copepods	Ostracods	Cladocera	Coleoptera	Hemiptera	Diptera Culicidae	Diptera Chironomidae			
7	3665568.28N 473228.83E	25	20	8	20	22 x 0.5	47 x 11.5	---	---	---	---	---	---	---	---	---	---	D	---
14	3665550.02N 473162.69E	25	20	3	16	5 x 1.5	12 x 25	---	---	---	---	---	---	---	---	---	---	D	---

Notes: Fill in abbreviated names of Anostracans and Notostracans, for all others indicate presence with a check mark. Anostracan and Notostracan Abbreviations: Use first two letters of genus and species name (e.g., LIOC = Linderiella occidentalis, BRLI = Branchinecta lindahli).
For habitat conditions use two letter abbreviation as follows: NP= Natural Pool, GP= Constructed Pool; UD = undisturbed, D = disturbed: with TT= tire tracks, T = trash, P = plowed; G = grazed, UG = ungrazed by: C = cattle, H = horses, S = sheep; AB = Algal blooms present.
(Estimate grazing regime by height of grasses and forbs and density of hoof prints) LG= light grazing, MG= moderate grazing, HG= heavy grazing.

Appendix B

REPRESENTATIVE SITE PHOTOS

Photo 1. Looking west at Vernal Pool 7
12/23/16 - JK

Photo 2. Looking east at Vernal Pool 14
12/23/16 - JK

Photo 3. Looking northeast at Vernal Pool 3
12/23/16 - JK

Appendix H

NORTH COUNTY MSCP HARDLINE FOR THE MCCLELLAN-PALOMAR AIRPORT RUNWAY EXPANSION AND EASTERN PARCEL DEVELOPMENT PROJECT

U.S. Fish and Wildlife Service
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011
(760) 431-9440
FAX (760) 431-5902

California Department of Fish and Game
South Coast Region
4949 Viewridge Avenue
San Diego, California 92123
(858) 467-4201
FAX (858) 467-4299

In Reply Refer To:
FWS-SDG-11B0102-11TA0273

Ms. Cynthia Curtis
County of San Diego
Department of Public Works
5500 Overland Avenue, Suite 310
San Diego, California 92123

Subject: North County Multiple Species Conservation Program Hardline for the McClellan-Palomar Airport Runway Expansion and Eastern Parcel Development Project, San Diego County, California

Dear Ms. Curtis:

The U.S. Fish and Wildlife Service (Service) and the California Department of Fish (Department), collectively referred to as the Wildlife Agencies, have met numerous times with the County of San Diego (County) to discuss the hardline requirements, including footprint and preserve design, for the proposed McClellan-Palomar Airport Runway Expansion and Eastern Parcel Development Project. This hardline agreement is proposed to be included in the County's North County Multiple Species Conservation Program (NCMSCP). Under the draft NSCMSCP, "hardline development projects" have planned development footprints within the Pre-Approved Mitigation Area (PAMA or preserve) that have been factored into the Plan's conservation analysis and goals/requirements and negotiated as "Take-Authorized" areas, as well as associated conserved lands. All hardlined projects must still comply with all applicable provisions of the Plan, County ordinances, and analyze a full range of alternatives under the California Environmental Quality Act (CEQA).

This project was discussed at multiple County MSCP staff/Wildlife Agency meetings from November 2005 through August 2010. In addition, we discussed the proposed project at the County Department of Planning and Land Use batching meeting on August 20, 2009, and at a County and Wildlife Agency coordination meeting on October 28, 2010. At the October 28, 2010, meeting the County and Wildlife Agencies reached agreement on the proposed NCMSCP "hardline" development footprint and mitigation strategy for the project.

The purpose of this letter is to memorialize the "hardline" agreement made at the October 28, 2010, meeting. The development footprint, preserve design, and mitigation criteria agreed to at the meeting to obtain a NCMSCP hardline for the project are identified below:

1. The development bubble proposed for the eastern property will be limited to the area outlined in red on the attached figure. Any changes to this hardlined area shall require written approval from the Wildlife Agencies.

2. Lands conserved that will be counted as baseline preserve (including restoration areas) and areas available to be used as future airport mitigation are shown in yellow and green on the attached figure. Any changes to the conserved area shall also require written approval from the Wildlife Agencies.

3. The following mitigation strategy will be implemented for impacts to southern maritime chaparral (SMC), coastal sage scrub (CSS) and vernal pool habitat:

County's Proposed Actions	Vegetation Community Impacts	Proposed Mitigation/Preservation	
North Ramp	Vernal Pool Habitat (no fairy shrimp): **0.20 ac**	Creation/Restoration at fallow ag (area outlined in pink on the attached figure): **6.78 ac**	
	Chaparral, CSS & Dist. CSS (Occupied CAGN): **6.09 ac**	@ 2:1 = **12.18ac**	Total SMC = **35.55 ac**
Industrial Park	So. Maritime Chaparral: approx **3.00 ac**	@ 3:1 = **9.00ac**	
SMC Preservation	NONE	Preservation of SMC as PAMA, used for future Airports mitigation: **14.37ac***	
NNG Preservation	NONE	Preservation of NNG as PAMA: **2.30 ac**	
TOTAL	**9.29 ac**	**44.63 ac**	

*The 14.37 acres of southern maritime chaparral credits remaining in PAMA on the eastern property can only be used for future mitigation needs of the McClellan-Palomar Airport in accordance with the NCMSCP and concurrence by the Wildlife Agencies. These credits cannot be sold, banked, or exchanged as mitigation for any other development or purpose.

4. All applicable requirements in the NCMSCP apply to the hardline and each specific development or use therein, and will be incorporated as part of project review to obtain coverage under the Plan (Section 7.5 of the draft NCMSCP). These requirements include development adjacency, compatible land uses in the preserve (e.g., designation of trails), long-term management of preserved open space, etc., and shall be included as enforceable conditions in all County permits, operations and authorizations to proceed work. If a project changes its hardline in a way that results in a greater impact, then an amendment to the Plan would be required (Section 4.2 of the NCMSCP).

Provided that the above-listed criteria are fully implemented, and there are no changes to the project design, we concur with incorporating the proposed project as a "hardline" project in the NCMSCP. If you have any questions, please contact Michelle Moreno of the Service at (760) 431-9440 or Randy Rodriguez of the Department at (858) 637-7100.

Sincerely,

for Karen A. Goebel
Assistant Field Supervisor
U.S. Fish and Wildlife Service

Stephen Juarez
Environmental Program Manager
California Department of Fish and Game

Attachment


Palomar Airport
NCMSCP Hardlines
2.38
14.62
121.7
0.67
21.97
6.24
21.44
Legend
CATEGORY
Hardline Gain
Pre-Approved Mitigation Area
Preserve
Take Authorized
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Appendix I

WILDLIFE HAZARD MANAGEMENT PLAN

Wildlife Hazard Management Plan
McClellan-Palomar Airport

Prepared for

The County of San Diego/McClellan-Palomar Airport
Carlsbad, California

Prepared by

C&S Engineers, Inc.

499 Col. Eileen Collins Blvd.
Syracuse, New York 13212

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MAR 30 2016

December 2015

Table of Contents

1.0 Introduction 3
2.0 Authority and Responsibility 4
2.1 Overview 4
2.2 Persons Responsible for Implementing the WHMP 4
2.2.1 Airport Manager 4
2.2.2 Airport Wildlife Coordinator 5
2.2.2 Airport Operations Personnel 5
3.1 Wildlife Control Actions 6
3.2 Overview 6
3.3 Habitat Management 7
3.4 Hazing and Harassment 8
3.4.1 Overview 8
3.4.2 Pyrotechnics 8
3.4.3 Other Auditory Frightening Devices 9
3.5 Lethal Control 9
3.5.1 Overview 9
3.5.2 Trapping 9
3.5.3 Shooting 9
3.6 Zero-tolerance Policy 10
4.1 Wildlife Control Permits 10
4.2 Migratory Bird Depredation Permit 10
4.2 California Department of Fish and Wildlife Depredation Permits 10
5.0 Resources 11
5.1 Equipment and Supplies 11
5.2 Supply Vendors 11
6.0 Review and Evaluation 12
7.0 Annual Training 12
8.0 References 13

Tables

Table 1 - Actions to Reduce Wildlife Hazards at CRQ, and Target Dates of Completion
Table 2 - Wildlife Control Suppliers

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1.1 INTRODUCTION

In December of 2014, a wildlife hazard assessment (WHA) was completed at McClellan-Palomar Airport (CRQ) in Carlsbad, CA to identify wildlife hazards on and around the airport. The need for a wildlife hazard management plan (WHMP) is determined by the Federal Aviation Administration (FAA) Certification Inspector after reviewing the findings of the WHA. Based on their review of the assessment, the FAA Certification Inspector required that a wildlife hazard management plan be developed. According to 14 CFR 139.337(e), "when the Administrator determines that a wildlife hazard management plan is needed, the certificated holder shall formulate and implement a plan using the wildlife hazard assessment as a basis." This WHMP outlines the recommended actions and responsibilities of CRQ personnel to reduce wildlife hazards at the airport.

The objective of this WHMP is to develop an integrated program to manage and reduce the risks that wildlife pose to aircraft operations at CRQ. CRQ is composed of predominantly disturbed sites. This includes paved roads, parking lots, runways, and taxiways, but also maintained lawn areas. These grass areas can be attractive to many wildlife species, as they provide feeding, nesting, and loafing habitat. Within a five-mile radius of the airfield are a golf course, a lake, an aquaculture facility, a lagoon, a transfer station, strawberry fields, and the Pacific Ocean. While it is understood that wildlife strikes cannot be eliminated at airports such as CRQ, steps can be taken to manage and minimize risks to an acceptable level.

This WHMP includes the FAA's seven required components. Each of these components corresponds with a chapter in this document. These categories include:

1) A list of individuals having the authority and responsibility for implementing each aspect of the WHMP.
2) Prioritizing actions identified m the WHA and target dates for their initiation and completion.
3) Requirements for and, where applicable, copies of local, state, and federal wildlife control permits.
4) Identification of resources that the certificate holder will provide to implement the WHMP.

5) Procedures to be followed during air carrier operations that at a minimum includes:
    a. Designation of personnel responsible for implementing procedures.
    b. Provision to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin.
    c. Wildlife hazard control measures.
    d. Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower.
6) Procedures to review and evaluate the WHMP every 12 consecutive months or following an event as described in 14 CFR 139.337(b).
7) A training program conducted by a qualified wildlife damage management biologist.

The airport's objective is to ensure that its facility provides for the safe conduct of aircraft operations. Managing wildlife hazards on the airport plays a significant role in maintaining a safe aircraft operating environment. FAA's Cert. Alert No. 97-09 offers an outline that is designed to aid in the development of the WHMP. The following plan is based on that outline.

2.0 AUTHORITY AND RESPONSIBILITY

2.1 Overview

The airport manager at CRQ is ultimately responsible for the implementation of the WHMP. However, responsibilities of individual sections of the WHMP may be delegated to other airport employees. Clear communication among airport personnel is essential for the WHMP to succeed. Airport personnel shall inform the airport wildlife coordinator of progress, recommendations, and resource needs. The airport manager will ensure that the WHMP, and any amendments, are approved by the FAA, when applicable, and comply with federal, state, and local laws and regulations.

2.2 Persons Responsible for Implementing the WHMP

2.2.1 Airport Manager

The airport manager shall:

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a. appoint an airport wildlife coordinator;
b. supervise, coordinate, and monitor wildlife control activities as outlined in the WHMP;
c. disseminate information and assignments to the airport wildlife coordinator and airport maintenance personnel;
d. alleviate attractants deemed an imminent hazard and, if necessary, coordinate a runway closure to remedy wildlife hazards;
e. provide public relations support for wildlife control activities, as necessary;
f. ensure wildlife attractants are reduced through habitat modifications;
g. review all plans involving changes in land use or new airport structures to avoid creating a new wildlife attractant;
h. update the WHMP annually (more frequently as necessary); and
i. obtain from the United States Fish & Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) depredation permits to control migratory birds and mammals, if deemed necessary.

2.2.2 Airport Wildlife Coordinator

The airport wildlife coordinator shall:

a. monitor airfield and facilities for wildlife problems; make frequent inspections of areas critical to wildlife hazard management;
b. keep a log of all wildlife strike and control actions; forward reports to FAA, as necessary;
c. make wildlife strike report forms (Form FAA 5200-7) readily available to airport personnel and pilots;
d. log all known wildlife strikes on form FAA 5200-7;
e. ensure that wildlife-attracting refuse does not accumulate on the airfield or near structures; and
f. perform wildlife control activities when a problem is identified.

2.2.2 Airport Operations Personnel

Airport operations personnel shall:

a. assist in performing wildlife control actions, as necessary;

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b. ensure that wildlife-attracting refuse does not accumulate on the airfield or near structures;
c. inform the wildlife control coordinator of any known wildlife strikes; and
d. perform wildlife control activities when a problem is identified.

3.0 WILDLIFE CONTROL ACTIONS

3.1 Overview

Wildlife control actions are either long-term environmental modifications or short-term measures used to discourage, disperse, and/or remove wildlife from airfields. Utilizing both long- and short-term measures will yield the best results in reducing wildlife hazards. Table 1 lists action items that will be completed at CRQ, and their target dates of completion. It will be updated and modified as actions are completed, or when new problems arise that require action.

Table 1 - Actions to Reduce Wildlife Hazards at CRQ, and Target Dates of Complefion

CRQ Wildlife Management Projects	Target Date	Date Completed
Designate a Wildlife Coordinator	Winter 20 15/2016	
Train employees in wildlife control procedures and species identification	Before December 2016	Annually, ongomg
Evaluate potential wildlife hazards associated with any new construction		Ongoing
Maintain perimeter fence to deter wildlife from entering airfield		Ongoing
Obtain and maintain federal and state depredation permits, if deemed necessary		Ongoing
Begin and maintain a wildlife control/activity log	Winter 2015/2016	Ongoing

Note: some of the projects may have already been completed, but because they require a continued effort they are listed as "ongoing."

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The hours of operation for CRQ operations staff are between 5:50 am and 6:00 pm, Monday

through Saturday, and 5:30 am to 2:30 pm on Sundays. Perimeter and fence-line checks are currently conducted daily by operations staff; the runway is checked at least twice daily and swept once per month.

All wildlife control actions should be recorded in a wildlife control/activity log maintained by the Airport Wildlife Coordinator. Notes should be taken on any significant wildlife activities on the airfield. This includes observations of coyotes or other large mammals, large flocks of birds, waterfowl on the airport, etc. It should also include any actions taken to mitigate wildlife hazards, such as chasing wildlife away with vehicles or pyrotechnics. Wildlife strikes and any carcasses found on the airport should also be noted. Any wildlife carcasses found within 200 feet of the centerline of the runway should be reported to FAA on a Form 5200-7, either electronically or on paper. Samples from unidentified birds that are recovered will be sent to the Smithsonian Feather Identification Lab for accurate identification and inclusion in the National Wildlife Strike Database.

3.2 Habitat Management

Habitat management is the physical removal of, or manipulation of, existing areas that are attractive to wildlife. Habitat management often provides the best long-term results in reducing wildlife hazards on or around airports. When modifying habitats to make them less attractive to a hazardous species, thought must be given to the idea that the change may attract another wildlife species. Maintaining habitats that are fairly uniform on the airfield is ideal. Habitat modifications will be monitored carefully to ensure that they reduce wildlife hazards, and do not create attractants for new species.

Wildlife is less attracted to monotypic habitats and sterile sites that have minimal food, water, and cover for loafing, roosting, or nesting. While paved and gravel surfaces may be used by birds for loafing at times, they are generally less attractive then vegetated areas that provide both food and cover. For future planning, and when possible, areas containing grasses or shrubs should be minimized or eliminated, and either paved or graded with coarse gravel. Avoid planting grasses in runway and taxiway safety areas that are highly palatable to wildlife.

Grass maintenance varies from airport to airport based on a number of factors including what has worked for the airport in the past, and what is feasible at the airport given staff availability. The

grasses and other vegetation on the airfield were sparse during the course of this study and are not maintained regularly.

Minimize standing water on the airport to the greatest extent possible. Many bird species use puddles for bathing and drinking. Areas that routinely collect water and attract birds should be filled or graded to reduce or eliminate pooling.

3.3 Hazing and Harassment

3.3.1 Overview

Hazing and harassment are the primary means to immediately deter wildlife from the airfield. Hazing and harassment tools include pyrotechnics, propane cannons, visual deterrents, and auditory deterrents. Some bird species do not respond as desired to the use of pyrotechnics. Instead of dispersing, species such as starlings and swallows may only fly in a circle, or not respond at all. It is important that wildlife control personnel understand which control methods work best for which species.

Haze birds early and often. Hazing efforts should be heaviest in the early-morning hours, when the greatest abundance of birds is typically seen on the airfield. If birds are dispersed consistently each morning before they have a chance to feed, they will find alternative food sources and be less likely to return later in the day. Also, hazing early and often can deter flocking birds such as blackbirds, starlings, gulls, and waterfowl from attracting others to the airfield throughout the day.

3.3.2 Pyrotechnics

Airport personnel should be trained in the use of pyrotechnics to haze wildlife on and in the vicinity of the airport. The proper use of pyrotechnic pistols with a combination of screamer sirens, shell crackers, and bird bangers can help deter wildlife from the airfield. The pistols, blanks, and cartridges will be carried in the wildlife coordinator's vehicle. When not in use, the materials will be stored in an approved locked explosives box. Extreme caution should be exercised when using pyrotechnics at CRQ due to the dry conditions and the potential of starting a grass or shrub fire.

3.3.3 Other Auditory Frightening Devices

Other than pyrotechnics, other auditory tools that can be used instead of pyrotechnics are air horns, vehicle sirens, and distress call recordings. These may be used if pyrotechnics are not available, if foreign object debris is of concern, or if very dry grass poses a potential fire hazard.

3.4 Lethal Control

3.4.1 Overview

Lethal control of wildlife is a last-resort action when all reasonable non-lethal means have failed, and if there is an ongoing threat to public safety. Any lethal control will be performed in a humane manner, and only by those who have been properly trained.

3.4.2 Trapping

Non-lethal traps may be useful in removing individual animals, such as skunks and raccoons, that are posing a threat to aircraft safety. These include cage traps, box traps, and suitcase traps. Body-gripping traps are not legal to use in the state of California. These include steel-jaw and padded-jaw leghold traps, conibear traps, and snares. If the wildlife coordinator is not an experienced trapper, a licensed trapper or the United States Department of Agriculture/Wildlife Services should be contacted for assistance.

3.4.3 Shooting

Removal of individual animals may become necessary if non-lethal means have been exhausted, and an immediate threat is present. Airport personnel handling firearms must possess the proper certifications and must be current with firearms safety training.

Shooting, using either a shotgun or rifle, is an effective means of removing offending individual birds while dispersing flocks that are not leaving the airfield when other control methods are applied. For instance, if birds have become habituated to the sound of pyrotechnics being fired, the lethal removal of one animal in the flock can disperse the flock and reinforce the noise created with pyrotechnics.

3.5 Zero-tolerance Policy

CRQ should maintain a zero-tolerance policy toward hazardous wildlife on the airfield. Wildlife loafing on the airfield should continue to be hazed or otherwise removed, even during hours of operation during which there are no air carrier operations. Birds can habituate to periods of relative safety (e.g. the hours when they are not being hazed), which can make them more difficult to deter over the long term.

4.0 WILDLIFE CONTROL PERMITS

4.1 Migratory Bird Depredation Permit

The Migratory Bird Treaty Act of 1918 (MBTA) protects migratory birds, their nests, and eggs from being destroyed without a permit. In the event that migratory birds pose a threat to aircraft operations, the airport may need to lethally remove individual birds, or remove/treat eggs and/or nests. To conduct this work, the City would need to maintain a current USFWS Depredation Permit. For information on obtaining a depredation permit, contact the USFWS' Pacific Southwest Region Migratory Bird Permit Office at (916) 978-6183.

No permit is needed to control rock pigeons, European starlings, and house sparrows, as they are not protected under the MBTA. Additionally, 50 CFR 21.43 provides exception from the MBTA. It is a depredation order that allows for the lethal take of blackbirds, cowbirds, grackles, crows, and magpies when they are "found committing or about to commit depredations, or when they are concentrated in such numbers as to constitute a health hazard or other nuisance."

4.2 California Department of Fish and Wildlife Depredation Permits

In California, the CDFW recognizes the federal depredation permit for non-game bird species. However, CDFW requires a special permit for mammals and game birds. Ifthe airport needs to lethally remove any mammals or game birds, the proper permit must be obtained. For further information, call CDFW at (916) 445-0411.

5.0 RESOURCES

5.1 Equipment and Supplies

The airport manager will supply the following for wildlife control at CRQ:

- pyrotechnic pistol and/or 12-guage shotgun (designated for shell crackers only);
- pyrotechnics and blanks and/or 12-guage shell crackers;
- strike report forms (FAA Form 5200-7); and
- supplies for collecting birds struck by aircraft (latex gloves, plastic zipper bags).

The airport shall acquire other control tools as they become necessary (traps, propane cannons, etc.)

5.2 Supply Vendors

Table 2 provides supplier contact information for pyrotechnics and other wildlife control tools. An internet search will yield additional suppliers.

Table 2 - Wildlife Control Suppliers

Supplier	Products
Reed Joseph 800 Main St. Greenville, MS 38701 (800) 647-5554 reedjoseph.com	Pyrotechnics, pyrotechnic pistols, propane cannons, bird repellents, audio scare devices
Wildlife Control Supplies PO Box 538 East Granby, CT 06026 (877) 684-7262 wildlifecontrolsupplies.com	Pyrotechnics, pyrotechnic pistols, propane cannons, bird repellents, audio and visual deterrents, traps
Nixalite of America, Inc. 1025 16th Ave. East Moline, IL 61244 (888) 624-2289	Bird spikes, netting, audio deterrents
Sutton Agricultural Enterprises 746 Vertin Ave. Salinas, CA 93901 (866) 280-6229 suttonag.com	Pyrotechnics, propane cannons, netting

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MAR 30 2016

Margo Supplies LTD PO Box 1037 1065 S. Industrial Park Rd. Shelby, MT 59474 (888) 652-1199 margosupplies.com	Pyrotechnics, pyrotechnic pistols , propane cannons, netting, fencing, audio and visual deterrents

6.0 REVIEW AND EVALUATION

FAA's 14 Federal Aviation Regulations (FAR) Part 139.337(t)(6) requires that the WHMP be reviewed and evaluated every 12 consecutive months or following an event as described in FAR Part 139.337(b). It should be determined whether or not the plan effectively addresses current wildlife hazard concerns at CRQ. Also, the plan's effectiveness in dealing with wildlife hazards should be evaluated. The WHMP should be modified and updated to address any changes, including the status of hazard reduction projects and their completion dates (see Table 1).

Following a triggering event, the WHMP will be reviewed and procedures will be modified, as necessary. As with all strikes, the species involved and circumstances of the strike will be recorded on a FAA Form 5200-7 and submitted for inclusion in the National Wildlife Strike Database.

7.0 ANNUAL TRAINING

Training is essential for the airport wildlife coordinator and any other personnel involved in wildlife management at the airport. Training will be provided once every 12 consecutive months for these staff members by a qualified airport wildlife biologist, as required by FAA Advisory Circular AC 150-5200/36A. Training will include an overview of the laws and regulations associated with mitigating wildlife hazards at airports, bird identification, pyrotechnic safety, and wildlife control methods. Additionally, CRQ employees charged with lethal wildlife control using firearms shall receive annual training from a certified firearms safety instructor. Current training certificates will be maintained an on file at the McClellan-Palomar Airport administrative offices.

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MAR 30 2016

8.0 REFERENCES

Washburn, B.E., and T.W. Seamans. Management of vegetation to reduce wildlife hazards at airports. Wildlife Damage Management, Internet Center for USDA National Wildlife Research Center - Staff Publications. 2004.

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MAR 30 2016

Supplement to
PEIR Appendix B

Biological Technical Report Addendum for the McClellan-Palomar Airport Master Plan: Impacts and Mitigation Summary of Eastern Parcel

(Helix Environmental Planning,
dated May 31, 2018)

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May 31, 2018 CSD-05.14

Ms. Cynthia Curtis
Department of Public Works, Environmental
5510 Overland Ave, Suite 410
San Diego, CA 92123

Subject: Biological Technical Report Addendum for the McClellan-Palomar Airport Master Plan: Impacts and Mitigation Summary of Eastern Parcel

Dear Ms. Curtis:

This letter summarizes potential impacts to biological resources on County Airports-owned property on the 18.8-acre Eastern Parcel study area of the McClellan-Palomar Airport (Airport) Master Plan (Master Plan; project), which is a part of a larger County of San Diego (County)-owned parcel east of El Camino Real. These impacts are associated with the potential shifts of existing Federal Aviation Administration (FAA)-owned navigational aid lighting on the Eastern Parcel from its current location approximately 123' further north on the parcel to line up with the associated shift in the runway on the Airport site (Figure 1).

The purpose of this report is to provide an analysis of potential impacts to sensitive biological resources within the Eastern Parcel with respect to local, state, and federal regulations. These impacts, which were not analyzed in the 2018 Draft Program Environmental Impact Report (Draft PEIR; County 2018) or the Biological Resources Technical Report (BTR) for the project (HELIX 2017), are addressed in this supplemental document. The existing biological conditions within the Eastern Parcel are described within the 2017 BTR. This supplemental letter report provides the biological resources technical documentation necessary for review of the Eastern Parcel impacts under the California Environmental Quality Act (CEQA) by the County and other responsible agencies for the project and is intended to supplement the information provided in the 2018 Draft PEIR and 2017 BTR for the project.

EASTERN PARCEL PROJECT COMPONENTS

In addition to the project components described in the 2017 BTR, the project may relocate the existing navigation aids known as Medium-intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR) on the Eastern Parcel. The MALSR is a system of lights that provides pilots with navigational assistance at the runway end. It is anticipated that with the shift of the runway to the north, a corresponding shift in the location of the existing MALSR lights footings, and associated access road would be needed. FAA design standards require a 20'-wide maintenance access road to and between each lighting structure. Entry to the proposed access road will be via the existing curb entry at El Camino Real. It is anticipated that once installation of the new MALSR location is completed, the existing gravel access road and light structures would be removed as they are no longer necessary.

Figure 1 shows the conceptual layout of MALSR structures if relocation is deemed necessary by FAA. The FAA-required 20'-wide gravel access road would extend approximately 1200' east from El Camino Real with light structures installed every 200'. Each structure would sit on a concrete pad of approximately 10'x10'. Conduit would be trenched in between concrete pads underneath the gravel access road. If the runway is extended an additional 200' in its current alignment, an additional concrete pad and lighting structure would be placed 200' east of the existing lighting, in line with the existing access road along the MALSR's existing location. Electrical lines would be extended underground to the new structure by an approximately 4'-wide trench and would be considered a temporary impact.

The FAA is the owner and responsible agency for all aspects of this navigational aid lighting system (i.e. layout and placement of the structure according to FAA design standards, property ownership, maintenance, etc.), and relocation of the lights would be considered a federal action. The FAA has an existing lease with the County for the current MALSR system at the Eastern Parcel, and has the ability to manage the structure as they deem necessary for airport safety. Although this project element was shown and described in the PEIR released for public review, the conceptual placement and alignment of the light relocation was not designed or calculated for potential impacts. This Eastern Parcel component is being analyzed now to describe the potential impacts to biological resources on the County-owned property if or when the FAA funds relocation of the structures and access road.

SIGNIFICANCE OF PROJECT IMPACTS AND PROPOSED MITIGATION

This section provides a biological resources impact analysis for the proposed impacts within the Eastern Parcel. The issues addressed in this section are derived from Appendix G of the State CEQA Guidelines and the County's Biology Guidelines (County 2010). Mitigation, monitoring, and reporting requirements to eliminate or reduce project impacts to a less than significant level are also provided in this section.

Issue 1: Special-status Species

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?

Issue 1 Impact Analysis

Construction of a new access road and MALSR lighting on the Eastern Parcel would result in impacts to one special status plant species, Nuttall's scrub oak (*Quercus dumosa*), in addition to affecting 0.33 acre of USFWS designated critical habitat for San Diego thorn-mint (*Acanthomintha ilicifolia*). These impacts are further discussed below.

Non-native grassland within the Eastern Parcel supports potential foraging habitat for raptors known to the local area, including common species such as red-tailed hawk (*Buteo jamaicensis*), and potentially for sensitive species such as white-tailed kite (*Elanus leucurus*) and barn owl (*Tyto alba*), although these species were not detected during project surveys. In accordance with FAA regulatory guidance in 14 Code of Federal Regulations 139.337(e), the Airport also is subject to a Wildlife Hazard Management Plan (WHMP; C&S 2015) as approved by the FAA in 2016. The WHMP outlines the recommended actions and responsibilities of Airport personnel to manage and reduce the risks that wildlife pose to aircraft operations at the Airport. Components of the WHMP include wildlife control actions such as habitat management, hazing, and harassment. The FAA requires a zero-tolerance for hazardous wildlife on the airfield within the framework of federal and state regulations. Impacts to 0.3 acre of non-native grassland would not result in the significant impacts to functional foraging habitat for raptors due to the very small acreage of impact. Further, a northward shift of the navigational lighting on the Eastern Parcel would not result in a significant indirect impact to wildlife as the shift is a continuation of an existing use and would not increase the existing night lighting levels in this area, which is also subject to existing light pollution from adjacent streets and development. For these reasons it is anticipated that the shift of navigational lighting on the Eastern Parcel would not cause new indirect impacts to wildlife.

Special status animal species were not observed within the Eastern Parcel, although four species were identified in Appendix B of the Draft PEIR as having high potential to occur: orange-throated whiptail (*Cnemidophorus hyperythrus*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), Coronado skink (*Eumeces skitonianus interparietalis*), and barn owl. None of these species are federally or state listed; all four species are County Group 2[1] animals. The northward shift of the navigational lighting does not have potential to directly impact barn owl

[1] Animals that are becoming less common but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

as no suitable nesting habitat is present in the impact area; the only potential impact is to foraging habitat, which is addressed in the preceding paragraph. The northward shift of the navigational lighting has potential to directly impact orange-throated whiptail, coastal western whiptail, and Coronado skink, however, any such impacts would be less than significant as these species are not considered highly sensitive by the Wildlife Agencies (USFWS and CDFW) or County, the small area of impact would not affect the local long-term survival of the species, and adequate conservation of habitat would occur in areas immediately adjacent to and extending further out from the impacts. Thus, no significant impacts are expected to occur. Further, the project would not impact habitat for arroyo toad (*Anaxyrus californicus*), golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), cactus wren (*Campylorhynchus brunneicapillus*), or Hermes copper butterfly (*Lycaena hermes*).

Nuttall's Scrub Oak

Implementation of the MALSR lighting and associated access road would impact 0.3 acre of southern maritime chaparral dominated by Nuttall's scrub oak. Impacts to Nuttall's scrub oak, which is a County List A species and has a California Rare Plant Rank (CRPR) designation of 1B.1 (as listed by California Native Plant Society), would be less than significant, as the Eastern Parcel contains 9.8 acres of scrub oak-dominated southern maritime chaparral and the project would impact less than five percent of this habitat type within the study area. Further, several acres of habitat supporting this species would remain unaffected within the study area, as well as extensive areas off site to the east and north. Thus, project implementation would not have a substantial adverse effect on the local long-term survival of Nuttall's scrub oak; impacts are less than significant.

San Diego Thorn-mint

Based on results of rare plant surveys conducted in 2016 and a review of database records in the project vicinity (USFWS 2016 and CDFW 2016), San Diego thorn-mint is absent from the proposed impact area and the nearest location is approximately 85 feet from the project footprint. Thus, implementation of the MALSR lighting and associated access road would not directly impact known locations of San Diego thorn-mint, a federal threatened, state endangered, County List A, and CRPR 1B.1 species.

A total of 10.2 acres of critical habitat for this species occurs within the 18.8-acre Eastern Parcel study area, with an additional 49.3 acres of thorn-mint critical habitat occurring adjacent to the study area. The proposed project would impact 0.33 acre of critical habitat for San Diego thorn-mint. A total of 0.25 acre of this impact is within scrub oak-dominated mature chaparral, most of which does not have suitable soil types (i.e. heavy clay soil) or a sufficiently open canopy to support thorn-mint. Impacts also would occur within 0.08 acre of disturbed habitat supporting clay soils, which could be potentially suitable for the species, but within which surveys have been negative. In addition, potential northward shifts of existing FAA-owned navigational aid

lighting on the Eastern Parcel would not result in indirect impacts to San Diego thorn-mint for the following reasons: the relocated road and lighting would be set back approximately 85 feet from the nearest known occurrence of San Diego thorn-mint; earthwork associated with the relocation of the road and lighting would not alter existing drainage patterns for the known population; and there is no public access to the site, thus no increase in potential human-related disturbance. For these reasons, proposed impacts to 0.33 acre of critical habitat for San Diego thorn-mint are considered less than significant and would not represent an adverse modification to the critical habitat. However, as part of the regulatory requirements for the project, the FAA would be required to consult with the USFWS for any proposed impact to critical habitat and would be responsible for implementing all terms and conditions resulting from the consultation.

Issue 1 Mitigation Measures

None required.

Conclusions

Implementation of the MALSR lighting and associated access road would not result in significant impacts to special status species or their critical habitat, and no mitigation is required.

Issue 2: Sensitive Natural Communities

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?

Issue 2 Impact Analysis

Implementation of the MALSR lighting and associated access road would result in direct impacts to approximately 0.3 acre of southern maritime chaparral, and 0.3 acre of non-native grassland. These impacts would be significant according to County Guideline 4.1.A.

Table 1 provides a summary of project impacts to vegetation communities/habitat types on the Eastern Parcel, including sensitive habitat. The impacts are separated into Pre-approved mitigation area (PAMA)/preserve, take authorized, and outside PAMA pursuant to the Draft North County Multiple Species Conservation Program (NC MSCP). The 18.8-acre Eastern Parcel consists primarily of County-owned open space that is designated as a combination of Preserve and PAMA under the Draft NC MSCP Plan.

Table 1
IMPACTS TO VEGETATION COMMUNITIES ON THE EASTERN PARCEL

Vegetation Community[2]	Existing[1]	PERMANENT IMPACTS[1]			
		PAMA/ Preserve	Take Authorized	Outside PAMA	Total Impacts
Southern Maritime Chaparral (37C30)	9.8	0.3	0	0	**0.3**
Non-Native Grassland (42200)	4.3	0.2	0.1	0	**0.3**
Disturbed Habitat (11300)	4.4	0.1	0	0	**0.1**
Developed (12000)	0.3	0	0	0	**0**
TOTAL	**18.8**	**0.6**	**0.1**	**0**	**0.7**

[1] Rounded to the nearest 0.1 acre.
[2] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

Issue 2 Mitigation Measures

Mitigation for impacts to sensitive vegetation communities described herein is consistent with the mitigation strategy outlined in the 2011 Hardline letter (USFWS and CDFW 2011), which assumed adoption of the NC MSCP prior to project-specific impacts. Measures **M-BI-7** and **M-BI-8**, would mitigate for impacts to 0.3 acre of southern maritime chaparral and 0.3 acre of non-native grassland, respectively. The numbering of these mitigation measures follows the identification methodology used for the biological mitigation measures contained in the PEIR. The biological mitigation measures in the Draft PEIR begin with M-BI-1 and end with M-BI-6, thus, new measures contained herein begin with M-BI-7.

> **M-BI-7** Mitigation for impacts to 0.3 acre of southern maritime chaparral shall occur at a 3:1 ratio through the preservation of 0.9 acre of southern maritime chaparral in the planning area of the NC MSCP or at another location deemed acceptable by the County and Wildlife Agencies.
>
> **M-BI-8** Mitigation for impacts to 0.3 acre of non-native grassland shall occur at a 0.5:1 ratio through the preservation of 0.15 acre of non-native grassland in the planning area

of the NC MSCP or at another location deemed acceptable by the County and Wildlife Agencies.

Table 2 provides a summary of mitigation for impacts to sensitive vegetation communities on the Eastern Parcel.

Table 2
MITIGATION FOR IMPACTS TO VEGETATION COMMUNITIES ON THE EASTERN PARCEL

Vegetation Community[2]	Impacts[1]	Mitigation	
		Ratio	Required[1]
Southern Maritime Chaparral (37C30)	0.3	3:1	**0.9**
Non-Native Grassland (42200)	0.3	0.5:1	**0.15**
Disturbed Habitat (11300)	0.1	0	**0**
TOTAL	**0.7**	**0**	**1.05**

[1] In acre(s) rounded to the nearest tenth.
[2] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

Conclusion

The additional project features described herein would result in significant impacts to sensitive natural communities on the Eastern Parcel. Implementation of measures **M-BI-7** and **M-BI-8** would reduce these impacts to less than significant.

Issue 3: Jurisdictional Wetlands and Waterways

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means?

Issue 3 Impact Analysis

No federally protected wetlands occur within the Eastern Parcel and the project would not impact federally protected wetlands.

Issue 3 Mitigation Measures

None required.

Conclusion

The additional project features described herein would not result in impacts to federally protected wetlands, and no mitigation is required.

Issue 4: Wildlife Movement and Nursery Sites

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?

Issue 4 Impact Analysis

Construction of a new access road and MALSR lighting on the Eastern Parcel would not impede the movement of any native, resident, or migratory fish or wildlife species or with established native, resident, or migratory wildlife corridors, or interfere with native wildlife nursery sites. This is a narrow, restricted-use, very low-volume access road that would not have fencing or other potential impediments to wildlife movement or interrupt visual continuity. No impact would occur.

MALSR lighting currently exists in the Eastern Parcel and the shifting of the lighting approximately 123 feet north of the current location would not substantially increase nighttime lighting in this area. Impacts would be less than significant.

Issue 4 Mitigation Measures

None required.

Conclusion

Implementation of the MALSR lighting and associated access road would not result in significant impacts on wildlife movement or nursery sites on the Eastern Parcel. No mitigation is required.

Issue 5: Local Policies and Ordinances

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Issue 5 Impact Analysis

With the exception of potential impacts to nesting birds, the project would not conflict with any other local policies or ordinances protecting biological resources. The project would not conflict

with the County's wetland and wetland buffer protection policies, as no wetlands or wetland buffer would be impacted on the Eastern Parcel.

The proposed project is an essential public project that is exempt from the Resource Protection Ordinance (RPO) under Section 86.605(c). No impact would occur.

The project does not occur within an adopted Multiple Species Conservation Program (MSCP) planning area and the Biological Mitigation Ordinance (BMO) does not apply. No impact would occur.

Improvements within the Eastern Parcel would not impact Diegan coastal sage scrub; thus, no impact would occur with regard to the County's five percent coastal sage scrub habitat loss threshold or mitigation requirements for sage scrub.

Nesting Birds

The Eastern Parcel contains suitable nesting habitat for several bird species protected under the Migratory Bird Treaty Act (MBTA) and California Fish & Game (CFG) Code. Construction of the project during the avian breeding season (February 15–August 31) could potentially result in impacts to migratory birds or destruction of active migratory bird nests and/or eggs protected under the MBTA. Project construction could directly impact individuals or cause breeding birds to temporarily or permanently leave their territories, which could lead to reduced reproductive success and increased mortality. These impacts would be significant under County Guideline 7.1.K.

Issue 5 Mitigation Measures

Nesting Birds

Potential impacts to nesting birds protected under the MBTA and CFG Code would be mitigated through implementation of the mitigation measure **M-BI-6**, as provided in the Draft PEIR and reiterated below:

> **M-BI-6** If grubbing, clearing, or grading must occur during the general avian breeding season (February 15–September 15), a pre-construction survey shall be conducted by a qualified biologist no more than three days prior to the commencement of the activities to determine if active bird nests are present in the affected areas. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, clearing, grubbing, and grading shall be allowed to proceed. Furthermore, if construction activities are to resume in an area where they have not occurred for a period of seven or more days during the breeding season, an updated survey for avian nesting will be conducted. If active nests or nesting birds are observed within the area, the biologist

shall flag the active nests and construction activities shall avoid active nests until nesting behavior has ceased, nests have failed, or young have fledged.

Conclusion

The additional project features described herein would result in potentially significant impacts to nesting birds on the Eastern Parcel if construction occurred within the general avian breeding season. Implementation of measure **M-BI-6** would reduce this impact to less than significant.

Issue 6: Adopted Conservation Plans

Would the project conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Conservation Community Plan (NCCP), or other approved local, regional, or state habitat conservation plan?

Issue 6 Impact Analysis

No adopted HCP, Resource Management Plan, Special Area Management Plan, Watershed Plan, or other regional planning efforts are applicable to the project. As such, the project would not conflict with any adopted plans. No impact would occur.

The project would not preclude or prevent the preparation of the subregional NCCP (draft NC MSCP), as only 0.6 acre of impact would occur within lands identified as PAMA or preserve under the Draft NC MSCP, and these small areas of proposed impact are not critical areas for assemblage of the preserve, particularly considering the existing preserve lands northwest of the Airport site and the large areas of PAMA that would remain unaffected on County-owned lands within and adjacent to the Eastern Parcel. The proposed project would not preclude or prevent approval and adoption of the Draft NC MSCP, and no significant impact would occur.

Issue 6 Mitigation Measures

No mitigation is required.

Conclusion

Project implementation would not conflict with the provisions of an approved habitat conservation plan or preclude or prevent the preparation of the subregional NCCP. No mitigation is required.

SUMMARY

Potential impacts on the Eastern Parcel associated with the relocation of navigational lighting result in the inclusion of two additional mitigation measures: **M-BI-7** and **M-BI-8**. With implementation of these additional mitigation measures for significant impacts to sensitive biological resources, project-specific impacts would be mitigated to less than significant.

We appreciate the opportunity to provide you with this letter report. Please do not hesitate to contact me at 619-462-1515 if you have any questions or require further assistance.

Sincerely,

Stacy Nigro
Principal Biologist

Enclosures:

Figure 1 – Vegetation and Sensitive Biological Resources/Impacts on Eastern Parcel

REFERENCES

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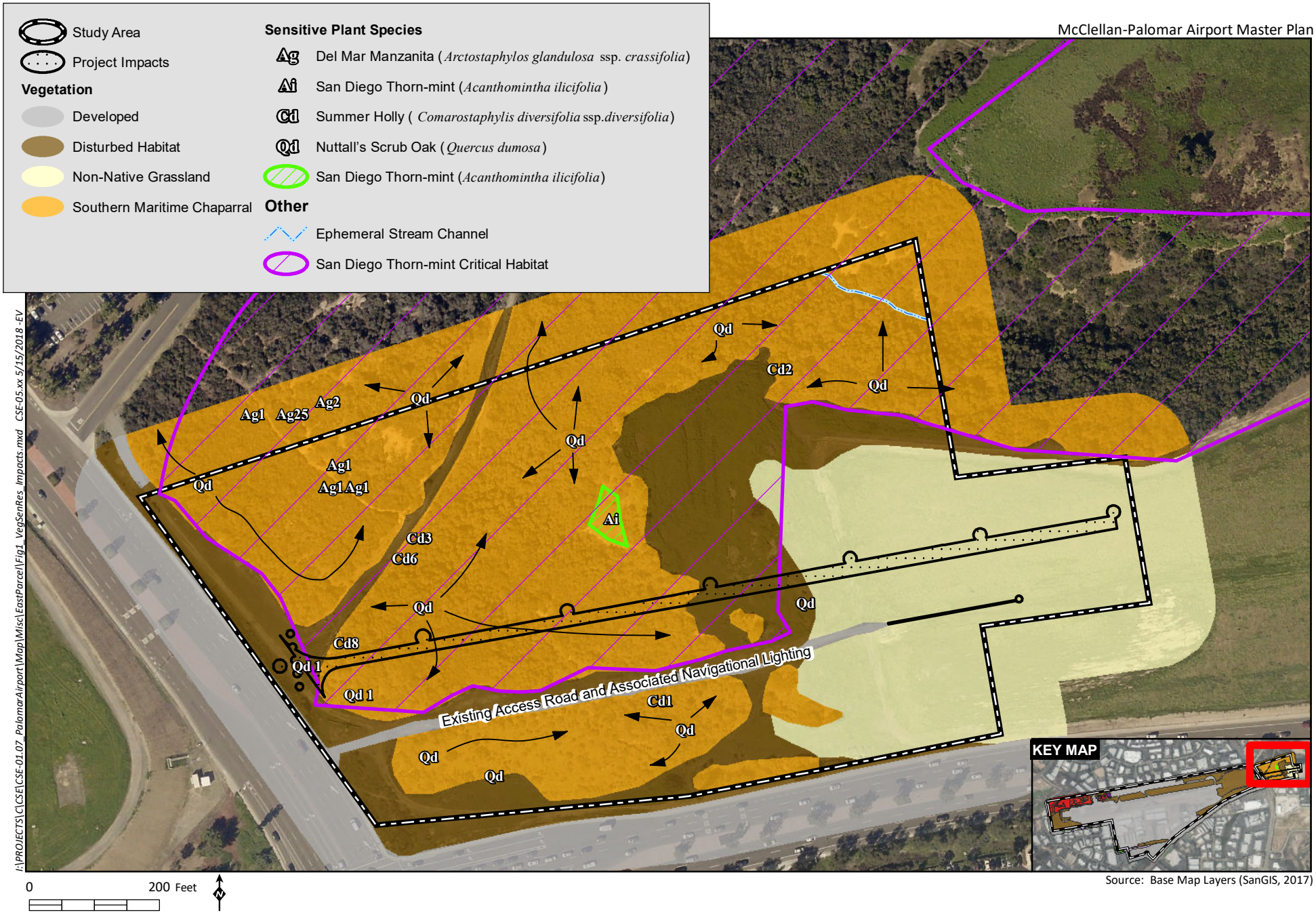

Source: Base Map Layers (SanGIS, 2017)

HELIX Environmental Planning

Vegetation and Sensitive Biological Resources/Impacts on Eastern Parcel

Figure 1