FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT

McCLELLAN-PALOMAR AIRPORT MASTER PLAN UPDATE

SCH# 2016021105

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TABLE OF CONTENTS

SUMMARY S-1
S.1 Project Synopsis S-1
S.2 Summary of Significant Effects and Mitigation Measures that Reduce or Avoid Significant Effects S-3
S.3 Areas of Controversy S-3
S.4 Issues to be Resolved by the Decision-Making Body S-4
S.5 Project Alternatives S-4
CHAPTER 1 PROJECT DESCRIPTION, LOCATION, AND ENVIRONMENTAL SETTING 1-1
1.1 Project Objectives 1-2
1.2 Project Description 1-5
1.3 Project Location 1-11
1.4 Environmental Setting 1-12
1.5 Intended Uses of the EIR 1-14
1.6 Environmental Review Process 1-15
1.7 Project Inconsistencies with Applicable Regional and General Plans 1-15
1.8 List of Past, Present, and Reasonably Anticipated Future Projects in the Proposed Project Area 1-16
1.9 Growth-inducing Impacts 1-16
CHAPTER 2 SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT 2-1
2.1 Aesthetics and Visual Resources 2-1
2.2 Biological Resources 2-17
2.3 Hazards and Hazardous Materials 2-57
2.4 Noise 2-81
2.5 Transportation and Traffic 2-111
CHAPTER 3 ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT 3-1
3.1 Effects Found Not Significant as Part of the EIR Process 3-1
3.1.1 Agricultural and Forestry Resources 3-1
3.1.2 Air Quality 3-11
3.1.3 Cultural Resources 3-29
3.1.4 Geology and Soils 3-35
3.1.5 Greenhouse Gas Emissions 3-55
3.1.6 Hydrology and Water Resources 3-83
3.1.7 Land Use and Planning 3-97
3.1.8 Public Services 3-115
3.1.9 Utilities and Service Systems 3-119
3.1.10 Energy Use and Conservation 3-125
3.2 Effects Found Not Significant During Initial Study 3-143
3.2.1 Mineral Resources 3-143
3.2.2 Population and Housing 3-143
3.2.3 Recreation 3-143
CHAPTER 4 PROJECT ALTERNATIVES 4-1
4.1 Rationale for Alternative Selection 4-1
4.2 Analysis of the No Project Alternative 4-3
4.3 Analysis of the B-II Enhanced Alternative 4-4
4.4 Analysis of the D-III Full Compliance Alternative 4-6

4.5 Analysis of the D-III Modified Standards Alternative 4-8
4.6 Analysis of the D-III On Property Alternative 4-10
4.7 Analysis of the C-III Modified Standards Compliance Alternative 4-12
4.8 Analysis of the Public Comment Alternative 4-14
4.9 Environmentally Superior Alternative 4-16
CHAPTER 5 LIST OF REFERENCES 5-1
CHAPTER 6 LIST OF EIR PREPARERS AND ORGANIZATIONS CONTACTED 6-1
CHAPTER 7 LIST OF MITIGATION MEASURES AND ENVIRONMENTAL DESIGN CONSIDERATIONS 7-1
7.1 Mitigation Measures 7-1
7.2 Project Design Features for Reduction in Environmental Impacts 7-7

LIST OF TABLES

Table S-1 Project Elements S-7
Table S-2 Summary of Significant Effects and Mitigation Measures S-8
Table 1-1 Aircraft Categories 1-18
Table 1-2 Runway Safety Area / Runway Object Free Area Dimensions 1-18
Table 1-3 Matrix of Project Approvals 1-19
Table 1-4 Cumulative Projects List 1-19
Table 2.2-1 Biological Surveys 2-41
Table 2.2-2 Vernal Pools Within Project Site 2-42
Table 2.2-3 Vegetation Community Impacts 2-42
Table 2.2-4 Mitigation of Vegetation Communities (with adoption of Draft NC MSCP) 2-43
Table 2.2-5 Mitigation of Vegetation Communities (without adoption of Draft NC MSCP) 2-43
Table 2.3-1 Regulatory Monitoring of Inactive Landfill 2-77
Table 2.4-1 Short-Term Ambient Noise Measurement Results 2-96
Table 2.4-2 Maximum Sound Levels (Impulsive) 2-96
Table 2.4-3 General Construction Noise Impacts 2-96
Table 2.4-4 Pavement Crusher Noise Impacts 2-97
Table 2.5-1 Trip Generation 2-126
Table 2.5-2 Existing + Project Intersection Operations 2-127
Table 2.5-3 Existing + Project Street Segment Operations During Peak Hours 2-128
Table 2.5-4 Project-Generated Vehicle Miles Traveled 2-129
Table 2.5-5 Transit and Ridesharing MMLOS Criteria 2-130
Table 2.5-6 Near-Term Intersection Operations 2-132
Table 2.5-7 Near-Term Street Segment Operations During Peak Hours 2-133
Table 2.5-8 Long-Term Intersection Operations 2-135
Table 2.5-9 Long-Term Street Segment Operations During Peak Hours 2-136
Table 3.1.2-1 Existing Conditions (2016) Air Quality Emissions 3-25
Table 3.1.2-2 State and Federal Ambient Air Quality Standards 3-26
Table 3.1.2-3 Consistency with RAQS 3-27
Table 3.1.2-4 Project Construction Maximum Daily Emissions (lbs. per day) 3-27
Table 3.1.2-5 Project Construction Maximum Annual Emissions (tons/year) 3-27
Table 3.1.2-6 Future (2036) Project Emissions from Operational Activities 3-28
Table 3.1.2-7 Project-related Emissions from Operational Activities 3-28

LIST OF TABLES (cont.)

Table 3.1.5-1 Existing Conditions (2016) GHG Emissions Inventory 3-77
Table 3.1.5-2 Sources of Airport GHG Emissions 3-77
Table 3.1.5-3 Total Construction GHG Emissions (Metric Tons per Project) 3-78
Table 3.1.5-4 Project-related GHG Emissions from Operational Activities 3-78
Table 3.1.5-5 Future Conditions (2036) GHG Emissions from Operational Activities Without Project 3-79
Table 3.1.5-6 Future Conditions (2036) GHG Emissions from Operational Activities Comparison 3-79
Table 3.1.5-7 Net Increase in Operational Activities GHG Emissions 2036 (Between Project vs. No Project) 3-79
Table 3.1.5-8 Total GHG Emissions from Operational Activities from PAL1 3-80
Table 3.1.5-9 Total GHG Emissions from Operational Activities from PAL2 3-80
Table 3.1.5-10 Total Operations GHG Emissions (2036) 3-80
Table 3.1.5-11 GHG Emissions (2036): Construction and Operations Combined 3-80
Table 3.1.5-12 County CAP Reduction Measures 3-81
Table 3.1.7-1 County-owned Land 3-98
Table 3.1.10-1 SDG&E Power Content 3-141
Table 3.1.10-2 Construction Horsepower and Fuel Consumption 3-141
Table 3.1.10-3 Fuel Consumption Comparison (PAL 1) 3-142
Table 3.1.10-4 Fuel Consumption Comparison (PAL 2) 3-142
Table 4-1 Comparison of Project Alternatives to Project Objectives 4-17
Table 4-2 Comparison of Project Alternatives to Significant Proposed Project Impacts 4-19

LIST OF FIGURES

Figure 1-1 Regional Map 1-21
Figure 1-2 Vicinity Map 1-23
Figure 1-3 Runway Safety Areas and Runway Object Free Areas 1-25
Figure 1-4 Parcels within Runway Protection Zones 1-27
Figure 1-5 Phased Development Plan 1-29
Figure 1-6 County-owned Property 1-31
Figure 1-7 Cumulative Projects Map 1-33
Figure 1-8a Proposed Project Site Map 1-35
Figure 1-8b Runway Protection Zones of Proposed Project 1-37
Figure 2.1-1 Viewshed 2-13
Figure 2.1-2 Scenic Highways 2-15
Figure 2.2-1 Regional Preserve Areas 2-45
Figure 2.2-2 USFWS Critical Habitat 2-47
Figure 2.2-3a Vegetation and Sensitive Biological Resources (Active Airfield) 2-49
Figure 2.2-3b Vegetation and Sensitive Biological Resources (Eastern Parcel) 2-51
Figure 2.2-4 Vernal Pools 2-53
Figure 2.2-5 Existing Conservation Easement on Eastern Parcel 2-55
Figure 2.3-1 Onsite Inactive Landfill 2-79
Figure 2.4-1 Nearby Sensitive Receptors 2-98

LIST OF FIGURES (cont.)

Figure 2.4-2 Existing Noise Contours (2016) 2-101
Figure 2.4-3 Ambient Noise Measurements 2-103
Figure 2.4-4 Future Noise Conditions (2036) Project vs. No-Project (PAL1) 2-105
Figure 2.4-5 Future Noise Conditions (2036) Project vs. No-Project (PAL2) 2-107
Figure 2.4-6 Existing Conditions vs. Existing Conditions with Proposed Project (PAL2) 2-109
Figure 2.5-1 Traffic Study Area 2-139
Figure 2.5-2 Project Traffic Distribution 2-141
Figure 3.1.1-1 Farmland Soils 3-7
Figure 3.1.1-2 Farmland Mapping and Monitoring Program 3-9
Figure 3.1.4-1 Geology 3-45
Figure 3.1.4-2 Fault Lines 3-47
Figure 3.1.4-3 Landslide 3-49
Figure 3.1.4-4 Expansive Slopes 3-51
Figure 3.1.4-5 Liquefaction 3-53
Figure 3.1.6-1 Dam Inundation Zone 3-93
Figure 3.1.6-2 Floodplains 3-95
Figure 3.1.7-1 Comparison of ALUCP Noise Contour vs. Proposed Project 3-113
Figure 4-1a B-II Enhanced Alternative 4-21
Figure 4-1b B-II Enhanced Alternative: Runway Protection Zones 4-23
Figure 4-2a D-III Full Compliance Alternative 4-25
Figure 4-2b D-III Full Compliance Alternative: Runway Protection Zones 4-27
Figure 4-3a D-III Modified Standards Alternative 4-29
Figure 4-3b D-III Modified Standards Alternative: Runway Protection Zones 4-31
Figure 4-4a D-III On Property Alternative 4-33
Figure 4-4b D-III On Property Alternative: Runway Protection Zones 4-35
Figure 4-5a C-III Modified Standards Compliance Alternative 4-37
Figure 4-5b C-III Modified Standards Compliance Alternative: Runway Protection Zones 4-39
Figure 4-6a Public Comment Alternative 4-41
Figure 4-6b Public Comment Alternative: Runway Protection Zones 4-43

LIST OF APPENDICES

Appendix A. Notice of Preparation and Initial Study
Appendix B. Biological Resources Technical Report
Appendix C. Phase I Environmental Site Assessment
Appendix D. Noise Technical Reports (including Supplemental Noise Analysis, 7/29/21)
Appendix E. Transportation Impact Analysis
Appendix F. Air Quality Technical Report
Appendix G. Cultural Resources Study
Appendix H. Climate Change Technical Report
Appendix I. Water Quality Technical Report
Appendix J. Energy Modeling Calculations

ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
AB	Assembly Bill
AC	Advisory Circular
ACM	Airport Certification Manual
ADA	Americans with Disabilities Act
ADT	Average Daily Trips
AEDT	Aviation Environmental Design Tool
AIA	Airport Influence Area
AIP	Airport Improvement Program
Airport	McClellan-Palomar Airport
ALP	McClellan-Palomar Airport Layout Plan
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMAP	Airport Multimodal Accessibility Plan
APU	Auxiliary power units
ARC	Airport Reference Code
ARFF	Aircraft Rescue and Fire Fighting
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
ATCT	Airport Traffic Control Tower
ATL	average vehicle trip length
Basin Plan	San Diego Basin Water Quality Control Plan
BMP	Best Management Practices
BTR	Biological Resources Technical Report
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALFIRE	California Department of Forestry and Fire Protection
CALGreen	California's Green Building Standards Code
Caltrans	California Department of Transportation
CAO	cleanup and abatement order
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulation
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFG	California Fish and Game Code
CFR	Code of Federal Regulations

CH_4	Methane
CHHSLS	California Human Health Screening Levels
CLEEN	Continuous Lower Energy, Emissions, and Noise
CLUP	Comprehensive Land Use Plan
CNEL	Community Noise Equivalent Level
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
County	County of San Diego
CPRC	California Public Resources Code
CPUC	California Public Utilities Commission
CREP	County of San Diego Renewable Energy Plan
CRQ	McClellan-Palomar Airport [International Air Transport Association airport code]
CUP	Conditional Use Permit
CWA	Clean Water Act
dBA	a-weighted decibel(s)
DEH	Department of Environmental Health
DNL	Day/Night noise level
DTSC	Department of Toxic Substances Control
EMAS	Engineered Materials Arresting System
EMFAC2014	Emissions Factor model (version 2014)
EWA	Encina Water Authority
FAA	Federal Aviation Administration
FBO	Fixed Based Operator
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FIRM	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
FR	Federal Register
FUDS	Formerly Used Defense Sites
GCCS	Gas Collection Control System
GHG	greenhouse gas
GSE	ground support equipment
GWh	Giga-watt hours
GWP	Global Warming Potential
H&SC	Health and Safety Code
HCP	Habitat Conservation Plan
HFCs	Hydrofluorocarbons
HLP	Habitat Loss Permit
HMBP	Hazardous Materials Business Plan
HMP	Habitat Management Plan
I-15	Interstate 15
I-5	Interstate 5
ICU	Intersection Capacity Utilization
ICU	Intersection Capacity Utilization
in/sec	Inches per second
ITE	Institute of Transportation Engineers
kBTU	Thousand British thermal units
kWh	Kilowatt hours

LARA	Local Agricultural Resource Assessment
LBP	lead-based paint
LEA	Local Enforcement Agency
LED	Light-emitting diodes
LEED	Leadership in Energy and Environmental Design
LFMP	Local Facilities Management Plan
LOS	Level of Service
LTRP	Long-Term Energy Resource Plan
LUFT	Leaking Underground Fuel Tanks
MALSR	Medium-intensity Approach Lighting System
Master Plan Update	McClellan-Palomar Airport Master Plan Update
MBTA	Migratory Bird Treaty Act
MMT CO_2e	millions of metric tons of carbon dioxide equivalent
mph	miles per hour
MS4	municipal separate storm sewer systems
MSCP	Multiple Species Conservation Program
MSL	mean seal level
MT	metric tons
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCCP	Natural Communities Conservation Plan
NCMSCP	North County Multiple Species Conservation Program
NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NSLU	Noise Sensitive Land Use
O_3	Ozone
OPR	Office of Planning and Research
OSHA	Occupational Health and safety Administration
PAMA	Pre-Approved Mitigation Area
PCB	polychlorinated biphenyl
PEIR	Program Environmental Impact Report
PFC	Perfluorocarbons
PM	particulate matter
ppm	parts per million
PPV	peak particle velocity
Proposed Project	McClellan-Palomar Airport Master Plan Update
PV	Photovoltaic
RAQS	Regional Air Quality Strategy
RASP	Regional Aviation Strategic Plan
RCRA	Resource Conservation and Recovery Act
RMP	Risk Management Plan
ROFA	Runway Object Free Area
RPO	Resource Protection Ordinance
RPZ	Runway Protection Zones
RSA	Runway Safety Area

RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCIC	South Coastal Information Center
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDCRAA	San Diego County Regional Airport Authority
SDG&E	San Diego Gas & Electric
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SLT	Screening-level Thresholds
SO_2	sulfur dioxide
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TIF	Transportation Impact Fee
TOFA	Taxiway Object Free Area
TSA	Taxiway Safety Area
TSCA	Toxic Substances Control Act
UBC	Uniform Building Code
UFC	Uniform Fire Code
USACE	United States Army Corps of Engineers
USC	United States Code
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
V/C	volume to capacity
VEC	vapor encroachment condition
VMT	vehicle miles traveled
VOC	volatile organic compounds
WDRs	Water Discharge Requirements
WELO	Water Efficient Landscape Ordinance
WHMP	Wildlife Hazard Management Plan

SUMMARY

S.1 Project Synopsis

The purpose of this Program Environmental Impact Report (PEIR) is to review potential environmental impacts associated with the implementation of improvement projects at McClellan-Palomar Airport (Airport) based on the Airport's Master Plan Update (Master Plan Update; Proposed Project), as required by California Environmental Quality Act (CEQA). The current McClellan-Palomar Airport Master Plan Update was prepared in 1997 and is reaching the end of its 20-year planning period. The County of San Diego (County), Department of Public Works Airport Division, owns and operates McClellan-Palomar Airport (Palomar Airport) as a public-use facility in accordance with Federal Aviation Regulations. In accordance with current Federal Aviation Administration (FAA) airport design standards, the County proposes a set of near-term, intermediate-term, and long-term actions for their ground-level facilities in the Master Plan Update. It is a long-term planning document, and the exact scope, scale, and timing for implementation of each proposed element are not yet defined because project-specific information has not been fully developed to quantify exact impacts. Therefore, the associated environmental impact for each element, and the Master Plan Update as a whole, is analyzed at a programmatic level for the purpose of environmental analysis. Additional analysis under CEQA will be required for projects at the time that they are designed and proposed. The PEIR also serves to inform the general public, the local community, and responsible trustee, state, and federal agencies of the Proposed Project, its potentially significant environmental effects, feasible mitigation measures to mitigate those effects, and its reasonable and feasible alternatives. The Master Plan Update, PEIR, and CEQA record will be presented to the County of San Diego Board of Supervisors at a public hearing for a decision on the environmental consequences of the Proposed Project, and certification of the Final PEIR. The CEQA record will also provide a basis for responsible agencies in approvals/permit issuance.

These are the key objectives for the Proposed Project:

1. Safety – The preferred alternative must preserve and/or enhance the safety of Airport users. Airport users include passengers, pilots, Airport staff, tenants, and other operators. Safety criteria encompass FAA airport design standards, State and local regulations, and account for the operational functionality of aircraft and Airport users.

2. Financial Feasibility – The preferred development alternative must address the near and long-term Airport needs in a manner that is financially achievable, financially responsible, and environmentally and operationally sustainable.

3. Avoid Impacts to Airport Businesses – Avoid operational or physical changes to tenants and leaseholds in order to avoid disruptions to airport businesses.

4. Ability to Accommodate Existing and Future Demand – Forecasts of aviation-related demand have been developed for this Airport Master Plan Update. These forecasts are used as a gauge to determine what Airport improvements will be required to maintain or expand service at the Airport and at what point in time improvements should be

implemented. The preferred alternative should be able to accommodate projected levels of aviation demand as warranted.

5. Ability of Facility Improvements to Remain on Airport-owned Property – Despite existing physical constraints at the airport, it is desirable to keep all facility improvements within the existing airport fenceline. This minimizes project cost and the potential for environmental and land use impacts.

6. Environmental Impacts – A goal of recommended alternatives is to minimize impacts to the environment. This includes on-Airport and off-airport impacts.

7. Offsite Impacts to surrounding environs including businesses and roadways – Major reconstruction of existing businesses, infrastructure, and transportation systems can have significant impacts on an airport and the surrounding area. Such projects add cost, impact operations, capacity, and can have unintended environmental impacts. The preferred alternative should minimize changes to the surrounding community and infrastructure.

8. Eligibility for FAA Funding – Proposed improvements should adhere to FAA design criteria and be financially reasonable in order to be eligible for FAA grant funding for design and construction.

The Airport Master Plan Update provides the framework to guide future airport development based on its ability to meet existing and future aviation demand in a safe and cost-effective manner. The Master Plan Update evaluates proposed improvements and bases their constructability on their ability to meet technical, economic, and environmental considerations. The engineering and environmental evaluation culminates in the development of an Airport Layout Plan (ALP) that is approved by the FAA, making projects depicted on the ALP eligible for federal funding.

S.1.1 Location and Existing Conditions

The Airport is located in the City of Carlsbad, approximately 27 miles north of San Diego International Airport and 90 miles south of Los Angeles International Airport. The County owns and maintains approximately 454 acres of land in the vicinity of the Airport, including land dedicated to aeronautical and non-aeronautical uses. The Proposed Project site is approximately 232 acres, which consists of approximately 231 acres defined as the active airfield and approximately 0.7 acre on adjacent County-owned land for relocation of the existing navigational lighting system. The remaining land includes offsite commercial space, vacant and conserved lands, and waste disposal.

The Airport is accessible via Interstate 5 (I-5), one of the region's major north-south highways that extend through San Diego County. The Airport is located three miles east of I-5 on Palomar Airport Road, which is the Airport's principal ground access route. The Airport is generally bounded by Palomar Airport Road to the south and El Camino Real to the east. The Crossings at Carlsbad municipal golf course is located west of the Airport and an office park is located

directly to the north. The Airport contains one runway, which is designated Runway 06-24. When aircraft arrive or depart towards the west, it is referred to as Runway 24, and when aircraft arrive or depart eastward it is referred to as Runway 06.

S.1.2 Project's Component Parts

The Airport Master Plan Update is a phased 20-year strategy to prioritize projects at the Airport that meet the objectives described above. The Proposed Project would incorporate 16 project elements (Table S-1) 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., runway, taxiways, and apron areas) while landside elements refer to those that would occur on portions of the Airport property utilized for vehicle parking, passenger loading, business operations, airport administration, and other ancillary activities that do not require the direct use of aircraft. As part of the proposed improvements, corresponding protection zones and safety areas would be sought for property interest to preclude incompatible uses. Lands within these areas would be sought over time for property interest as opportunities arise, and would not be converted to aviation use. All Master Plan Update improvements are located within existing Airport property and no expansion of Airport uses is proposed outside of the existing Airport fenceline.

S.2 Summary of Significant Effects and Mitigation Measures that Reduce or Avoid Significant Effects

Table S-2 provides a summary of each potential environmental effect found to be significant with the implementation of the Proposed Project, the mitigation measures that would reduce or avoid that effect, and the conclusion as to whether the effect is reduced to below a level of significance by applying mitigation measures.

S.3 Areas of Controversy

The CEQA Guidelines Section 15123(b)(2) states that an EIR shall identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public. The County issued a Notice of Preparation (NOP) for the Proposed Project on February 29, 2016; held a public scoping meeting in the community; and received 88 written communications from surrounding residents, agencies, and other organizations during the NOP comment period. Appendix A contains the published NOP and comment letters received, which primarily address noise, safety, and project alternatives.

It is important to note that since the NOP was released, the County has removed one component from the Proposed Project. At this time, the County will no longer pursue development of a 17-acre vacant site located at the northeast corner of Palomar Airport Road and El Camino Real. Therefore, this PEIR only focuses on the current active airfield and the associated shift in navigation lights on the Eastern Parcel, and the PEIR does not propose or analyze effects associated with the 17-acre development site.

S.4 Issues to be Resolved by the Decision-Making Body

The Board would be required to determine whether significant impacts to aesthetics, biological resources, noise, hazards and hazardous materials, and transportation / traffic can be reduced to less than significant with implementation of proposed mitigation measures, or whether or not to adopt a Project Alternative that would reduce the impact to less than significant.

S.5 Project Alternatives

Alternatives are required to be identified and evaluated to determine if they would lessen or avoid significant impacts identified in Chapter 2.0. In addition to the No Project Alternative, the following six alternatives are compared in this PEIR to the Proposed Project (referred to as the D-III Modified Standards Compliance Alternative in the Master Plan Update). As part of the Airport Master Plan Update, a review of the existing and forecasted aircraft fleet mix was conducted to determine which types of aircraft use the Airport most frequently. The Airport's safety requirements and design standards are dictated by the most demanding aircraft that has over 500 annual itinerant operations[1] at an airport. This is referred to as the "critical design aircraft." Once the critical design aircraft is identified, its approach speed (represented by letters) and wingspan (represented by Roman numerals) are used to define the appropriate spatial and geometric layout of an airfield. For reference, the Airport is currently designated as a B-II facility, and it meets all B-II design criteria as designated in the previous 1997 Master Plan. As summarized below and based on the detailed analysis in Chapter 4.0, various Airport layouts were considered including the following six alternatives (in addition to the No Project Alternative):

- No Project Alternative
- B-II Enhanced Alternative
- D-III Full Compliance Alternative
- D-III Modified Standards Alternative
- D-III On Property Alternative
- C-III Modified Standards Compliance Alternative
- Public Comment Alternative

S.5.1 No Project Alternative

Under the No Project Alternative, the existing conditions at the Airport would remain unchanged into the reasonably foreseeable future. The Airport's current classification would remain as B-II with no airfield safety improvements such as the Engineered Materials Arresting System (EMAS) on Runway End 24. Nor would the airfield be modified to accommodate existing or projected operations of C-III or D-III aircraft classified by the Airport Reference Code (ARC). Lastly, the existing ground to the north of the runway would not be re-graded to achieve slope requirements outlined in FAA Advisory Circular (AC) 150/5300-13A within the Runway Safety Area (RSA).

[1] Itinerant operations are defined by the FAA as operations performed by an aircraft that lands at an airport, arriving from outside the airport area, or departs an airport and leaves the airport area.

S.5.2 B-II Enhanced Alternative

The Airport is currently designated as a B-II facility and meets all corresponding FAA design criteria. The B-II Enhanced Alternative would maintain the current B-II classification at the Airport, but includes voluntary safety improvements including the installation of EMAS on the runway's western end. A retaining wall wrapping around both the north and south edges of the existing runway would provide support for the fill required to install the EMAS and would allow for the relocation of the vehicle service road while remaining out of the RSA. Additionally, the existing ground to the north of the runway is proposed to be re-graded to achieve slope requirements outlined in FAA AC 150/5300-13A within the RSA. These modifications could allow for a future 900-foot runway extension to the east.

S.5.3 D-III Full Compliance Alternative

The D-III Full Compliance Alternative would fully implement all FAA design standards required for a D-III facility (including adequate separation distances between runway/taxiways and increased safety areas and object-free areas surrounding the runway and taxiways). Project elements include shifting the runway 104 feet to the north while reducing its width to 100 feet. Taxiway A would remain in its existing location, while Taxiway N would be relocated approximately 200 feet north to establish 400 feet of separation between Runway 06-24 and Taxiway N. This requires the full removal of the existing aircraft parking on the north apron. Approximately 22 acres of land and eight existing commercial buildings would need to be acquired to the north of the airport to allow room for the safety areas and to allow for the relocation of the parking lot on the north apron area. This alternative plans for a future 800-foot runway extension and the installation of a 350-foot-long EMAS installed at both runway ends. The EMAS systems would be sized for a D-III aircraft. Due to the larger safety areas associated with the D-III classification, the maximum runway extension is 800 feet. A 900-foot extension to the east would require the relocation of El Camino Real, and any extension to the west would require additional grading and fill material as the topography drops steeply off the end of the Runway 06 blast pad.

S.5.4 D-III Modified Standards Alternative

The D-III Modified Standards Alternative fully implements safety requirements as the D-III Full Compliance Alternative with the exception of runway-taxiway separation. Specifically, the FAA requires 400 feet of separation between a runway and taxiway for a D-III airport; however, this alternative would only accommodate 367.5 feet. By not meeting the full 400-foot separation, simultaneous operation of Runway 06-24 and Taxiway A by D-III aircraft is not possible. The D-III Modified Standards Alternative attempts to meet FAA safety criteria, specifically the RSA and Runway Object Free Area (ROFA) while enhancing the separation between Runway 06-24 and Taxiway A. Specifically, this alternative would shift the runway 75 feet to the north while reducing its width to 100 feet. Taxiway A would also shift four feet to the north. Despite not achieving the full 400-foot runway-taxiway separation distance, the FAA could potentially approve the layout if the County formally requests a Modification to Standard to the FAA. The resulting ROFA would increase from 500 to 800 feet in width resulting in the full removal of the existing aircraft parking on the north apron area. Because the Taxiway Object Free Area would also increase, this would encroach into an existing leasehold by approximately 15 feet. The length of the ROFA on the

runway's east and west ends would also not meet the design criteria requiring modifications to standard for the ROFA length. Similar to the D-III Full Compliance Alternative, this alternative plans for a future 800-foot runway extension and the installation of a 350-foot-long EMAS installed at both runway ends. The EMAS systems would be sized for a D-III aircraft. Due to the larger safety areas associated with the D-III classification, the maximum runway extension is 800 feet.

S.5.5 D-III On Property Alternative

The goal of the D-III On Property Alternative is to adhere to the FAA D-III guidelines while keeping all improvements on existing airport property. It calls to shift the runway centerline 70 feet to the north and to shift Taxiway A by 34 feet to the south, resulting in the required 400 feet of runway to taxiway separation. The width of the runway would be decreased to 100 feet. The shift of the runway places the north apron within the ROFA, which would require that it be removed. Aircraft that used the north apron would have to move elsewhere on the Airport for parking. This option plans for the installation of a 350-foot-long EMAS system on both runway ends and allows for an 800-foot extension to the east end of the runway. The EMAS systems would be sized for D-III aircraft. The relocation of Taxiway A to the south would reduce the leaseholds of the fixed-base operators (FBOs) along the taxiway anywhere from 35 to 53 feet.

S.5.6 C-III Modified Standards Compliance Alternative

As discussed in the Airport Master Plan Update, and defined in FAA AC 150/5300-13A, runway design standards for C-III and D-III aircraft are identical. Accordingly, the C-III Modified Standards Compliance Alternative provides separation distances and protection zones functionally equivalent to the Proposed Project, and generally follows the same airfield layout. The exact sizing of EMAS at the ends of the runway would be based on the designation of a design critical aircraft for the classification "C" aircraft, but would be very similar to the Proposed Project. This Alternative provides safety improvements to the airfield using the same FAA design standards as the long-term forecast but does not classify the airport as meeting the "D" standard. Because the runway safety improvements are identical between C-III and D-III, the airport would maximize safety to the current and future users. Accordingly, the physical improvements outlined in the Proposed Project would match this alternative.

S.5.7 Public Comment Alternative

The Public Comment Alternative was presented by a member of the public in response to the NOP. This alternative is not included in the Master Plan Update. It proposes shifting the runway approximately 300 feet to the east as well as 123 feet to the north. The goal of the shift to the east is to allow for the required 1,000-foot RSA and ROFA and therefore eliminate the need to re-install an EMAS on the runway's east end. In order for the runway's east end RSA and ROFA to meet full FAA design standards they would require a significant amount of grading to meet the minimum slope as the difference in height from the end of the existing blast pad to the limit of the future RSA is approximately 70 feet. The shift of the runway to the east would also reduce the available length of the future runway extension by several hundred feet.

Table S-1. Project Elements

Elements[1]	Conceptual Timeframe[2]
1) Relocation of the Glideslope Building and Antenna	Near-term (0–7 years)
2) Relocation of the Segmented Circle and Windsock Equipment	
3) Relocation of Aircraft Rescue and Firefighting Facility	
4) Construction of Engineered Materials Arresting System for Runway 24	
5) Relocation of the Vehicle Service Road	
6) Relocation of Lighting Vault	
7) 200-foot Extension of Existing Runway 06-24 and Taxiway A	
8) Removal of Fuel Farm on North Apron	Intermediate-term (8–12 years)
9) Removal of the North Apron and Taxiway N	
10) Area Reserved for Future GA Parking	
11) Passenger / Administrative / Parking Facility Improvements	
12) Relocation/Extension of Runway 06-24	Long-term (13–20 years)
13) Removal/Reconstruction of Existing Connector Taxiways	
14) Removal/Reconstruction of Existing Taxiway A (includes lighting)	
15) Construction of Engineered Materials Arresting System for Runway 06	
16) Construction of Engineered Materials Arresting System for Runway 24	

[1] A full description of each project element is provided in Section 1.2 of this PEIR.
[2] Timing and implementation of each project element will vary depending on available funding and priorities under the Master Plan Update. As such, the timeframes identified are intended as conceptual estimates for planning purposes.

Table S-2. Summary of Significant Effects and Mitigation Measures

Impact Number and Description of Impact	Mitigation Measure	Significance After Mitigation
2.1 Aesthetics		
AE-1. Introduction of a retaining wall along the southern slope at the Airport's east end would contrast with the existing visual character and quality of the Proposed Project site along Palomar Airport Road, which would be considered a significant impact.	**M-AE-1.** Detailed engineering design plans would be developed once funding is identified for the project-specific element regarding the extension of Taxiway A. The future retaining wall would be designed in consideration of the *City of Carlsbad Scenic Corridor Guidelines* to the degree feasible since any modification of the inactive landfill slopes would require coordination and oversight by applicable State and local agencies (i.e., County Landfills Management Unit, Local Enforcement Agency [LEA], and Regional Water Quality Control Board [RWQCB]). Due to the rules and restrictions of these agencies, it is anticipated that future aesthetic treatments would be potentially limited to the façade of the future retaining wall.	Less Than Significant
2.2 Biology		
BI-1. The Proposed Project would impact coastal California gnatcatcher-occupied habitat resulting in the potential to impact California gnatcatcher nests. This would be considered a significant direct and indirect impact.	**M-BI-1a.** If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to coastal California gnatcatcher (*Polioptila californica californica*) habitat (Diegan coastal sage scrub) shall occur at a 2:1 ratio in accordance with the adopted NC MSCP and mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through the preservation of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel (Assessor's Parcel Number [APN] 209-050-25), 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 North County Multiple Species Conservation Program (NC MSCP). If the NC MSCP is not adopted at the time project impacts would occur, take authorization for impacts to coastal California gnatcatcher would require approval of either an Habitat Loss Permit (HLP) from the County or Section 7 (or 10) permit from USFWS. If grubbing or clearing of occupied Diegan coastal sage scrub must occur during the breeding season of the coastal California gnatcatcher (February 15–August 31), 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.	Less Than Significant

Table S-2. Summary of Significant Effects and Mitigation Measures (continued)

Impact Number and Description of Impact	Mitigation Measure	Significance After Mitigation
	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 M-BI-1b for mitigation for indirect noise effects.)	
	M-BI-1b. 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 occur 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 A-weighted decibels (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 S-2. Summary of Significant Effects and Mitigation Measures (continued)

Impact Number and Description of Impact	Mitigation Measure	Significance After Mitigation
BI-2. The Proposed Project would impact 3.1 acres of Diegan coastal sage scrub (including disturbed). This would be considered a significant impact to the sensitive vegetation community.	**M-BI-2.** If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to 3.1 acres of Diegan coastal sage scrub shall occur at a 2:1 ratio (if not otherwise mitigated as part of M-BI-1a) in accordance with the adopted NC MSCP and the mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through the preservation of 6.2 acres of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), or at another location deemed acceptable by the County and Wildlife Agencies. If the NC MSCP is not adopted at the time project impacts would occur, mitigation for impacts to Diegan coastal sage scrub shall also occur at a 2:1 ratio pursuant to habitat mitigation ratios applied for areas outside of approved MSCP Plans as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010.	Less Than Significant
BI-3. The Proposed Project would impact approximately 0.36 acre of area mapped as vernal pool habitat. This would be considered a significant impact to the sensitive vegetation community.	**M-BI-3.** If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts up to 0.36 acre of areas mapped as vernal pool habitat shall occur at a minimum 1:1 ratio in accordance with the adopted NC MSCP and mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through vernal pool creation/restoration on County-owned lands on or adjacent to the eastern parcel (APN 209-050-25), 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 project impacts would occur, then mitigation for impacts to vernal pools shall occur at a 5:1 ratio pursuant to habitat mitigation ratios as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010. As required by the regulating agencies, including the U.S. Army Corps of Engineers (USACE) and RWQCB, impacts to vernal pools may require issuance of a Clean Water Act (CWA) Section 404 permit and either a CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act Waste Discharge Requirements (WDRs). Federally listed species have not been detected in onsite vernal pools, thus take authorization under the Endangered Species Act (ESA) is not anticipated to be required.	Less Than Significant

Table S-2. Summary of Significant Effects and Mitigation Measures (continued)

Impact Number and Description of Impact	Mitigation Measure	Significance After Mitigation
BI-4. The Proposed Project would impact 0.2 acre of granitic chamise chaparral. This would be considered a significant impact to the sensitive vegetation community.	**M-BI-4.** If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to 0.2 acre of chamise chaparral shall occur at a 2:1 ratio in accordance with the adopted NC MSCP and mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through the preservation of 0.4 acre of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), or at another location deemed acceptable by the County and Wildlife Agencies. If the NC MSCP is not adopted at the time project impacts would occur, 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.	Less Than Significant
BI-5. The Proposed Project would impact approximately 0.36 acre of area mapped as vernal pool habitat that could be determined to be wetlands regulated pursuant the CWA during future coordination with USACE and applicable jurisdictional agencies. If these vernal pools are determined to be wetlands, this would be considered a significant impact.	**M-BI-5.** On-site vernal pools impacted by future individual projects would be mitigated at a minimum 1:1 ratio per mitigation measure M-BI-3. If the NC MSCP is not adopted at the time project impacts would occur, then mitigation for impacts to vernal pools shall occur at a 5:1 ratio pursuant to habitat mitigation ratios as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010. As required by the regulating agencies, including the USACE and RWQCB, impacts to vernal pools may require issuance of a CWA Section 404 permit and either a CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act WDRs. Federally listed species have not been detected in onsite vernal pools, thus take authorization under the Endangered Species Act is not anticipated to be required.	Less Than Significant

Table S-2. Summary of Significant Effects and Mitigation Measures (continued)

Impact Number and Description of Impact	Mitigation Measure	Significance After Mitigation
BI-6. Construction activities may result in impacts to migratory birds or active migratory bird nests and/or eggs protected under the Migratory Bird Treaty Act. This would conflict with the policies of the Migratory Bird Treaty Act and be considered a significant impact.	**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.	Less Than Significant
BI-7. The Proposed Project would impact 0.3 acre of southern maritime chaparral. This would be considered a significant impact to the sensitive vegetation community.	**M-BI-7.** If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to 0.3 acre of southern maritime chaparral shall occur at a 3:1 ratio in accordance with the adopted NC MSCP and mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through the preservation of 0.9 acre of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), or at another location deemed acceptable by the County and Wildlife Agencies. If the NC MSCP is not adopted at the time project impacts would occur, mitigation for impacts to southern maritime chaparral shall also occur at a 3:1 ratio pursuant to habitat mitigation ratios applied for areas outside of approved MSCP Plans as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010.	Less Than Significant

Table S-2. Summary of Significant Effects and Mitigation Measures (continued)

Impact Number and Description of Impact	Mitigation Measure	Significance After Mitigation
BI-8. The Proposed Project would impact 0.3 acre of non-native grassland. This would be considered a significant impact to the sensitive vegetation community.	**M-BI-8.** If NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to non-native grassland shall occur at the applicable ratio defined in the NC MSCP. The aforementioned joint letter from USFWS and CDFW (2011 Hardline letter) did not identify impacts or mitigation to non-native grassland. If the NC MSCP is not adopted at the time project impacts would occur, mitigation for impacts to non-native grassland shall occur at a 0.5:1 ratio pursuant to habitat mitigation ratios applied for areas outside of approved MSCP Plans as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010. Mitigation for impacts to 0.3 acre of non-native grassland would occur through the preservation of 0.15 acre of non-native grassland on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), or at another location deemed acceptable by the County and Wildlife Agencies.	Less Than Significant
2.3 Hazards and Hazardous Materials		
HZ-1. Grading or excavation on the site may disturb an underlying inactive landfill presenting a potential hazard to the public or the environment.	**M-HZ-1.** Prior to grading or excavation over the inactive landfill units or other areas of known contaminated soil and/or groundwater, a Soil Management Plan (or equivalent remediation plan) shall be prepared in accordance with applicable federal, state, and local requirements for the purpose of removing, treating, or otherwise reducing potential contaminant concentrations to below human or ecological health risk thresholds. The Soil Management Plan (or equivalent remediation plan) shall outline methods for characterizing and classifying soil for off-site disposal, as needed, during site development. Due to a possible vapor encroachment condition at the Airport for petroleum, hydrocarbon and non-petroleum hydrocarbon contaminants, the Soil Management Plan (or equivalent remediation plan) shall also include a Tier 2 vapor encroachment condition assessment according to ASTM E 2600-10. The timing of this mitigation measure's implementation will vary depending on the timing, available funding, and priorities of individual project elements under the Airport Master Plan Update; however, this mitigation measure would be implemented prior to or at the time of impact.	Less Than Significant
HZ-2. Grading or excavation on the site may disturb contaminated soil and groundwater, presenting potential health risks to personnel during construction.	**M-HZ-2.** Refer to M-HZ-1.	Less Than Significant

Table S-2. Summary of Significant Effects and Mitigation Measures (continued)

Impact Number and Description of Impact	Mitigation Measure	Significance After Mitigation
2.4 Noise		
N-1. General construction noise during project elements 2, 5, and 9 would be significant.	**M-N-1.** Noise levels from project-related demolition, grading, and construction activities shall not exceed the noise limit specified in San Diego County Code Sections 36.408 and 36.409 of 75 dBA (8-hour average), when measured at the boundary line of the property where the noise is located or any occupied property where noise is being received. A Demolition and Construction Management Plan that describes the measures included on the construction plans to ensure compliance with the noise limit shall be prepared. The following measures may be included to reduce construction/demolition noise: • Construction equipment to be properly outfitted and maintained with manufacturer-recommended noise-reduction devices. • Diesel equipment to be operated with closed engine doors and equipped with factory-recommended mufflers. • Mobile or fixed "package" equipment (e.g., arc-welders and air compressors) to be equipped with shrouds and noise control features that are readily available for that type of equipment. Electrically powered equipment to be used instead of pneumatic or internal-combustion powered equipment, where feasible. • Unnecessary idling of internal combustion engines (e.g., in excess of 5 minutes) to be prohibited. • Material stockpiles and mobile equipment staging, parking, and maintenance areas to be located as far as practicable from noise sensitive receptors. • The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. • No project-related public address or music system shall be audible at any adjacent sensitive receptor. • Temporary sound barriers or sound blankets may be installed between construction operations and adjacent noise-sensitive receptors. A sound wall at least 10 feet in height above grade, located along the northern airport boundary line between the North Apron and neighboring offices would mitigate noise levels to within acceptable levels. To reduce noise levels effectively, the sound barrier should be	Less Than Significant

Table S-2. Summary of Significant Effects and Mitigation Measures (continued)

Impact Number and Description of Impact	Mitigation Measure	Significance After Mitigation
	constructed of a material with a minimum weight of two pounds per square foot with no gaps or perforations and remain in place until the conclusion of demolition, grading, and construction activities. • The County shall notify businesses within 100 feet of the construction area in writing within one week of any construction activity such as demolition, hard rock handling, concrete sawing, asphalt removal, and/or heavy grading operations. The notification shall describe the activities anticipated, provide dates and hours, and provide contact information with a description of a complaint and response procedure. • The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process for the affected resident shall be established prior to construction commencement to allow for resolution of noise problems that cannot be immediately solved by the site supervisor.	
N-2. Construction noise associated with pavement crushing during project elements 2, 5, 9, 12, 13, and 14 would be significant.	**M-N-2.** If an on-site use of a crusher at the north apron staging area is required, it should be located at the furthest safely feasible point from nearby offices, where it will have minimal impact on occupied buildings. A temporary sound barrier shall be placed around the rock crusher to shield receivers to the north. All barriers should stand at least as tall as the highest part of the crusher, with a minimum of 8 feet. In addition to the construction hours mandated by the County Noise Ordinance, pavement crushing shall not occur Monday through Friday after 6 p.m., or on Saturday before 8 a.m. In the event construction is required at night or Sundays, County Airport staff shall consult with the County Noise Officer, who has the discretion to grant a Noise Variance Permit in accordance with the County Noise Ordinance Section 36.423.	Less Than Significant

Table S-2. Summary of Significant Effects and Mitigation Measures (continued)

Impact Number and Description of Impact	Mitigation Measure	Significance After Mitigation
2.5 Transportation/Traffic		
TR-1. Addition of the Proposed Project traffic combined with cumulative traffic to the intersection of Palomar Airport Road/Camino Vida Roble would increase the delay by 4.8 seconds (PM peak hour). This is greater than the significance threshold of more than 2.0 seconds over existing conditions for Level of Service (LOS) E/F, and is therefore considered a significant cumulative impact.	**M-TR-1.** Cumulative impacts would be mitigated below the level of significance by financially contributing to a fair-share payment to the City of Carlsbad towards the installation of signal improvements along Palomar Airport Road, alternative improvements such as adding a southbound right-turn overlap phase, or other Transportation System Management strategy to improve signal operations. Based on the Proposed Project's traffic contribution, this would equate to an estimated fair-share payment of 10.7 percent of the cost to implement signal improvements or other Transportation System Management strategy in consultation with the City. Mitigation Measure M-TR-1 would not be required to be implemented until the number of Airport enplanements incrementally produce a cumulative traffic impact at the intersection of Palomar Airport Road/Camino Vida Roble.	Less Than Significant
TR-2. Addition of the Proposed Project traffic combined with cumulative traffic to the intersection of Palomar Airport Road/ El Camino Real would increase the delay by 2.7 seconds (AM peak hour) and 4.8 seconds (PM peak hour). These are greater than the significance threshold of more than 2.0 seconds over existing conditions for LOS E/F, and is therefore considered a significant cumulative impact.	**M-TR-2.** Cumulative impacts would be mitigated below the level of significance by financially contributing a fair-share payment to the City of Carlsbad towards the installation of signal improvements along Palomar Airport Road or other Transportation System Management strategy to improve signal operations. Based on the Proposed Project's traffic contribution, this would equate to an estimated fair-share payment of 7.5 percent of the cost to implement signal improvements or other Transportation System Management strategy in consultation with the City. Mitigation Measure M-TR-2 would not be required to be implemented until the number of Airport enplanements incrementally produce a cumulative traffic impact at the intersection of Palomar Airport Road/El Camino Real.	Less Than Significant

CHAPTER 1 PROJECT DESCRIPTION, LOCATION, AND ENVIRONMENTAL SETTING

The County of San Diego (County) Department of Public Works owns and operates McClellan-Palomar Airport (Airport or CRQ) in the City of Carlsbad. The Proposed Project is located approximately seven miles southwest of the center of Carlsbad, 27 miles north of San Diego International Airport and 90 miles south of Los Angeles International Airport (Figure 1-1). The County owns and maintains approximately 454 acres of land in the vicinity of the Airport, which includes land dedicated to both aeronautical and non-aeronautical uses. The Proposed Project site is approximately 232 acres, which consists of approximately 231 acres defined as the active airfield and approximately 0.7 acre on adjacent County-owned land for relocation of the existing navigational lighting (Figure 1-2). The Airport is an important transportation asset in San Diego's north county, serving a variety of user groups including commercial, corporate, and general aviation. The current McClellan-Palomar Airport Master Plan was prepared in 1997 and is reaching the end of its 20-year planning period. The County is the Lead Agency in preparation of a Program Environmental Impact Report (PEIR) for the proposed new 20-year Master Plan Update in compliance with the California Environmental Quality Act (CEQA).

On February 29, 2016, the County released for public review a Notice of Preparation (NOP) and Initial Study for the Master Plan Update PEIR. Since then the County has decided to remove one component of the Proposed Project. At this time, the County will no longer pursue development of the 17-acre vacant site located at the northeast corner of Palomar Airport Road and El Camino Real associated with the Master Plan Update. Therefore, this PEIR only focuses on the active airfield and associated shift in the navigation lights located on an adjacent property owned by County Airports referred to as the Eastern Parcel. As such, the PEIR does not analyze effects associated with the 17-acre development site. Any future development of the 17-acre development will undergo separate environmental analysis pursuant to CEQA.

The County, as the owner of the Airport, currently accepts federal grant funding from the Federal Aviation Administration (FAA) Airport Improvement Program (AIP). The County is therefore required to comply with a list of Airport Sponsor Assurances provided by the FAA. FAA Order 5190.6B: FAA Airport Compliance Manual, Grant Assurance 22a states that the County:

> "Will make [the] airport available as an airport for public use on reasonable terms, and without unjust discrimination, to all types, kinds, and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport."

Therefore, the County has no authority over the quantity, type, or flight track of an aircraft arriving or departing from the airport, which are under the jurisdiction of the FAA. In consideration of these federal requirements it is important to note that the County's CEQA impact analysis and mitigation measures reflect the limits of their authority as ground-facility managers.

1.1 Project Objectives

In compliance with Section 15124(b) of the CEQA Guidelines, the County shall identify its objectives with undertaking the Proposed Project. As the project proponent, the County has identified eight objectives for the implementation of the Proposed Project. These are the key objectives for the Proposed Project, and a description of how the County intends to meet these key objectives follows:

1. Safety – The preferred alternative must preserve and/or enhance the safety of Airport users. Airport users include passengers, pilots, Airport staff, tenants, and other operators. Safety criteria encompass FAA airport design standards, State and local regulations, and account for the operational functionality of aircraft and Airport users.

2. Financial Feasibility – The preferred development alternative must address the near and long-term Airport needs in a manner that is financially achievable, financially responsible, and environmentally and operationally sustainable.

3. Avoid Impacts to Airport Businesses – Avoid operational or physical changes to airport tenants or leaseholds in order to avoid disruptions to airport businesses.

4. Ability to Accommodate Existing and Future Demand – Forecasts of aviation-related demand have been developed for this Airport Master Plan Update. These forecasts are used as a gauge to determine what Airport improvements will be required to maintain or expand service at the Airport and at what point in time improvements should be implemented. The preferred alternative should be able to accommodate projected levels of aviation demand as warranted.

5. Ability of Facility Improvements to Remain on Airport-owned Property – Despite existing physical constraints at the airport, it is desirable to keep all facility improvements within the existing airport fenceline. This minimizes project cost and the potential for environmental and land use impacts.

6. Environmental Impacts – A goal of recommended alternatives is to minimize impacts to the environment. This includes on-Airport and off-airport impacts.

7. Offsite Impacts to surrounding environs including businesses and roadways – Major reconstruction of existing businesses, infrastructure, and transportation systems can have significant impacts on an airport and the surrounding area. Such projects add cost, impact operations, capacity, and can have unintended environmental impacts. The preferred alternative should minimize changes to the surrounding community and infrastructure.

8. Eligibility for FAA Funding – Proposed improvements should adhere to FAA design criteria and be financially reasonable in order to be eligible for FAA grant funding for design and construction.

1.1.1 Meet Federal Aviation Administration Design Standard and Safety Area Requirements through the Planning Horizon

An airport's "critical design aircraft"–which is defined by FAA Advisory Circular (AC) 150/5325-4B as the most demanding aircraft that has over 500 annual itinerant operations[2] at an airport–dictates the safety requirements and design standards for that airfield. As part of the Airport Master Plan Update, a review of the existing and forecasted aircraft fleet mix was conducted to determine the critical design aircraft. Once the critical design aircraft is determined, its approach speed (represented by letters) and wingspan (represented by Roman numerals) are used to define the appropriate spatial and geometric layout (design standards) of an airfield. The Master Plan Update determined that the Gulfstream G650 would be the ultimate critical design aircraft during the 20-year planning period. This aircraft is categorized as having a Runway Design Code of D-III-4000, Aircraft Approach Category and Airplane Design Group (ADG) of D-III, and a Taxiway Design Group of II. Refer to Table 1-1 for a summary of these parameters/standards. The Airport is currently designated as a B-II facility, and it meets all B-II design criteria as designated in the previous 1997 Master Plan.

The Master Plan Update identifies that the following improvements would be necessary for the Airport to ultimately meet D-III design standards:

Runway design standards

- Runway to parallel taxiway separation: Achieve separation of runway centerline to taxiway centerline distance of 400 feet. The distance between the runway centerline to taxiway centerline is currently at 297 to 300 feet.
- Runway to aircraft parking: Achieve separation of runway centerline to aircraft parking positions of 500 feet. The distance between the runway centerline to aircraft parking positions on both the north and south aprons is currently at 370 feet or less.
- RSA dimensions: Grade and remove obstructions found within RSA with a width of 500 feet.
- ROFA dimensions: Remove obstructions found within ROFA with a width of 800 feet.

Taxiway design standards

- Taxiway Safety Area (TSA) width: Achieve a TSA width of 118 feet. The current TSA on Taxiway A is 79 feet.

[2] Itinerant operations are defined by the FAA as operations performed by an aircraft that lands at an airport, arriving from outside the airport area, or departs an airport and leaves the airport area.

- Taxiway object free area (TOFA) width: Achieve a TOFA width of 186 feet. The current TOFA on Taxiway A is 131 feet.
- Taxiway to parallel taxilane separation: Achieve separation of taxiway centerline to taxilane centerline distance of 152 feet. The distance between the Taxiway A centerline to the parallel taxilane centerline is currently 105 feet.
- Taxiway to fixed or movable object: Achieve separation of taxiway centerline to fixed or movable object of 93 feet. The distance between the taxiway centerline to fixed or movable objects on the south apron is currently 65.5 feet.

1.1.2 Meet Runway Length/Width Requirements

The runway length at CRQ is currently 4,897 feet. The Master Plan Update analysis reviewed the runway takeoff and landing length requirements published in the aircraft manufacturer and flight planning manuals for the critical design aircraft that currently operate and are forecasted to operate at CRQ. The published information indicated that the current length is adequate for the aircraft types that operate at CRQ. However, some aircraft types have to operate at reduced weight loads according to their aircraft specifications. Takeoffs at maximum weight (or in some cases 75 percent of the maximum weight) are not possible for several mid- to large-size corporate jets and regional/commuter airline aircraft. A longer runway would enhance safety and operational capabilities of the existing and future fleet of aircraft at the airport, but is not defined or required by FAA Design Standards for a D-III airfield.

1.1.3 Enhance Safety and Meet Runway Safety Area and Runway Object Free Area Requirements

A RSA is defined as the surface that surrounds a runway and enhances safety and reduces the risk of damage to airplanes in the event of an undershoot (aircraft landing short of the runway), an overshoot (aircraft landing on the runway but not able to stop), or an excursion from the runway (aircraft moving off the runway to the right or left). RSAs also provide accessibility for firefighting and rescue equipment responding to such incidents. Similar to the RSA, the ROFA is a defined surface that surrounds the runway to enhance the safety of aircraft operations by remaining clear of objects, except for objects that need to be located in the ROFA for air navigation or aircraft ground maneuvering purposes.

Table 1-2 provides a summary of both the existing RSA and ROFA dimensions for Runway 06-24 and the required dimensions specified in FAA AC 150/5300-13. The existing RSAs/ROFAs are depicted on Figure 1-3.

To improve safety for aircraft and to address the RSA and ROFA requirements identified for a potential D-III runway, an Engineered Materials Arresting System (EMAS) can be constructed at each end of the runway. An EMAS is a bed of engineered materials built at the end of a runway defined in FAA AC 150/5220-22A as "high energy absorbing materials of selected strength, which will reliably and predictably crush under the weight of an aircraft." The purpose of an EMAS is to safely stop an aircraft overrun to prevent human injury and aircraft damage. The aircraft is slowed by the loss of energy required to crush the EMAS material. Although an EMAS

is not a substitute for additional runway length, it does enhance safety by minimizing the impact of an aircraft overrun. According to FAA AC 150/5300-13A, by constructing the EMAS, the RSA length beyond the runway would end at the edge of the EMAS bringing the Airport into full compliance with D-III design standards.

Securing runway protection zones (RPZ) is also an important component for all airports. As required by the FAA under per Federal Aviation Regulation Part 77, RPZs provide for the unobstructed passage of landing aircraft through the airspace and are used to enhance the protection of people and property on the ground. The purpose of an RPZ is to place limitations on obstructions at the ends of a runway. Controlling the areas within an RPZ is essential to ensure that unobstructed approach surfaces are maintained. As such, as part of the proposed improvements, the corresponding RPZs should be secured at the earliest opportunity, but are not required to be secured prior to implementation of the Master Plan Update. Lands located within RPZs would be sought over time as opportunities arise to preclude physical obstructions and incompatible uses; not to expand the Airport's aviation use areas. Figure 1-4 depicts the parcels that would be located within the ultimate RPZ for Runway 06-24.

1.1.4 Improve the Capacity and Efficiency of Landside Facilities

Although the existing terminal and other landside facilities are expected to accommodate much of the potential demand, landside project elements identified in the Master Plan Update would allow for the necessary space and physical changes to further support the Airport's ability to meet anticipated increase in air transportation service demands, if needed. Landside facilities also support emergency service facilities and are responsive to efficiencies in the movements of Airport users and personnel.

1.2 Project Description

The Airport Master Plan Update is a phased 20-year strategy to prioritize projects at the Airport that meet the objectives described above, and also identifies maintenance strategies for ongoing operations of the Airport. The Master Plan Update uses technical studies, forecast data, FAA airport design engineering standards, and public involvement to support the modernization of the Airport while maximizing use of the existing airport property and continuing maintenance and operations of the facilities. On December 16, 2015 (Item #3), the County Board of Supervisors directed staff to proceed with the Master Plan Update focusing on a "modified C/D-III classification" as the preferred option subject to preparation of a Program EIR. The Proposed Project encompasses 16 individual project elements that are categorized either as airfield or landside based on the nature of each element (Figure 1-5). Figures 1-8a and 1-8b also provide a proposed layout of the active airfield and RPZs. Airfield elements are those that would take place in aircraft movement areas (e.g., runway, taxiways, and apron areas) while landside elements refer to those that would occur on portions of the airport property utilized for vehicle parking, passenger loading, business operations, airport administration, and other ancillary activities that do not require the direct use of aircraft. Elements related to advancement in commercial service facilities (i.e. terminal building, restaurant, parking, etc.) would be implemented as demand is realized.

1.2.1 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. The exact scope, scale, and timing for construction of these elements will be determined once funding is identified for project design engineering and construction. As such, the timeframes identified are intended as conceptual estimates for planning purposes.

1.2.1.1 Near-term Projects (0–7 years)

Projects identified in this timeframe aim to enhance safety, extend the runway length, and make necessary improvements to allow for the future relocation of Runway 06-24 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. The glideslope building and antenna will require relocation in order to remain clear of the future 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 to the north is required so that the segmented circle and windsock remain clear of the future RSA when Runway 06-24 is also shifted to the north. Only minor grading improvements are anticipated to level the surface at this location.

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 will be improved to meet existing and forecasted aviation demands. Prior to September 2017, the Airport maintained an ARFF designation of "Index A" as defined by FAR Part 139.315(b)(2). As of September 2017, the FAA has changed the Airport's ARFF designation to "Index B" due to the aircraft length (i.e., Bombardier CRJ-700) utilized by the current air carrier. As identified in the Master Plan Update, additional vehicle bays and staff parking are needed at the ARFF facility to fully comply with "Index B" requirements. As a result, in accordance with FAA AC 150/5210-15A, the ARFF facility would be relocated south of the existing Airport Traffic Control Tower (ATCT) and east of the passenger terminal apron. The facility would encompass approximately 4,664 square feet and would include two vehicles bays, watch room, first aid room, storage room, and administrative offices. The proposed relocation site is currently a vehicle parking lot, and adjacent lots could accommodate the parking spaces

lost to the relocation of the ARFF. In the interim prior to improvements, all equipment and personnel necessary to operate and comply with “Index B” standards will be provided at the Airport.

Construction of EMAS System on Runway 24

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, EMAS would be installed on the west end of the runway (i.e., departure end of Runway 24). EMAS is a bed of engineered material built at the end of a runway that is 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 would begin 35 feet beyond the runway pavement. Once constructed, it would eliminate the pavement currently maintained as the blast pad located on the departure end of Runway 24.

A retaining wall and fill slopes would be constructed on the runway’s west end to support the EMAS installation. This 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.

Relocation of the Vehicle Service Road

A portion of the vehicle service road, located along the north apron at the west end of the runway (i.e., 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. Portions of the pavement currently used for aircraft parking on the north apron would be maintained for the road.

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 north of its current location. Minor trenching would be necessary to relocate electrical utilities to the proposed relocation site.

Extension of Runway 06-24 (200 feet to the East)

The current runway length at CRQ is 4,897 feet. As a near-term project, a 200-foot extension of the runway’s eastern end and associated Taxiway A would occur over existing pavement. The conversion to an aircraft movement area requires only the reinforcement of the pavement strength to meet FAA standards, shifting of lights (discussed below) and re-marking.

The 200-foot 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.

It is estimated that with the runway extension, an additional light foundation would need to be constructed. The additional lighting system would be located on County-owned land that is currently vacant. A portion of this land is designated Open Space. However, the County is not responsible for these additional improvements. The FAA is the owner and responsible agency for this lighting system, and relocation of the lights would be considered a federal action.

1.2.1.2 Intermediate-term Projects (8–12 years)

Intermediate-term projects focus on the efficiency improvements to short-term vehicle parking and removal of the north apron and aircraft self-service fuel farm.

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 12,000-gallon aboveground fuel storage tank. There are no fuel distribution lines at the Airport; all fuel is delivered to the storage tank by tanker truck.

Removal of North Apron and Taxiway N

The north apron currently serves as an aircraft parking area 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 to allow for the northerly shift of Runway 06-24. 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.

General Aviation (Aircraft) Parking

As shown in the Airport Master Plan Update, the forecasted number of general aviation operations is expected to increase during the Master Plan Update's next 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 / Vehicle Parking Improvements

According to the Airport Master Plan Update, additional short-term vehicle parking spaces are needed to accommodate the forecasted demand. The existing parking area in front of the airport terminal would be reconfigured to the south by approximately 7,000 square feet adding 20 additional short-term parking spaces for loading and unloading.

1.2.1.3 Long-term Projects (13–20 years)

Long-term improvements include the relocation and extension of Runway 06-24 and associated project elements necessary to meet FAA's 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 to increase the separation distance between the runway centerline and taxiway centerlines to 400 feet, which would meet FAA design standards for a D-III facility. While the ROFA on the runway's south side would meet the required 400-foot separation, the ROFA on the runway's north side could only accommodate 362 feet due to available space on the airfield. The length of the ROFA on the runway's east and west ends would also not meet the design criteria. As a result, modifications of standards would be obtained from the FAA for the runway's north, east, and west ends.

In addition, FAA design standards for a D-III facility require a 500-foot separation distance between the runway centerline and aircraft parking areas. On the south side of the runway, the proposed distance would total 493 feet due to available space on the airfield. As a result, a modification of standards would be obtained from the FAA since the Airport cannot accommodate the remaining 7 feet of separation distance.

The runway would also be extended to the east an additional 600 feet (beyond the 200-foot extension discussed under Near-term Projects), which would result in a total runway length of 5,697 feet and the runway width would be maintained at 150 feet. This project element would involve construction of approximately 738,000 square feet of new pavement, remarking the runway, and relocating runway and taxiway lights.

A portion of the runway extension and future EMAS system would be built over the existing landfill, which requires stabilization. In order to accommodate the full-length runway, EMAS, and taxiway extensions, it is anticipated that drilled displacement column piles would be driven into sections of the ground to support concrete slabs. The piles would extend through the landfill materials until bedrock or secure material is reached. Preliminary pile layouts could be spaced at 10 feet on center transversely to the runway/taxiway centerlines with 20 feet spans along the lengths of the runway/taxiway. However, this conceptual layout is preliminary as project-specific engineering design plans have not been prepared at this time.

Navigational aids would also need to be moved in conjunction with the runway shift. The Runway End Indicator Lights, Precision Approach Path Indicator system, and MALSR would have to be relocated in alignment with the runway's new centerline location. 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.

Remove/Reconstruct Connector Taxiways

In order to facilitate the runway relocation and accommodate the increased distance between runway and taxiway, 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 runway's new location except for the two high-speed connector taxiways located in the middle of the runway and the current

connector to the runway's eastern end. These taxiways would be removed and the pavement reused where 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-foot separation between the runway and taxiway while maintaining TSA and TOFA design standards, Taxiway A would be shifted 19 feet north and extended east 600 feet to match the end of Runway 06-24.

Construction of EMAS System on Runway 06

Once the runway is relocated northward and extended an additional 600 feet, EMAS would be installed on the runway's east end (i.e., departure end of Runway 06) in order to meet the D-III RSA design standard requirements. The EMAS would be 350 feet long by 150 feet wide and begin 35 feet beyond the runway pavement.

Relocation of EMAS System on Runway 24

In conjunction with the northerly shift of Runway 06-24, the EMAS system located on the runway's west end (i.e., departure end of Runway 24) 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 on the runway's west end would not be required with the shift, but the localizer antenna would be relocated in alignment with the relocated runway end.

1.2.2 Technical, Economic, Environmental Characteristics

The Airport Master Plan Update is a comprehensive projection of the Airport's near-term (0–7 years), intermediate-term (8–12 years), and long-term (13–20 years) conceptual facility development. It provides the framework to guide future Airport development based on its ability to meet existing and future aviation demand in a safe and cost-effective manner. The Master Plan Update evaluates proposed improvements and bases their constructability on their ability to meet technical, economic, and environmental considerations. The evaluation culminates in the development of an Airport Layout Plan (ALP) that is approved by the FAA, making projects depicted on the ALP eligible for federal funding.

Technical Considerations. Technical aspects of the project include the following:

- Meeting FAA airport design standard requirements within the existing airport property boundary.

Economic Considerations. Economic aspects of the project include the cost of construction and project funding, as described below:

- Proposing improvements to the airport infrastructure that would be eligible for potential FAA funding under the AIP.

- Meeting AIP federal grant assurances, including Grant Assurance 19 which states:

> "The airport and all facilities which are necessary to serve the aeronautical users of the airport…shall be operated at all times in a safe and serviceable condition…"

Environmental Considerations. Environmental aspects of the project include:

- Aesthetics, air quality, biological resources, greenhouse gases (GHG), noise, traffic, and potential hazardous impacts (associated with construction over the existing inactive landfill).

1.3 Project Location

The Airport is located in the City of Carlsbad, 27 miles north of San Diego International Airport and 90 miles south of Los Angeles International Airport (see Figure 1-1). The County owns and maintains approximately 454 acres of land in the vicinity of the Airport, including land dedicated to aeronautical and non-aeronautical uses. The Proposed Project site is approximately 232 acres, which consists of approximately 231 acres defined as the active airfield and approximately 0.7 acre on adjacent County-owned land (known as the Eastern Parcel) for relocation of the existing navigational lighting. See Figure 1-6 for an illustration of the Proposed Project site in relation to other County-owned property. Although the Airport is located within the municipal limits of the City of Carlsbad, the County is the owner and operator of ground facilities at this public-use airport. Whenever possible and consistent with the County's obligations to the federal government as a grant recipient, the County will endeavor to voluntarily seek approvals from the City of Carlsbad and require its tenants and contractors to seek approvals from the City as a means of coordinating airport development with City land use requirements. The County, however, has immunities from City of Carlsbad ordinances (e.g., building and zoning) and cannot waive those immunities without risking a violation of its federal sponsor assurances[3]. While these immunities apply to projects by the County and other public agencies, they can also apply to projects by airports lessees and contractors[4].

The Airport is accessible via Interstate 5 (I-5), one of the region's major north-south highways that extend through San Diego County. The Airport is located three miles east of I-5 off Palomar Airport Road, which is the Airport's principal ground access route. The airport property is generally bounded by Palomar Airport Road to the south and El Camino Real to the east. The Crossings at Carlsbad municipal golf course is located to the west, and an office park is located directly north.

[3] See, Govt. Code § 53090, et seq. & FAA Sponsor Assurances, Assurance No. 5
[4] See, Bame v. City of Del Mar (2001) 86 cal. App. 4th 1350

The Proposed Project site encompasses the active airfield, which includes tenant leaseholds, aircraft and vehicle parking, passenger terminal building, and administrative facilities located north of Palomar Airport Road along Yarrow Drive. The Proposed Project site also includes a 0.7 acre portion of an adjacent County-owned parcel known as the Eastern Parcel, located at the northeast corner of Palomar Airport Road and El Camino Real for relocation of the existing MALSR navigational lighting system.

1.4 Environmental Setting

According to Section 15125 of the CEQA Guidelines, an EIR must include a description of the existing physical environmental conditions in the vicinity of the Proposed Project to provide a baseline condition against in which project-related impacts are compared. The baseline shall be the environmental conditions as they existed at the time the NOP was published, which was February 2, 2016 for the Proposed Project.

The sections below provide a general description of the environmental setting of the Proposed Project study area. More detailed environmental setting descriptions are included in the relevant sections of Chapters 2.0 and 3.0 for each resource category.

1.4.1 Regional Characteristics

The Airport is located in the northwest corner of San Diego County, approximately three miles east of the Pacific Ocean (see Figure 1-1). The area surrounding the Airport is as a mixture of hillsides with residential and urban development. There are two coastal wetlands located within three miles of the Airport. The Agua Hedionda Lagoon is located approximately two miles northwest of the Airport and the Batiquitos Lagoon is located approximately 2.5 miles south.

1.4.2 Surrounding Land Uses

Directly north of the active airfield is a large portion of land designated for Planned Industrial land use by the City of Carlsbad (City of Carlsbad 2016a). Off-site office buildings and associated parking are located along the northern boundary of the airport property, across from the north aircraft parking apron. El Camino Real, which is located approximately 1,400 feet from the runway's eastern end (i.e., arrival end of Runway 24), creates the eastern boundary of the airport property. Vacant County-owned property located on the eastern side of El Camino Real includes industrial uses, vacant fallow mesas previously used for agriculture, and designated Open Space (in accordance with an existing preservation agreement with the City of Carlsbad). This land (referred to as the Eastern Parcel) also contains existing MALSR navigational lighting structures. To the south, the airport property is bordered by Palomar Airport Road. The area south of Palomar Airport Road is predominantly designated as Planned Industrial and General Commercial with small pockets of industrial uses and land designated as Open Space. The western boundary of the Airport is partially designated for Planned Industrial and Open Space that is currently used as a golf course.

The closest residential land uses to the Airport are located to the southeast, on the other side of Palomar Airport Road and El Camino Real. This area, which is the community of Bressi Ranch, is made up mostly of high-density, single-family, homes. The closest home to the Airport is

located over 0.5 mile south of the runway's eastern end. Additional residential land uses are located further south of the airport property and Palomar Airport Road.

1.4.3 Site Characteristics

The Airport was constructed on a mesa that was originally crossed by several canyons that were utilized as landfills until 1975. After the landfills stopped receiving waste, the filled canyons were graded and capped, and methane (CH_4) extraction facilities were installed along with monitoring wells. The landfill is currently unlined and located in three separate locations (or cells) on the Airport property. Portions of the Airport constructed over the landfill are used for aircraft storage and parking with a large portion of the landfill located at the runway's eastern end (i.e., approach end of Runway 24), which is required to be graded and kept clear of aboveground obstructions to meet FAA design standards. Although the County's Airports Division owns the land occupied by McClellan-Palomar Airport, the landfill is regulated and managed by various State and local agencies, including the Solid Waste Local Enforcement Agency (LEA), Regional Water Quality Control Board (RWQCB), and County's Department of Public Works Landfill Management Unit.

The surrounding terrain slopes slightly down towards the west with elevations remaining at approximately 315 feet mean sea level (MSL) to 330 feet MSL. Beyond the runway's western end, the terrain drops abruptly to approximately 230 feet MSL.

Other than the developed or disturbed areas that cover most of the Airport, the following types of vegetation have been previously surveyed at the Airport:

- Non-native Grassland: Covers the majority of the area in between the runway and the north apron as well as the areas beyond both runway ends.
- Non-native Vegetation: Pockets can be found at the corner of El Camino Real and Palomar Airport Road, along Palomar Airport Road, and a section just south of the north aircraft parking apron.
- Chamise Chaparral: A small area occurs adjacent to the north apron.
- Coastal Sage Scrub: The area to the north of the runway in between the western property boundary and the north apron is covered with a mix of disturbed/undisturbed coastal sage scrub. This is habitat for sensitive bird species.
- Eucalyptus Woodland: Areas of this plant species are found just outside the southwestern portion of the airport property line.

There are several sensitive plant species at the Airport. They are all located in the area north of the runway between the western property boundary and the north apron. The following species were recorded in a survey completed in May 2016:

- Western Dichondra (*Dichondra occidentalis*)
- Palmer's Grapplinghook (*Harpagonella palmeri*)
- Ashy Spike-moss (*Selaginella cinerascens*) (occurs in scattered patches)
- Vernal Barley (*Hordeum intercedens*)

Additionally, the coastal California gnatcatcher (*Polioptila californica californica*) has been found to reside in the area. This species is listed by the United States Fish and Wildlife Services (USFWS) as federally threatened, and a California Department of Fish and Wildlife (CDFW) Species of Special Concern. Vernal pools and seasonal inundation basins have also been mapped north of the runway.

1.5 Intended Uses of the EIR

Because the Proposed Project would require discretionary approvals by the County and other agencies, the Proposed Project is subject to CEQA. Based on the preparation of an Initial Study (Appendix A) in February 2016, it was determined that the Proposed Project may have a significant effect on the environment and that an EIR should be prepared pursuant to the State and County CEQA Guidelines.

The County has prepared this PEIR for the following purposes:

- To evaluate the environmental effects associated with the implementation of the Proposed Project, as required by CEQA;
- To inform the general public, the local community, and responsible trustee, state, and federal agencies of the nature of the Proposed Project, its potentially significant environmental effects, feasible mitigation measures to mitigate those effects, and its reasonable and feasible alternatives;
- To enable the County Board of Supervisors to consider the environmental consequences of the Proposed Project;
- To provide a basis for preparation of any future environmental documents; and
- To facilitate responsible agencies in issuing permits and approvals for the Proposed Project.

CEQA requires the lead agency to consider the information in this document, along with any other relevant information, prior to making its decision on the certification of the PEIR. This document will serve as the base environmental document for the County and will be used as a basis for decisions on implementation of the Proposed Project. Other agencies may also use this PEIR in their review and approval processes, including the agencies listed in Table 1-3.

This PEIR was prepared in accordance with Section 15151 of the CEQA Guidelines, which defines the standards for EIR adequacy as follows:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make

an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection; but for adequacy, completeness, and good faith effort at full disclosure.

1.6 Environmental Review Process

1.6.1 Notice of Preparation

On February 29, 2016, the NOP was published and circulated for a 30-day review period ending on March 29, 2016. Responses from identified responsible and trustee agencies, as well as interested parties on the scope of the PEIR, were solicited. A public scoping meeting was also held on February 29, 2016 from 6:00 to 8:00 p.m. at 1635 Faraday Avenue in the City of Carlsbad to solicit input from agencies, individuals, and organizations. A copy of the NOP and public comments are included as Appendix A.

Since the NOP was previously published, the County has decided to remove one component from the Proposed Project. At this time, the County will no longer pursue development of the 17-acre vacant site located at the northeast corner of Palomar Airport Road and El Camino Real. Therefore, this PEIR only focuses on the Airport Master Plan Update improvements at the active airfield site and associated shift in the MALSR navigational lighting system on the Eastern Parcel, and the PEIR does not analyze effects associated with the 17-acre development.

1.6.2 Environmental Review

The PEIR was circulated for review and comment by the public and other interested parties, agencies, and organizations for 61 days from January 18 to March 19, 2018. During the public review period, the County held public workshops to give an overview of the documents. Subsequently, portions of the PEIR were recirculated for a 46-day public review period from June 21 – August 6, 2018. Upon finalization of the documents to adequately respond to public comment, staff will present recommendations for project approval to the County Board of Supervisors at a regularly scheduled hearing. This hearing will allow the County Board of Supervisors, interested parties, and agencies an opportunity to discuss the proposed Final PEIR and Master Plan Update. Notice of the hearing time and location will be advertised in advance.

1.7 Project Inconsistencies with Applicable Regional and General Plans

The Proposed Project was reviewed for consistency with applicable regional and general plans, including but not limited to:

- County of San Diego General Plan
- City of Carlsbad General Plan
- Airport Land Use Compatibility Plan for McClellan-Palomar Airport
- City of Carlsbad Growth Management Plan
- City of Carlsbad Habitat Management Plan
- County of San Diego Draft North County Multiple Species Conservation Plan
- San Diego Association of Governments Regional Transportation Plan
- Regional Aviation Strategic Plan

1.8 List of Past, Present, and Reasonably Anticipated Future Projects in the Proposed Project Area

City of Carlsbad records were reviewed for development project environmental documents in the vicinity of the airport for potential cumulative environmental impacts, which are listed in Table 1-4 and shown in Figure 1-7.

1.9 Growth-inducing Impacts

This section discusses the ways in which the Proposed Project could foster economic or population growth. Growth-inducing impacts are caused by those characteristics of a project that tend to foster or encourage population and/or economic growth. Inducements to growth include the generation of construction and permanent employment opportunities in the support sector of the economy. A project could also induce growth by lowering or removing barriers to growth or by creating an amenity that attracts new population or economic activity.

In accordance with Section 15126.2(d) of the CEQA Guidelines, an EIR must:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth ... Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Two issues must be considered when assessing the growth-inducing impacts of a project:

- Removal of barriers to population growth: The extent to which additional infrastructure capacity or a change in regulatory structure would allow additional development in the region; and

- Promotion of economic growth: The extent to which a project can cause increased activity in the local or regional economy. Economic impacts can include direct effects, such as the direction and strategies implemented within the project area, and indirect or secondary impacts, such as increased commercial activity needed to serve the additional population projected from the project.

1.9.1 Removal of Barriers to Population Growth

The elimination of either physical or regulatory obstacles to population growth is considered a growth-inducing impact. A physical obstacle to population growth typically involves the absence of public service infrastructure. The physical addition of public service infrastructure into new locations, including roadways, water mains, and sewer lines, into areas not currently provided with these services is expected to support new development. Similarly, the elimination of or

change to a regulatory obstacle, including existing growth and development policies, can result in new population growth.

The Proposed Project does not place new public service infrastructure into new areas nor eliminates or changes a regulatory obstacle that can result in new population growth. Current local land use plans and policies, including the City of Carlsbad General Plan and the Airport Land Use Compatibility Plan (ALUCP) for the Airport are the guiding force on whether future business and residential growth can be accommodated by the existing infrastructure facilities and services within the area. Development at the Airport is not directly related to future development and growth potential within the region. Instead, long-term planning of Airport development must accommodate the forecasted demand for airline passengers through the next 20-year planning period. This forecast is based on a variety of air traffic demand factors described in the Airport Master Plan Update (Kimley-Horn 2018).

1.9.2 Promotion of Economic Growth

Based on CEQA Guidelines, the Proposed Project includes improvements to an existing airport that would not significantly induce economic or population growth, or cause the construction of additional housing in the surrounding environment. Much of the land surrounding the Airport is built-out for commercial and industrial uses with existing infrastructure. Even with additional air traffic forecasted by 2036, the Airport only expects a modest increase of employees congruent with the natural growth of aviation transportation. This marginal increase in growth would not significantly affect the demand for goods and services within the local environment or within the region. Moreover, the Proposed Project is consistent with the land use and growth policies in the City of Carlsbad and County General Plans, alongside anticipated regional air and traffic growth. Thus, there is no anticipated adverse impact to growth that would result from the Proposed Project.

Table 1-1. Aircraft Categories

Aircraft Approach Category	Approach Speed (knots)	Airplane Design Group	Wing Span (feet)	Tail Height (feet)	Runway Visual Range (feet)	Statute Mile Visibility
A	Less than 91	I	Less than 49	Less than 20	VIS	Visual
B	91 to 120	II	49 to 78	21 to 29	4,000	<1 Mile ≥ ¾ Mile
C	121 to 140	III	79 to 117	30 to 44	2,400	< ¾ Mile ≥ ½ Mile
D	141 to 165	IV	118 to 170	45 to 59	1,600	< ½ Mile ≥ ¼ Mile
E	166 or Greater	V	171 to 213	60 to 65	1,200	< ¼ Mile
		VI	214 up to but less than 262	66 up to but less than 80		

Source: FAA AC 150/5300-13A

Table 1-2. Runway Safety Area / Runway Object Free Area Dimensions

Design Criteria	Current Dimensions (feet)	B-II Design Standard (feet)	D-III Design Standard (feet)	Meet B-II Standards	Meet D-III Standards
RSA Width	150	150	500	Yes	No[1]
RSA Length Prior to Threshold	600	300	600	Yes	Yes
RSA Length Beyond Runway	300	300	1,000	Yes	No
ROFA Width	500	500	800	Yes	No[1]
ROFA Length Prior to Threshold	300	300	600	Yes	Yes
ROFA Length Beyond Runway	300	300	1,000	Yes	No[2]

[1] If Runway 06-24 is shifted north to meet runway centerline to taxiway centerline requirements of 400 feet, aircraft parked on the north apron would penetrate the future RSA and ROFA.

[2] ROFA located on the departure end of Runway 24 does not meet standards.

Table 1-3. Matrix of Project Approvals

Discretionary Approval/Permit	Agency
Approval of the ALP	FAA
Clean Water Act (CWA), Section 401 Permit - Water Quality Certification, General Construction Stormwater Permit	RWQCB, San Diego Region
CWA Section 404 Permit – Dredge and Fill	U.S. Army Corps of Engineers (USACE)
1602 Streambed Alteration Agreement, Consistency Determination	CDFW
Consultation under Section 7 of the federal Endangered Species Act (ESA)	USFWS
General Industrial Storm Water Permit	State Water Resources Control Board (SWRCB)
Amended Airport Permit	California Department of Transportation (Caltrans) Aeronautics Division

Table 1-4. Cumulative Projects List

Project Name	Project Description	Environmental Impact
Dos Colinas	47-acre site with 309-unit continuing care facility plus 29 affordable housing units.	Less than Significant: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology/Soils, GHG Emissions, Hazards and Hazardous Materials, Hydrology/Water Quality, Noise, Public Services, and Utilities
Rancho Milagro	22 estate single-family units. The project is near College Boulevard, El Camino Real, and adjacent to Dos Colinas.	Less than Significant: Biological Resources, Cultural Resources, Geology/Soils, and Hazards and Hazardous Materials
Robertson Ranch PA22/Cannon Road Senior Housing	98 multi-family housing units. Project is located near El Camino Real and Cannon Road.	Significant and Unavoidable: Air Quality, Transportation/Traffic Less than Significant: Aesthetics, Air Quality (short-term), Biological Resources, Cultural Resources, Geology/Soils, Hazards and Hazardous Materials, Hydrology/Water Quality, Noise, Public Services, and Utilities
La Costa Town Square	284,400-square-foot community shopping center with 128 condominium units, 64 single-family units, and an additional 55,000 square feet designated for further residential use.	Significant and Unavoidable: Air Quality, Noise, Transportation/Traffic Less than Significant: Biological Resources, Geology/Soils, Hazards and Hazardous Materials, Hydrology/Water Quality

Table 1-4. Cumulative Projects List
(continued)

Project Name	Project Description	Environmental Impact
Viasat Campus	25-acre industrial project within the Bressi Ranch area. Project would be located east of El Camino Real between Gateway Road on the north and Town Garden Road to the south.	Significant and Unavoidable: Air Quality Less than Significant: Aesthetics, Air Quality (short term), Biological Resources, Cultural Resources, Geology/Soils, Hazards and Hazardous Materials, Hydrology/Water Quality, Noise, Public Services, Transportation/Traffic, and Utilities
Quarry Creek Master Plan	636 dwelling units, community facilities and a park-and-ride lot.	Significant and Unavoidable: Transportation/Traffic Less than Significant: Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology/Soils, GHG Emissions, Hazards and Hazardous Materials, Hydrology/Water Quality, Noise, and Utilities
Poinsettia 61	140 single-family dwelling units located on Poinsettia Lane just west of El Camino Real.	Less than Significant: Agricultural Resources, Biological Resources, Cultural Resources, Geology/Soils, Hydrology/Water Quality, and Land Use
Uptown Bressi	17.7 acres of land proposed to be developed for mixed residential units and retail/commercial use.	Less than Significant: Aesthetics, Hydrology/Water Quality, Land Use, Noise, and Transportation/Traffic

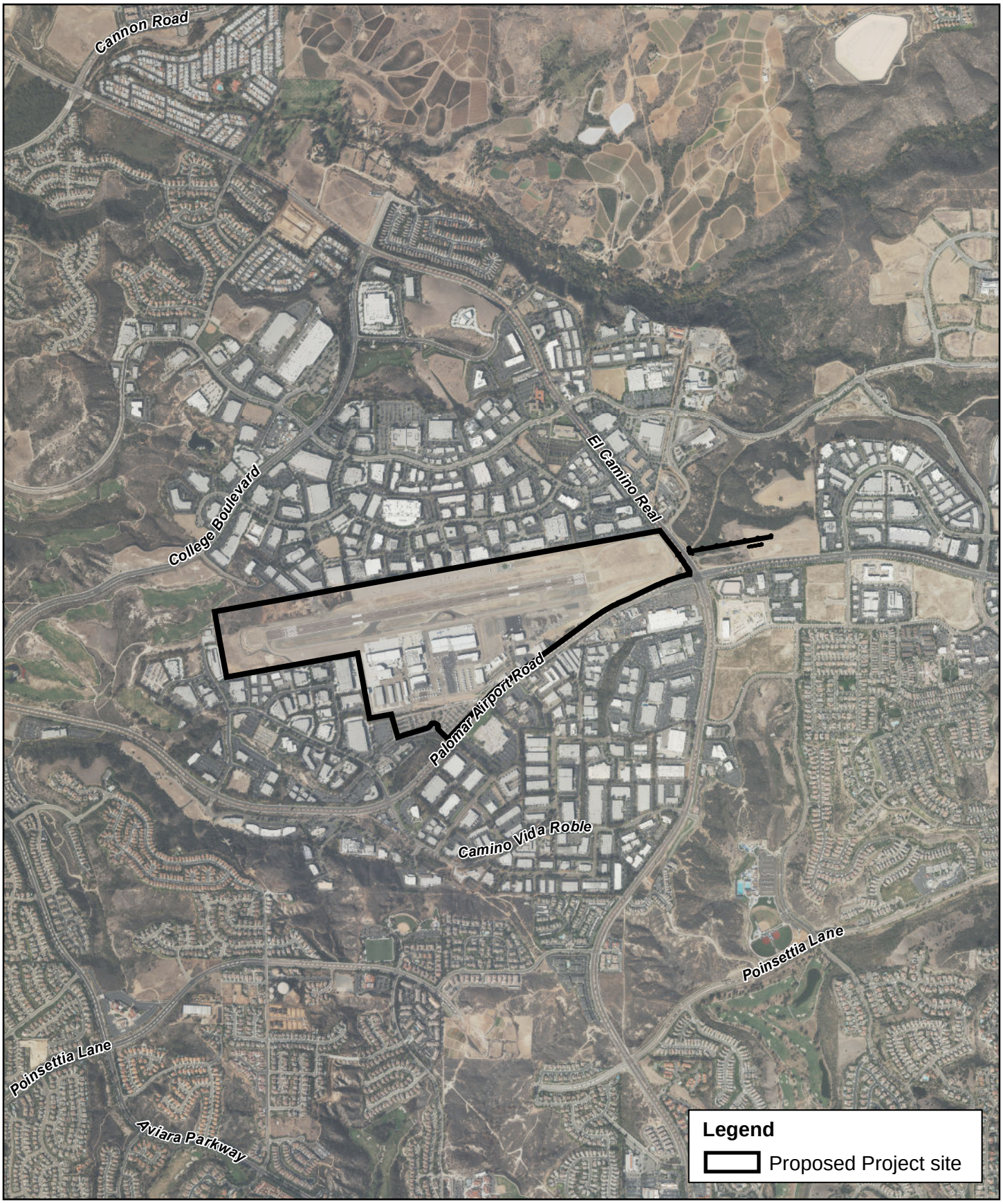


McClellan-Palomar Airport Master Plan Update
Program EIR

Regional Map
Figure 1-1

N 0 8 Miles

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McClellan-Palomar Airport Master Plan Update
Program EIR

Vicinity Map
Figure 1-2

N 0 2,000 Feet

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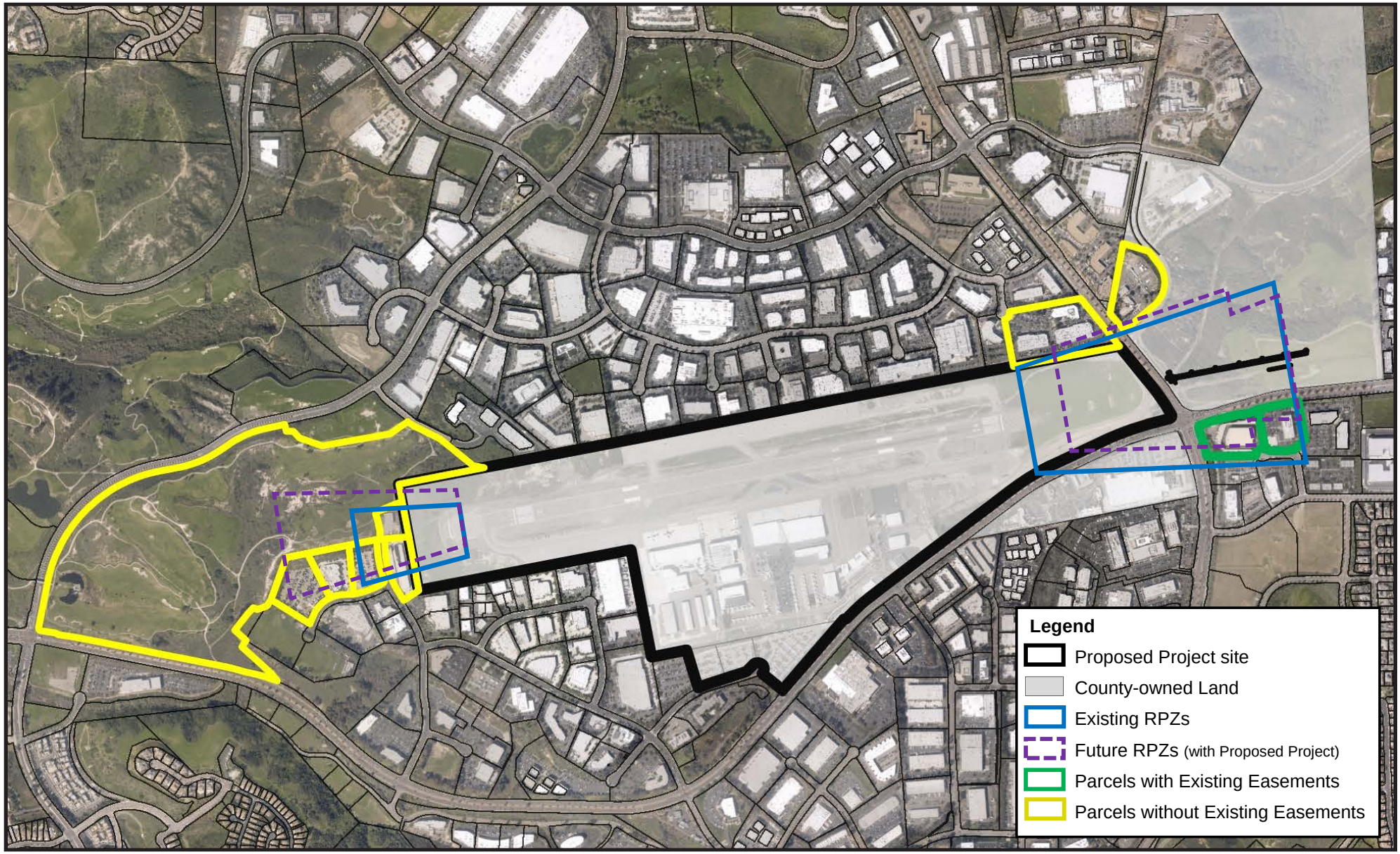


Source: Himley-Horn 2018

Runway Safety Areas and Runway Object Free Areas

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McClellan-Palomar Airport Master Plan Update
Program EIR

Parcels within Runway Protection Zones

Figure 1-4

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CONCEPTUAL DEVELOPMENT PHASES/FEATURES:

NEAR-TERM (0-7 YEARS)

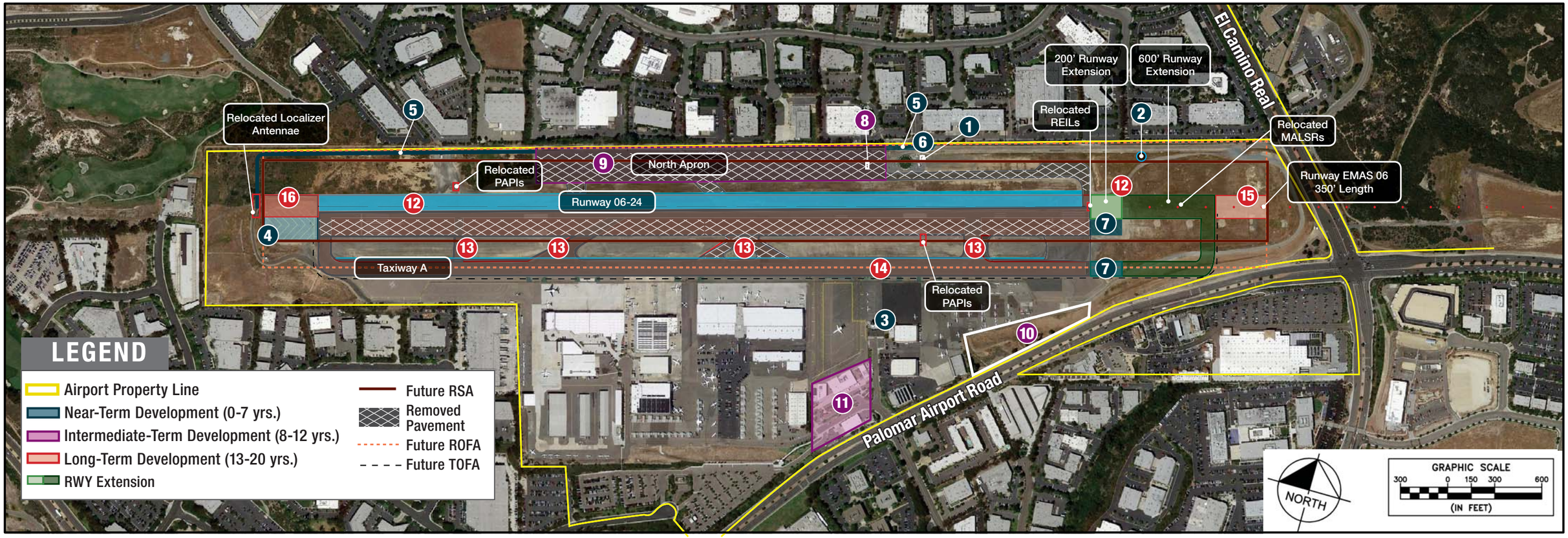
1. Relocation of the Glideslope Building and Antenna
2. Relocation of the Segmented Circle and Windsock Equipment
3. Relocation of ARFF Facility
4. Construction of EMAS System for RWY 24
5. Relocation of the Vehicle Service Road
6. Relocation of Lighting Vault
7. 200' Extension of Existing RWY 06-24 and TWY A

INTERMEDIATE-TERM (8-12 YEARS)

8. Removal of Fuel Farm on North Apron
9. Removal of the North Apron and TWY N
10. Area Reserved for Future GA Parking
11. Passenger/Admin/Parking Facility Improvements

PHASE 3: LONG-TERM (13-20 YEARS)

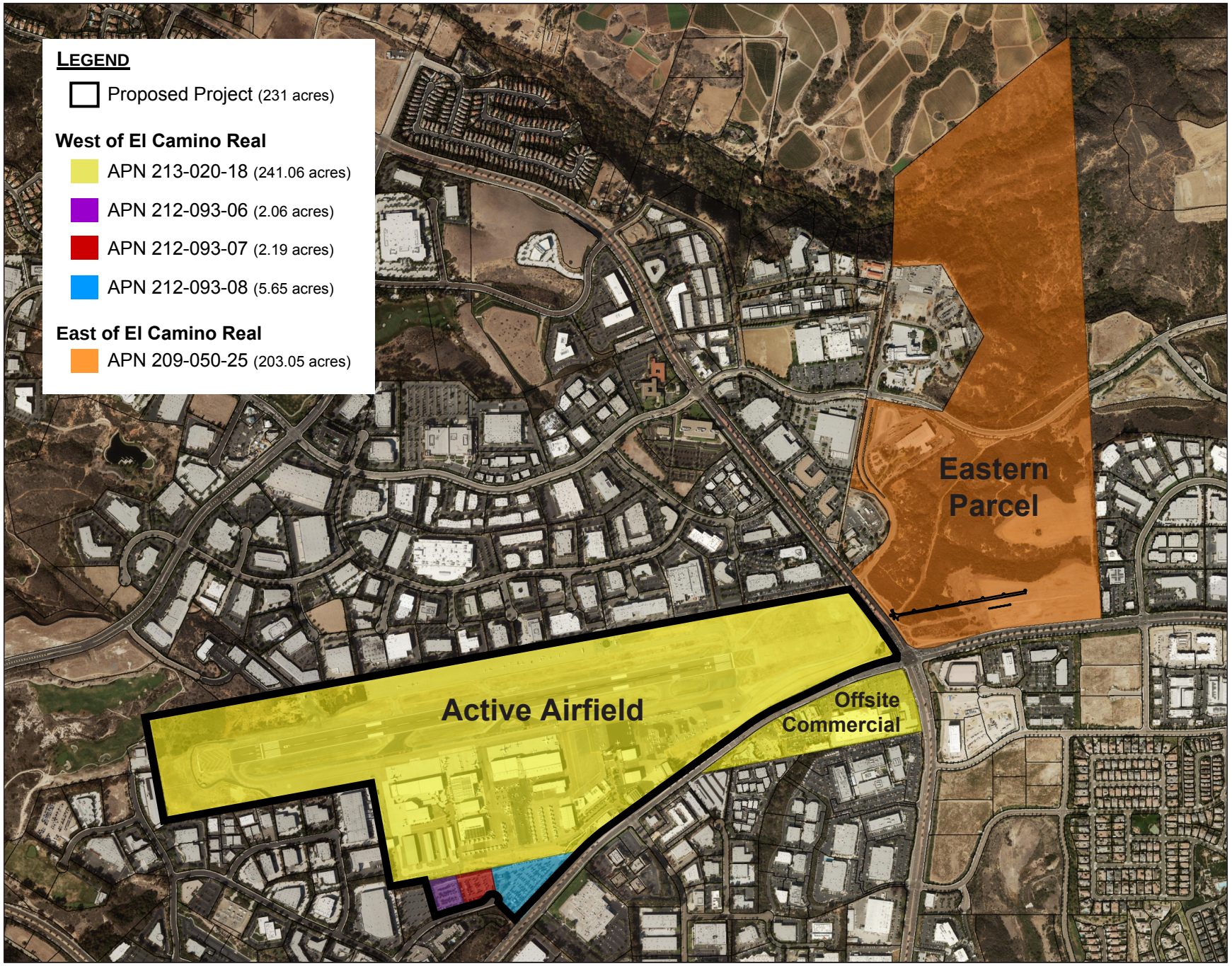
12. Relocation / 200'/600' Extension of RWY 06-24 (Includes REILs, PAPIs, Localizer Antennae and MALSRs)
13. Removal/Reconstruction of Existing Connector Taxiways
14. Removal/Reconstruction of Existing TWY A (Includes Lighting)
15. Construction of EMAS System for RWY 06
16. Relocation of EMAS System for RWY 24



Source: Himley-Horn 2018

Phased Development Plan
Figure 1-5

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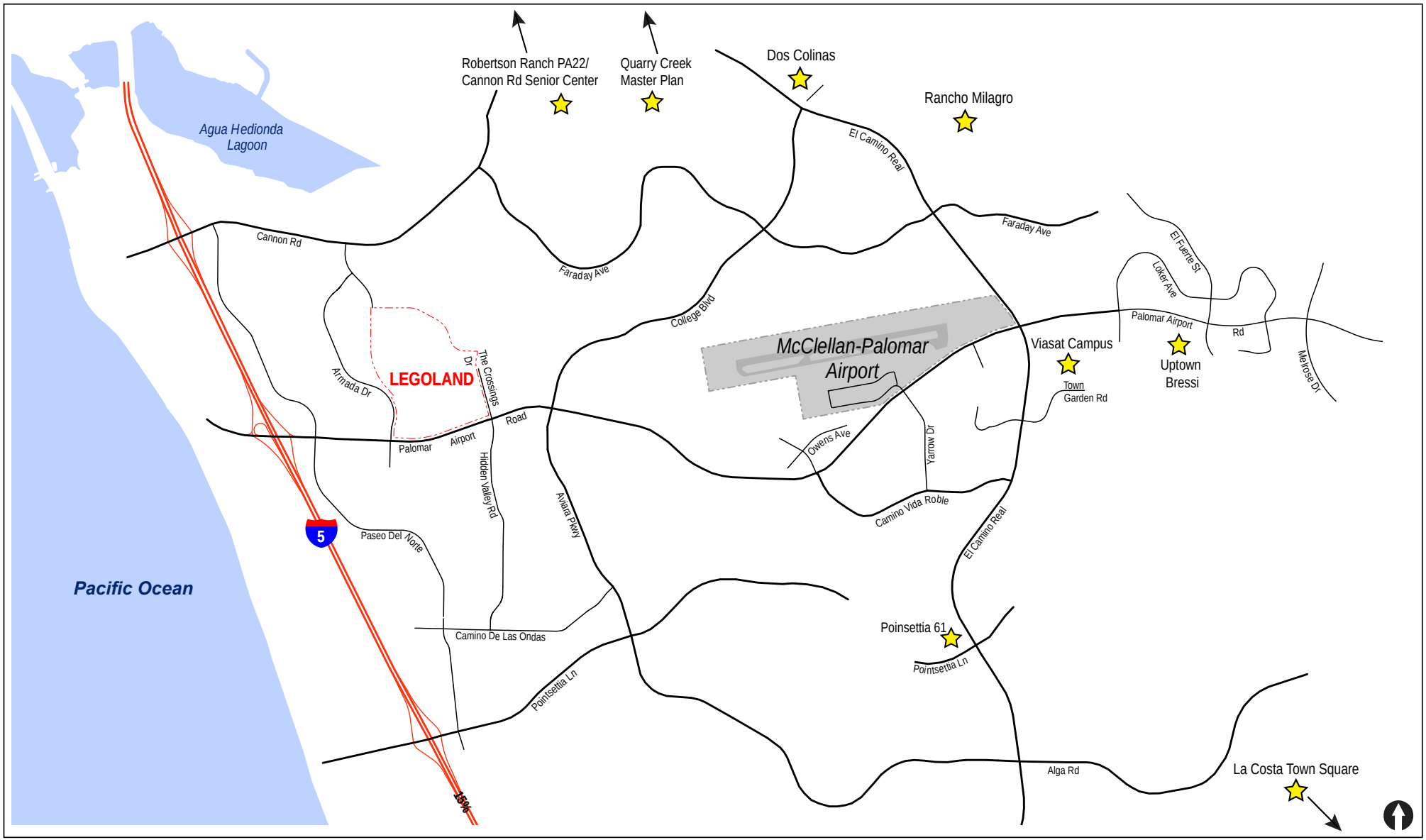


McClellan-Palomar Airport Master Plan Update
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County-owned Property

Figure 1-6

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Source: LLG 2017

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Cumulative Projects Map
Figure 1-7

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Source: Kimley-Horn 2018

McClellan-Palomar Airport Master Plan Update
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Proposed Project Site Map

(Master Plan Update: D-III Modified Standards Compliance Alternative)

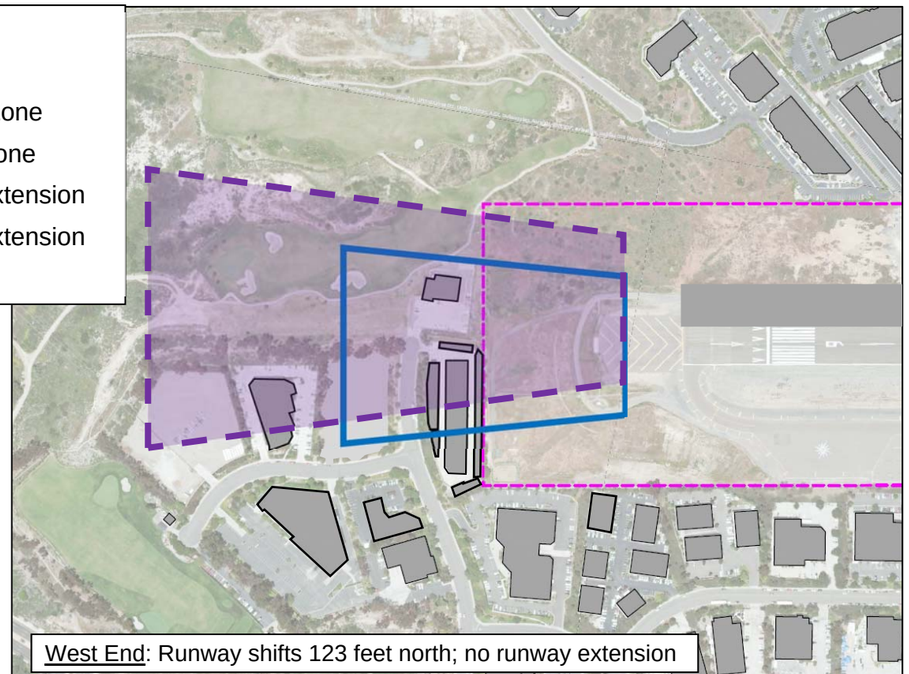
Figure 1-8a

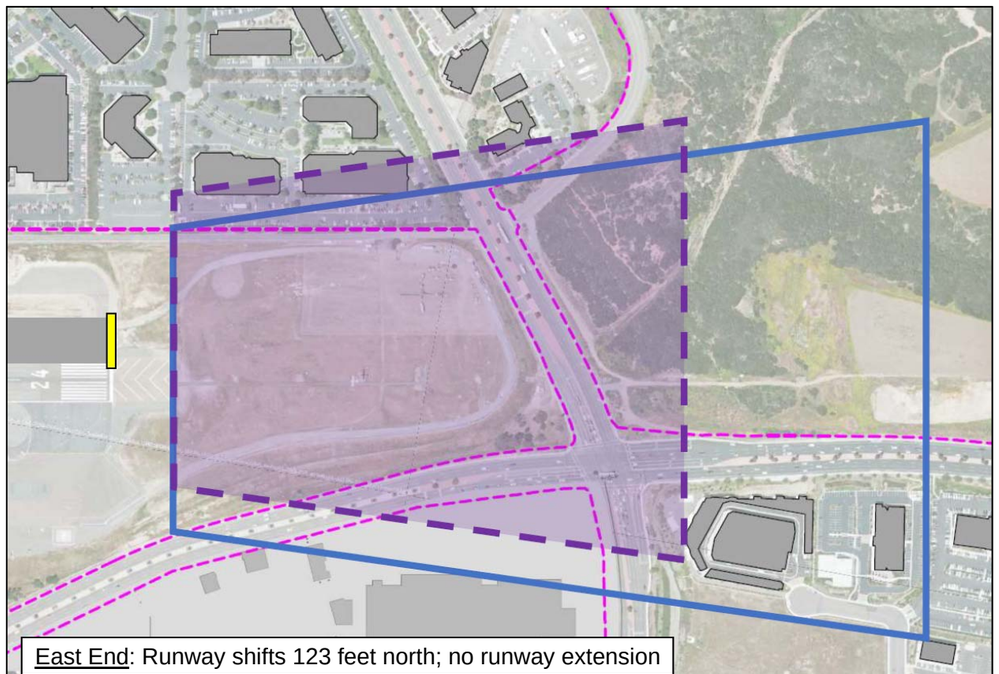
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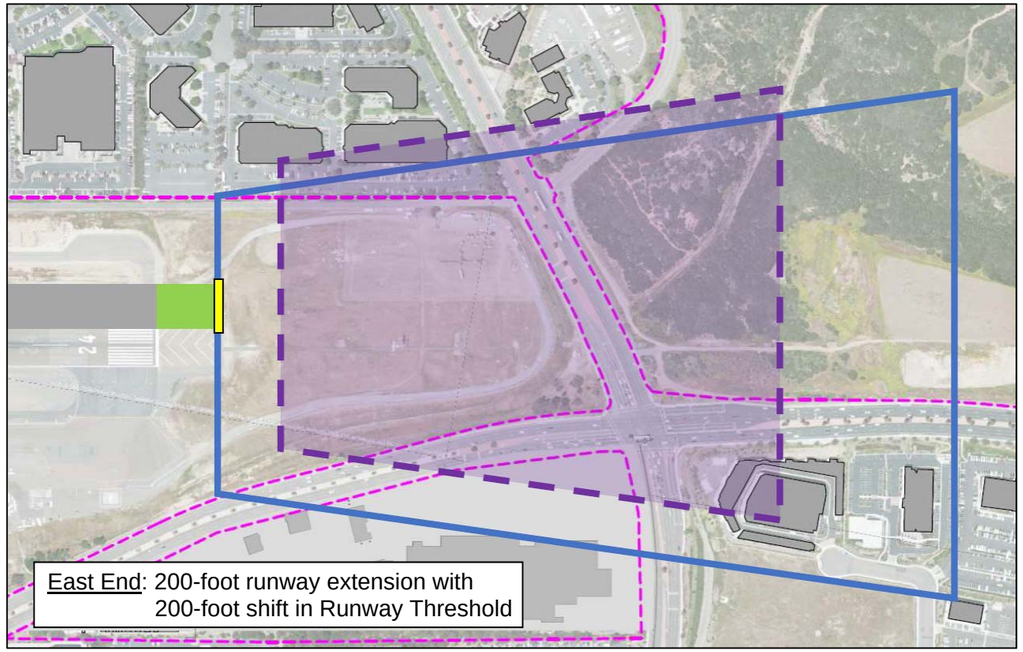
LEGEND

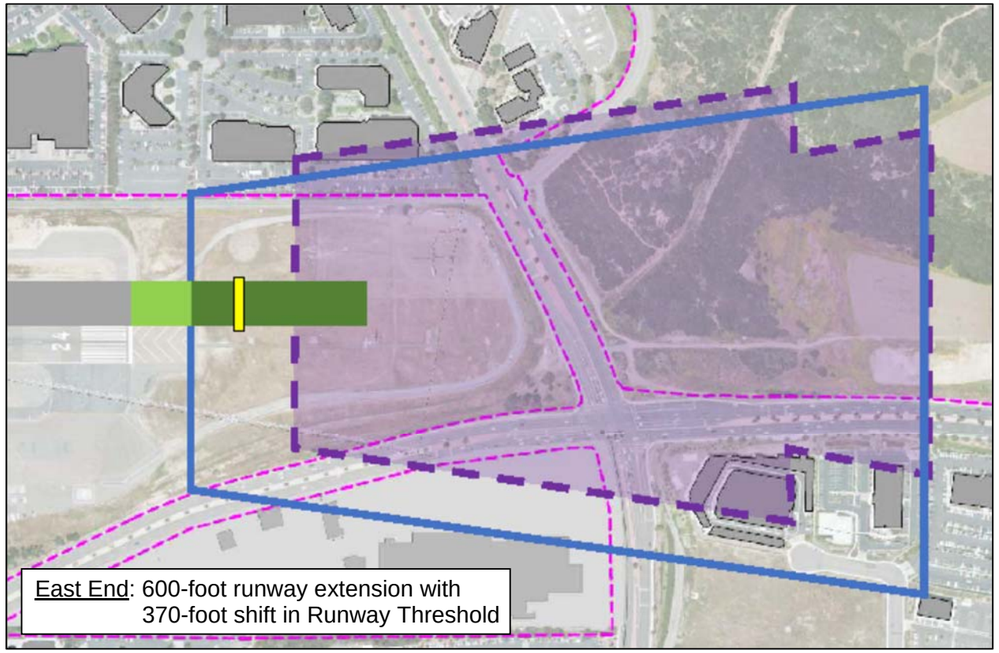
- Runway Threshold
- Existing Runway Protection Zone
- Area of Runway Protection Zone
- Option for 200-foot runway extension
- Option for 600-foot runway extension
- County-owned Property

*Not to scale









*For illustrative purposes only. Exhibits are not engineering drawings. Refer to Master Plan Update Exhibit 5.6b for more information.

McClellan-Palomar Airport Master Plan Update
Program EIR

Runway Protection Zones of Proposed Project
(Master Plan Update: D-III Modified Standards Compliance Alternative)

Figure 1-8b

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CHAPTER 2 SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT

2.1 Aesthetics and Visual Resources

The purpose of this section is to determine whether implementation of the proposed Airport Master Plan Update elements would result in significant environmental impacts on aesthetics and visual resources in the surrounding environment.

2.1.1 Existing Conditions

The County owns and maintains approximately 454 acres of land in the vicinity of the Airport, including land dedicated to aeronautical and non-aeronautical uses. The Proposed Project site is approximately 232 acres, which consists of approximately 231 acres defined as the active airfield and approximately 0.7 acre on adjacent County-owned land for relocation of the existing navigational lighting. The active airfield's visual character includes the runway and taxiways, passenger terminal, surface vehicle parking lots, ATCT, hangars and maintenance facilities (including fixed business operators), and aircraft parking positions. The 0.7-acre portion located on adjacent County-owned land (i.e., Eastern Parcel) consists of navigational lighting and access roads, vacant and fallow agricultural lands.

The Airport has been owned and managed by the County since 1959 and is surrounded on all sides by urban development including roadways, commercial uses, and industrial uses. These surrounding uses have been in continuous operation for almost 60 years. As designated by the City of Carlsbad's General Plan Land Use Map, open space is located immediately west of the Airport (overlaid by a municipal golf course), as well as sections east of El Camino Real. The airport property is generally flat; however, it is situated atop a mesa approximately 66 feet above land surrounding the Airport. The Pacific Ocean is approximately two miles west of the Airport. The primary viewers of the Airport are motorists travelling along Palomar Airport Road and El Camino Real.

Viewsheds

A project viewshed is defined as a geographic limit for assessing visual impacts and represents the area that is visible from an observer's viewpoint. The viewshed for the Proposed Project was established by analyzing aerial maps and encompasses a half-mile radius around the Proposed Project site (Figure 2.1-1).

Scenic Vistas

Scenic vistas often refer to views of natural lands, but may also include a combination of a natural area and a developed area. Designated scenic vistas within the City of Carlsbad include views of the City's beaches located west of the Airport. The Airport is not located near or within a scenic vista, nor can the Airport be seen from a scenic vista.

Scenic Resources

Scenic resources are natural or manmade features that are visually pleasing and contribute to the definition of a community or region. Scenic resources can include trees, and landscaping, rock outcroppings, historic buildings, and public art along designated scenic routes. Designated scenic resources within the City of Carlsbad include public parks and open space, as well as beaches and lagoons. There are no historic buildings in the vicinity of the Airport (National Park Service 2016). There are no designated State Routes, State Scenic Highways, or County Scenic Highways within the City of Carlsbad, including the Proposed Project site (Figure 2.1-2; County of San Diego 2016).

Visual Character

As stated in the County General Plan, the Airport is located in the Coastal Plain region, which includes coastlines, bays, lagoons, canyons, mesas, natural vegetation, historic or unique structures, and agricultural lands. However, there are no Coastal Plain region attributes within the Proposed Project viewshed. The predominant character of development within the Proposed Project viewshed is modern urban industrial and commercial, with multi-story buildings that have relatively large footprints and associated visual massing. El Camino Real, Palomar Airport Road, and several roadway arterials surround the Airport. There is no on-street parking available on either Palomar Airport Road or El Camino Real. In general, the streets surrounding the Airport include traditional streetlights and do not contain decorative fixtures. The area surrounding the Airport typically includes trees along medians or roadside, and includes vegetation characteristic of commercial areas.

Viewers' Response

Viewer response is defined as the viewer exposure and viewer sensitivity. These two elements can help to predict how the public or the primary viewers within a project viewshed will react to visual changes as a result of a proposed project. The Airport's primary viewers are motorists along Palomar Airport Road. These viewers' exposure to visual changes from a project are temporary and transient, lasting only as long as they are travelling on Palomar Airport Road adjacent to the Airport. As Palomar Airport Road is an arterial street within the City of Carlsbad, commuters potentially use this route daily, resulting in repeated exposure to the Airport or to Airport-related projects.

Light and Glare

The area surrounding the Airport contains several existing sources of light and glare, such as streetlights along roadways and parking lots, illuminated signs, landscape lighting, and light emitted from the interiors of non-residential buildings. Buildings and structures with glass, metal, and polished exterior or roofing materials contribute to localized sources of glare.

Current facilities at the Airport produce light and glare typical of urban areas. Interior and exterior lighting is currently emitted by the existing terminal facilities, as well as buildings located southwest of the runway, including the ARFF facility, and ATCT. Airfield lighting is also a source of light and glare. However, it should be noted that the FAA has rules and regulations pertaining

to minimizing glare and shielding light from pilots, and the airport lighting scheme is in conformance with FAA lighting standards. In addition, the parking lots contain security lighting. Palomar Airport Road contributes to light sources with streetlights and headlights from vehicles traversing the roadway.

Regulatory Framework

State

California Department of Transportation Scenic Highway Program

The Caltrans Scenic Highway Program protects and enhances the natural scenic beauty of California's highways and corridors through special conservation treatment. Caltrans defines a scenic highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. Caltrans designates a scenic highway by evaluating how much of the natural landscape a traveler sees and the extent to which visual intrusions degrade the scenic corridor.

Local

San Diego County General Plan

The County General Plan includes numerous goals, policies, and programs related to impacts on aesthetic resources generated by land uses within San Diego County. The Conservation and Open Space Element, Visual Resources section contains the following goals related to visual and aesthetic resources.

- Protect scenic corridors;
- Protect geographically extensive scenic viewsheds; and
- Protect dark skies within the natural environment.

San Diego County Zoning Ordinance

The County Zoning Ordinance addresses the aesthetic considerations of development. It is also intended to protect the character and vitality, both social and economic, of all districts within the County, and to ensure the orderly and beneficial development of such areas. The Zoning Ordinance sets development standards for vehicle parking, building heights, setbacks, density, lot coverage, open space requirements, and signs. However, because the Airport is located within the City of Carlsbad's municipal limits, the County's Zoning Ordinance does not apply to the Proposed Project.

City of Carlsbad General Plan

The City of Carlsbad General Plan includes goals, policies, and programs related to impacts on aesthetic resources generated by land uses within the City of Carlsbad. The Open Space, Conservation, and Recreation section, as well as the Land Use and Community Design section contain the following goals related to visual and aesthetic resources.

- Develop a balanced and integrated open space system reflecting a variety of considerations—resource conservation, production of resources, recreation, and aesthetic and community identity—and ensuring synergies between various open space components and compatibility with land use planning (Goal 4-G.1).

- Maintain an integrated open space classification system that accommodates conservation, resource production, recreation, and aesthetic needs (Policy 4-P.1).

- Designate for preservation as open space those areas that provide unique visual amenities within the urban form, such as agriculture, hillsides, ridges, valleys, canyons, beaches, lagoons, creeks, lakes and other unique resources that provide visual and physical relief to the cityscape by creating natural contrasts to the built-up, manmade scene (Policy 4-P.2).

- Require that, at the time of any discretionary approval, any land identified as open space for its habitat or scenic value shall have an appropriate easement and/or land use and zoning designation placed on it for resource protection (Policy 4-P.18).

- Building design that enhances neighborhood quality, and incorporates considerations of visual quality from key vantage points, such as major transportation corridors and intersections, and scenic vistas (2-P.45c).

City of Carlsbad Municipal Code 21.95 (Hillside Development Regulations)

Title 21 (Zoning) Section 21.95 of the City of Carlsbad Municipal Code is intended to (1) implement the goals and objectives of the land use and open space/conservation elements of the Carlsbad general plan; (2) assure hillside conditions are properly identified and incorporated into the planning process; (3) preserve and/or enhance the aesthetic qualities of nature hillsides and manufactured slopes by designing projects which relate to the slope of the land, minimizing the amount of project grading, and incorporating contour grading into manufactured slopes which are located in highly visible public locations; and (4) assure that the alteration of natural hillsides will be done in an environmentally sensitive manner whereby lagoons and riparian ecosystems will be protected from increased erosion and no substantial impacts to natural resource areas, wildlife habitats or native vegetation areas will occur.

El Camino Real Corridor Development Standards

The El Camino Real Corridor Development Standards were adopted in 1984 to further the goals of the then-existing Land Use and Scenic Highways Elements of the Carlsbad General Plan to preserve unique City resources as they relate to highways. The standards provide a general design concept for the entire length of the El Camino Real right-of-way, and establish development restrictions for private properties fronting the roadway. The design concept is an easily identifiable homogenous corridor that capitalizes on the distinct design characteristics of five distinct subareas. The standards include design guidelines emphasizing retention of natural topography; right-of-way standards for landscaping, street lighting, signage, and furniture; and private frontage standards for design theme, medians, sidewalks, signage, building height and setback, grading, street furniture and lighting, roofing, and land use.

City of Carlsbad Landscape Manual

The purpose of the Landscape Manual is to aid applicants, qualified professionals, and residents, in understanding the City's policies, programs and requirements for landscaping, and to provide guidance for implementation of Carlsbad Municipal Code Chapter 18.50 - Water Efficient Landscape Ordinance (WELO). The City's WELO implements the State of California Water Conservation in Landscaping Act to reduce water use associated with irrigation of outdoor landscaping by setting a maximum amount of water to be applied to landscaping and by designing, installing and maintaining water efficient landscapes not to exceed the maximum water allowance. As noted in the Landscape Manual, "this manual applies to all public and private developments which require submittal of landscape plans in conjunction with a building permit, grading permit or discretionary permit" (City of Carlsbad 2016b).

McClellan-Palomar Airport Land Use Compatibility Plan

The ALUCP for the Airport was adopted on January 25, 2010 and amended twice on March 4, 2010 and December 1, 2011. The purpose of the Airport's ALUCP is to ensure compatibility between future land uses and the operation and/or expansion of the Airport. Implementation of the ALUCP is intended to reduce the adverse impacts from aircraft noise, limit the increase in the number of people exposed to airport approach hazards, and ensure that no new incompatible uses or structures are erected that are deemed by the FAA to be hazards.

2.1.2 Analysis of Project Effects and Determination as to Significance

The following significance guidelines are based on the County's Guidelines for Determining Significance for Visual Resources. A significant aesthetics and visual quality impact would occur if the project would result in the following:

- Introduce features that would detract from or contrast with the existing visual character and/or quality of a neighborhood, community, or localized area by conflicting with important visual elements or the quality of the area (such as theme, style, setbacks, density, size, massing, coverage, scale, color, architecture, building materials, etc.) or by being inconsistent with applicable design guidelines.

- Result in the removal or substantial adverse change of one or more features that contribute to the valued visual character or image of the neighborhood, community, or localized area, including but not limited to landmarks (designated), historic resources, trees, and rock outcroppings.

- Substantially obstruct, interrupt, or detract from a valued focal and/or panoramic vista from:

    - a public road,
    - a trail within an adopted County or state trail system,
    - a scenic vista or highway, or
    - a recreational area.

- Not comply with applicable goals, policies, or requirements of an applicable County Community Plan, Subregional Plan, or Historic District Zoning.

The airport is located within the municipal limits of the City of Carlsbad, but is not subject to its the land use authority. References to the City's guidance for aesthetics and visual resource are given to provide the reader with context to the character of the site surrounding the Airport.

2.1.2.1 Visual Character and Visual Quality

Guidelines for Determination of Significance

The project would have a significant effect on the visual character if it would:

- Introduce features that would detract from or contrast with the existing visual character and/or quality of a neighborhood, community, or localized area (such as theme, style, setbacks, density, size, massing, coverage, scale, color, architecture, building materials, etc.) or by being inconsistent with applicable design guidelines.

Analysis

Construction

The Airport sits atop a mesa and motorists on Palomar Airport Road are the primary viewers of the Airport. Construction-related activities would partially be visible from Palomar Airport Road and El Camino Real. Graded surfaces, construction materials, equipment, and truck traffic would be visible. Soil would be stockpiled and equipment for grading activities would be staged at various locations. However, visible construction-related activities would be temporary (i.e., only lasting for the duration of construction) and consistent with development in the Airport vicinity. Therefore, impacts to visual character or visual quality are considered temporary and negligible, and are considered to be *less than significant*.

Nighttime construction activities that may occur would have the potential to result in impacts related to light and glare. However, any potential impacts associated with the Proposed Project would be temporary, lasting only for the duration of construction. Given that the Airport is surrounded by industrial and commercial uses, there are no sensitive viewers adjacent to the project and construction lighting would be compatible with the surrounding uses. As a result, any potential construction light and glare impacts with the proposed project would be *less than significant*.

Operation

The Proposed Project viewshed includes the Airport, which includes the runway and taxiways, passenger terminal, surface parking lots, ATCT, hangars, maintenance facilities, aircraft parking positions, as well as several industrial and commercial uses. Although the existing visual character of the Airport could be altered slightly with the additional structures, as part of the landside improvements for the Proposed Project, the proposed development would be consistent with existing development on the Airport, and would not be considered a degradation

of the visual character of the Airport or the urban/industrial/commercial nature of the viewshed. Additionally, the landside development does not include changes to the entrance to the Airport, which would be visible to the primary users. Furthermore, the Proposed Project would not conflict with important visual elements or the quality of the area and is consistent with applicable design guidelines.

However, to support the extension of Taxiway A, the Proposed Project would introduce a retaining wall along the southern slope of the Airport along Palomar Airport Road (near its intersection with El Camino Real). It is anticipated the retaining wall would be visible by motorists traveling along the roadway. Because this portion of the Airport currently consists of a natural slope, introduction of this retaining wall would contrast with the existing visual character and quality of the site. Therefore, implementation of the Proposed Project would result in *significant impact* related to visual character and visual quality (AE-1).

The slope at the Airport's eastern edge is visible from El Camino Real, and it is currently seeded with a native seed mix. Several factors prevent implementation of irrigation and landscaping of this slope. Specifically, although the slope is located on the Airport property, it functions as the protective cap (cover) for the inactive landfill underlying portions of the Airport boundary. The landfill and slopes are maintained and overseen by the County Department of Public Works, Landfill Management Unit and regulated by various State agencies, including the Solid Waste LEA and RWQCB. The protective cap is a non-permeable layer consisting of approximately three feet of clay rich soils that are designed to exclude water infiltration. In accordance with the State of California *Inspection Guidance for State Minimum Standards at Closed, Illegal, and Abandoned Disposal Sites*[5], the County is prohibited from installing utilities in or below any landfill layer intended for final cover (California Integrated Waste Management Board 2007). In addition, permanent pressurized irrigation lines are not allowed to be installed on the landfill's surface, including the slopes. This is primarily due to the risk of potential leaking pipes, valves, and irrigation meters, which would be considered an Illicit Discharge by the LEA and RWQCB. For these reasons, County Airports has considered an ornamental irrigated slope to be infeasible at this time. Furthermore, the State Guidance requires the County Landfill Management Unit to properly maintain the slope, often by grading. These slopes at the Airport were most recently graded in 2015, which often include large construction equipment that would impact any above ground irrigation system. During previous consultations with the County Landfill Management Unit and LEA, it was recommended that the Airport's slope should not be irrigated, but it could be seeded with a native seed mix to promote limited, yet seasonal vegetation growth. Since California, including the City of Carlsbad region had experienced record-setting drought conditions for the past few years, Airport staff elected to proceed with the natural seeding option with the understanding that future rainfall may normalize to aid in vegetating the slopes. Consequently, installation of irrigated ornamental landscaping on the eastern slope is considered infeasible. However, the Proposed Project would not change the visual character or visual quality of this portion of the project site, as the slope at the eastern edge of the Airport would remain unchanged. Furthermore, continued use of a natural seed mix

[5] In December 2007, the California Integrated Waste Management Board published the *Inspection Guidance for State Minimum Standards at Closed, Illegal, and Abandoned Disposal Sites*. Subsequently in 2010, the California Integrated Waste Management Board was replaced by the California Department of Resources Recycling and Recovery.

to vegetate the eastern slope would maintain consistency with the *City of Carlsbad Scenic Corridor Guidelines* or the *El Camino Real Corridor Development Standards* to the degree feasible in consideration of restrictions associated with the slope's function as a protective cap for the landfill. Therefore, impacts associated with inconsistencies with applicable design guidelines would be *less than significant*.

Regarding light and glare, the Proposed Project may install additional airfield lighting and relocate existing light sources (on both the active airfield on Eastern Parcel) according to FAA standards for safety purposes. Additional and relocated airside light sources would be located adjacent to the runway and taxiways, and existing navigation lights would be relocated with the corresponding runway shift. FAA regulates the location, type, and height of all airfield light sources. The additional landside light sources would be low intensity, shielded, and directional. The area already has similar lighting with the surrounding industrial and commercial buildings and there are no residential uses in close proximity to the site. Additionally, there are no residential uses in close proximity to the proposed site for relocation of the MALSR. The Airport would be required to comply with applicable regulations as set forth in the County Light Pollution Code and the McClellan-Palomar ALUCP, as well as the FAA to ensure that light and glare would not result in safety hazards. As a result, any change in lighting with the Proposed Project would be *less than significant*.

2.1.2.2 Damage to Visual Resources

Guidelines for Determination of Significance

The Proposed Project would have a significant effect if it resulted in the:

- Removal or substantial adverse change of one or more features that contribute to the valued visual character or image of the neighborhood, community, or localized area, including but not limited to landmarks (designated), historic resources, trees, and rock outcroppings.

Analysis

The Proposed Project site has been under active ongoing aviation operations as a public-use airport since opening in 1959, and precedes most of the surrounding development and land uses. The vast majority of the project site consists of developed lands and disturbed habitat, and unpaved areas surrounding aircraft movement areas are regularly mowed and maintained to maximize visibility and minimize fire and flooding risks. All improvements under the Master Plan Update would occur within the existing airfield limited to developed land within the existing Airport boundary. Most of the Airport improvements propose changes to existing ground-level pavement inside the active airfield, and are not visually accessible to the general public. The Proposed Project does not include elements that change the scale or visual character as an airport.

Construction

The Airport sits atop a mesa, and motorists on Palomar Airport Road are the primary viewers of the Airport. Construction-related activities would partially be visible from Palomar Airport Road and El Camino Real. Graded surfaces, construction materials, equipment, and truck traffic would be visible. Soil would be stockpiled and equipment for grading activities would be staged at various locations. However, visible construction-related activities would be temporary (i.e., last only for the duration of construction) and consistent with development in the Airport vicinity. Additionally, construction of the proposed project would not include the removal or substantial adverse change of rock outcroppings, landmarks, trees, or historic resources. Therefore, construction-related impacts to visual resources are considered temporary and negligible, and are considered to be *less than significant*.

Operation

Implementation of the Proposed Project would occur entirely on existing airport property. The primary visual character and quality of the surrounding Airport area is industrial and commercial. Implementation of the airfield and landside improvements associated with the Proposed Project would not be visible to the primary viewers. There is no removal or substantial change to visual resources associated with the Proposed Project. Additionally, the landside development does not include changes to the entrance to the Airport, which would be visible to the primary users. Further, implementation of the Proposed Project would not include the removal or substantial adverse change of rock outcroppings, landmarks, trees, or historic resources. Therefore, impacts associated with damage to visual resources from implementation of the Proposed Project would be *less than significant*.

2.1.2.3 Scenic Vistas

Guidelines for Determination of Significance

The project would have a significant effect on scenic vistas if it would:

- Substantially obstruct, interrupt, or detract from a valued focal and/or panoramic vista from:
    - a public road,
    - a trail within an adopted County or State trail system,
    - a scenic vista or highway, or
    - a recreational area.

Analysis

The Proposed Project site has been under active ongoing aviation operations since opening in 1959. While the adjacent El Camino Real is a City of Carlsbad-designated scenic roadway, the vast majority of the Proposed Project site consists of developed lands and disturbed habitat, and unpaved areas surrounding aircraft movement areas are regularly mowed and maintained to maximize visibility and minimize fire and flooding risks. The Airport Master Plan Update would

not alter existing land uses, and the Airport would continue to conduct operations similar to existing conditions. While the Airport Master Plan Update would potentially introduce a retaining wall along the Airport's southern boundary, the Airport itself is not considered a valued focal or panoramic vista. Proposed elements along publically-viewable areas would be designed in accordance with FAA standards and the City of Carlsbad's visual resources guidance as applicable. All improvements under the Master Plan Update would occur within the existing airfield limited to developed land within the existing Airport boundary. The Airport is not considered a valued visual resource or scenic vista. Therefore, construction and operation of the Proposed Project would have *no impact* on scenic vistas.

2.1.2.4 Consistency with Adopted Goals, Policies, and Ordinances

Guidelines for Determination of Significance

The project would have a significant effect if it would:

- Not comply with applicable goals, policies, or requirements of an applicable County Community Plan, Subregional Plan, or Historic District's Zoning.

Analysis

The Airport has an ALUCP that was prepared under the direction of the San Diego County Regional Airport Authority (SDCRAA). The ALUCP provides guidelines to the City of Carlsbad, as the local land use authority, to guide development near the Airport for compatibility with Airport-related activities; it also protects people who work and live in the vicinity of the Airport. Additionally, the ALUCP provides local land use agencies compatible policies and criteria applicable to the preparation of their general plans. The ALUCP accomplishes this through several policies, including, but not limited to: restricting the height of structures within the vicinity of the Airport to reduce the potential hazard to aircraft; limiting the density of residential development; limiting the proximity of development for large assembly facilities; and requiring overflight notification documents.

The construction of a taxiway extension south of the runway may require the installation of a large retaining wall that would be visible along Palomar Airport Road. During the actual design engineering of the structure, the County will incorporate aesthetic measures from the City of Carlsbad to the extent feasible, including the *City of Carlsbad Scenic Corridor Guidelines,* City of Carlsbad *Landscape Manual*, and City of Carlsbad Hillside Development Regulations (Municipal Code 21.95) as discussed in Section 2.1.2.1. The Proposed Project would not damage or remove existing valued visual resources (Section 2.1.2.2). The Airport is not located near or within a scenic vista (Section 2.1.2.3). Therefore, the Proposed Project would not conflict with the San Diego County General Plan goals to protect scenic corridors and protect geographically extensive scenic viewsheds. Additionally, impacts associated with light and glare due to project lighting would be less than significant (see Section 2.1.2.1). Therefore, the Proposed Project would not conflict with the San Diego County General Plan goal to protect dark skies within the natural environment. Project improvements would occur within the existing County Airport property, and would not include expansion of the Airport beyond the County-owned property. The Proposed Project would include relocation of an existing MALSR

navigation lighting system on the County-owned Eastern Parcel. As this land currently contains a MALSR, removal and relocation of this navigation lighting system would not conflict with Carlsbad General Plan policies pertaining to the preservation of open space. All other Proposed Project improvements would be limited to developed land within the existing active airfield at the Airport and would not conflict with Carlsbad General Plan policies pertaining to the preservation of open space. Similarly, project improvements within the existing airport would not conflict with the Carlsbad General Plan requiring that building design enhance neighborhood quality. The Airport is not located within a Historic District and as such, it not subject to Historic District Zoning. The Proposed Project is considered generally consistent with adopted goals, policies, and ordinances and therefore, there would be *less than significant impacts*.

2.1.3 Cumulative Impact Analysis

Other future potential projects in the Airport vicinity would be reviewed for consistency with adopted land use plans and policies by the County and the City of Carlsbad, as appropriate. Additionally, future projects are anticipated to be consistent with the County General Plan and the City of Carlsbad Municipal Code, standards, and regulations, and would also be subject to CEQA, mitigations requirements, and design review. Further, potential development from projects listed in Table 1-4, in combination with the Proposed Project would not change the overall existing setting of industrial and commercial development, including sources of light and glare. For example, potential residential development listed in Table 1-4 is proposed near other residential development. Therefore, any potential cumulative impact on the visual character of the Airport area is considered *less than significant*.

2.1.4 Significance of Impacts Prior to Mitigation

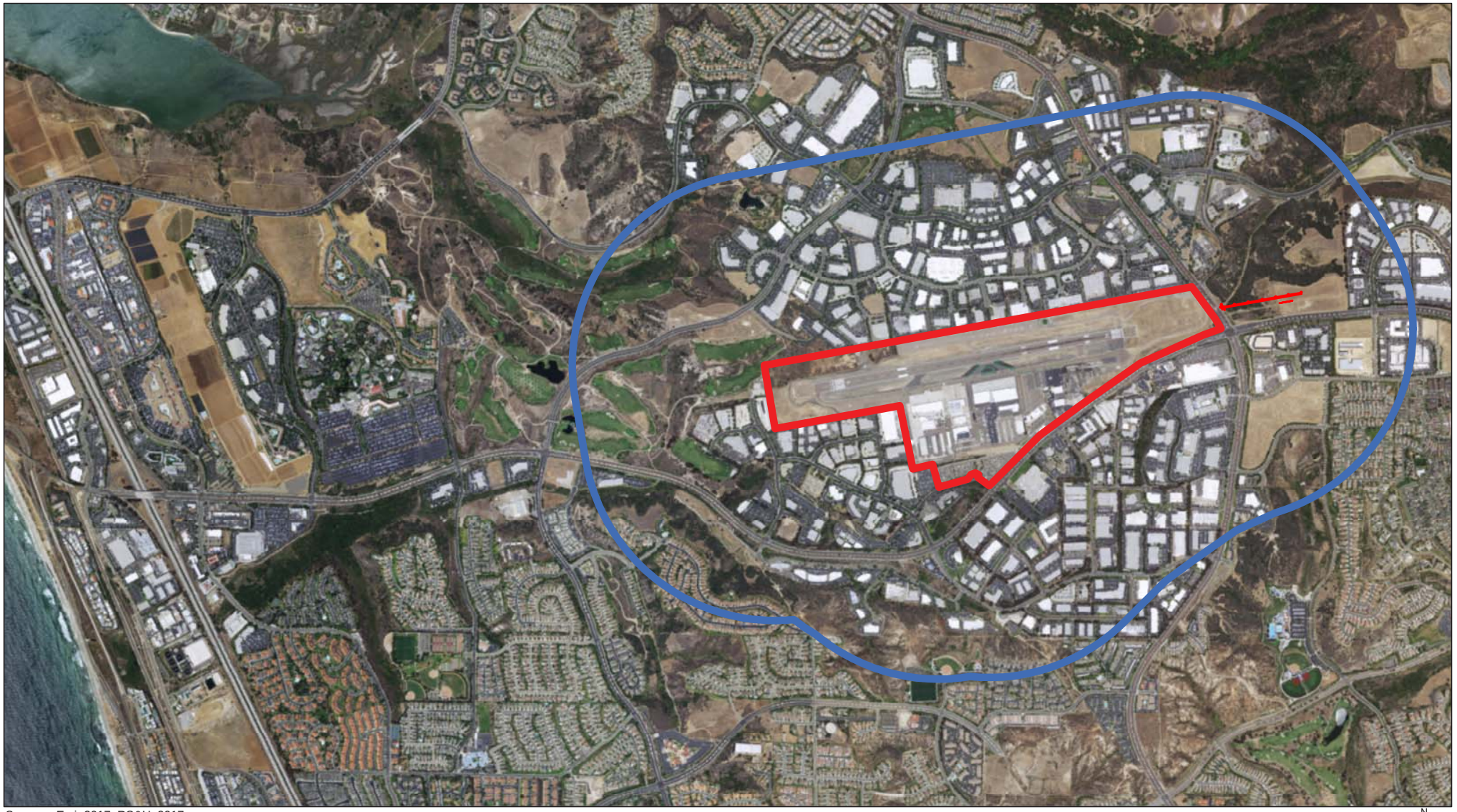
AE-1: Introduction of a retaining wall along the southern slope at the Airport's east end would contrast with the existing visual character and quality of the Proposed Project site along Palomar Airport Road, which would be considered a significant impact.

2.1.5 Mitigation Measures

M-AE-1: Detailed engineering design plans would be developed once funding is identified for the project-specific element regarding the extension of Taxiway A. The future retaining wall would be designed in consideration of the *City of Carlsbad Scenic Corridor Guidelines* to the degree feasible since any modification of the inactive landfill slopes would require coordination and oversight by applicable State and local agencies (i.e., County Landfills Management Unit, LEA, and RWQCB). Due to the rules and restrictions of these agencies, it is anticipated that future aesthetic treatments would be potentially limited to the façade of the future retaining wall.

2.1.6 Conclusion

Although there would be a minor alteration to the existing visual character with the landside improvements associated with the Proposed Project, the development would still be consistent with the existing Airport character and the overall viewshed, including sources of light and glare. While the installation of a retaining wall along the Airport's southern edge would potentially result in a significant adverse change to the visual character of the viewshed, implementation of Mitigation Measure M-AE-1 would reduce impacts related to design and construction of the retaining wall to a level less than significant. Additionally, the viewers' response to construction and implementation of the Proposed Project would be temporary and transient due to the fact that the primary viewers are motorists travelling along Palomar Airport Road. There are no scenic vistas within the viewshed and the Proposed Project would be consistent with applicable goals, policies, and ordinances. Therefore, implementation of the Proposed Project would result in *less than significant impacts* to aesthetics and visual resources.



Sources: Esri, 2017; RS&H, 2017

0 0.5 1 Miles

N W E S

Legend

Proposed Project site

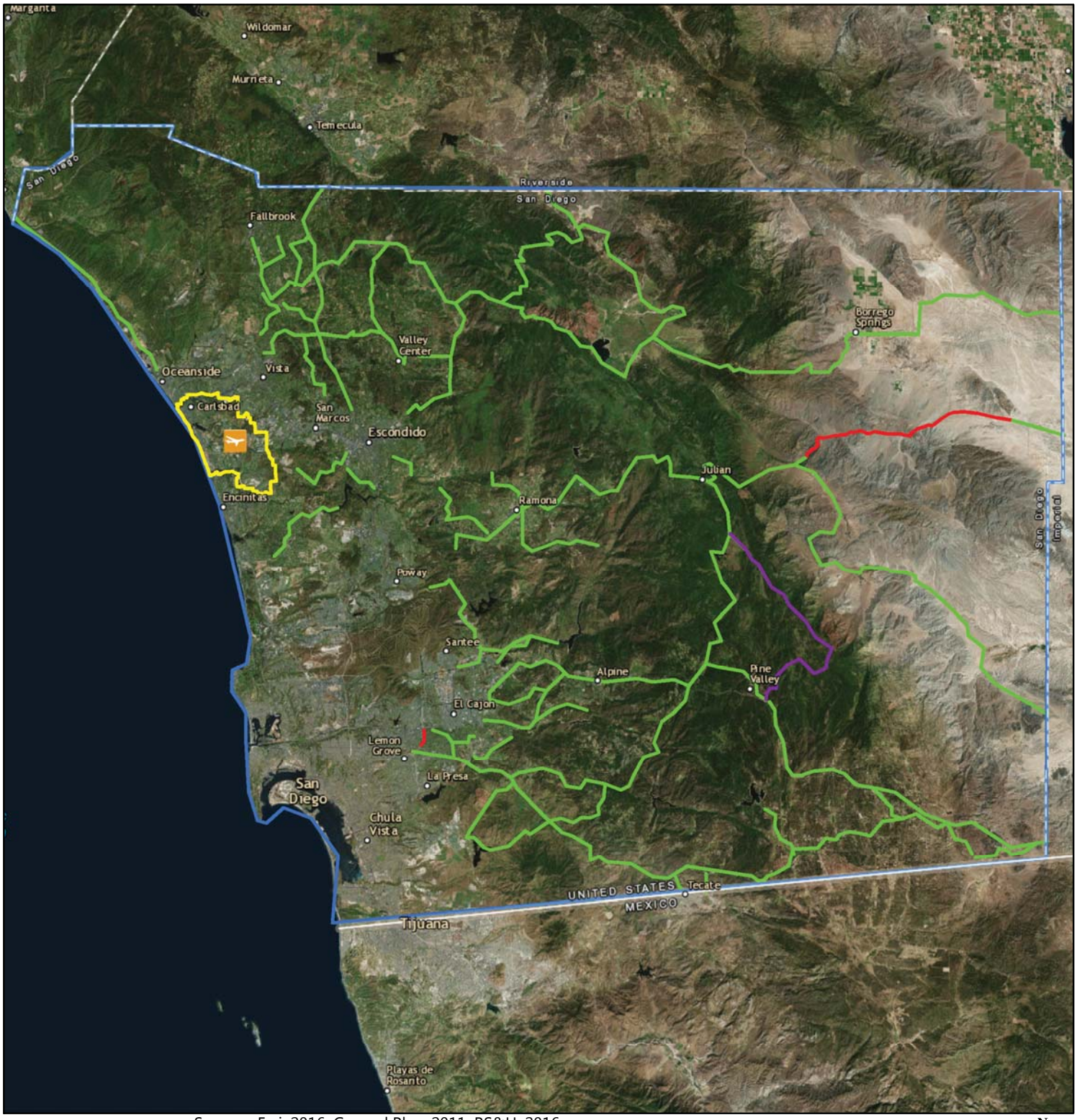
Proposed Project Viewshed

McClellan-Palomar Airport Master Plan Update
Program EIR

Viewshed

Figure 2.1-1

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Sources: Esri, 2016; General Plan, 2011; RS&H, 2016

0 15 30 Miles

N
W E
S

Legend

- San Diego County Boundary
- City of Carlsbad
- Airport
- State Designated Highway
- National Scenic Byway
- County Designated Scenic Highway

McClellan-Palomar Airport Master Plan Update
Program EIR

Scenic Highways
Figure 2.1-2

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2.2 Biological Resources

This section addresses potential impacts of the Proposed Project on biological resources. A Biological Resources Technical Report (BTR) was prepared for the Proposed Project to inventory the extent and location of resources (Appendix B). An addendum was added to the BTR in May 2018 to evaluate impacts associated with potential shifts in the FAA-owned Medium-intensity Approach Lighting System (MALSR) navigational lighting structures on the Eastern Parcel (HELIX 2018).

Biological resources data presented in this section include information obtained through a search of sensitive species and habitats databases for sensitive species known to occur within two miles of the project site, including the USFWS species records (USFWS 2016), CDFW California Natural Diversity Database (CDFW 2016), and California Native Plant Society Electronic Inventory (2016). Previous biological studies also were reviewed (AMEC Earth & Environmental, Inc. 2009 and 2005). Recent aerial imagery, topographic maps, soils maps (Natural Resource Conservation Service [NRCS] 2016 and Bowman 1973), and other maps of the project site and vicinity were acquired and reviewed to obtain updated information on the natural environmental setting.

General biological surveys of the project site were conducted according to County requirements (County of San Diego 2010a) by HELIX on March 22, March 29, and October 13, 2016. In addition to the general biological surveys, HELIX conducted 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 2.2-1 provides a summary of biological surveys conducted for the Proposed Project.

In accordance with 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.

Although most of the Airport is developed, 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 in this section 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 Update projects, the exact impact area will be compared against the inventory of biological resources in the BTR. Additional analysis under CEQA will be required for projects at the time that they are designed and proposed.

2.2.1 Existing Conditions

The Proposed Project site has been under active ongoing aviation operations since opening in 1959. The vast majority of the project site consists of developed lands and disturbed habitat, and unpaved areas surrounding aircraft movement areas are regularly mowed and maintained to maximize visibility and minimize fire and flooding risks. The only native habitat at the Airport occurs in the northwestern corner where small areas of Diegan coastal sage scrub and chamise chaparral are present. The aircraft movement areas and fixed-base operators (FBOs) are located on a mesa, and just north and west of the end of the runway, the topography drops considerably towards the property line. Portions of the Airport are underlain by three cells of an inactive landfill and associated infrastructure.

County-owned lands east of El Camino Real and north of Palomar Airport Road are known as the Eastern Parcel, and consist of industrial uses, vacant land, and existing preserve land. The FAA owns and operates existing MALSR navigational lighting structures both on the active airfield and on the Eastern Parcel. The FAA is the sole responsible agency for all aspects of the navigational aid lighting systems at the Airport (i.e., layout and placement of structures according to FAA design standards, property ownership, maintenance, etc.). If the runway is shifted and/or extended, relocation of the existing structures is a potentially foreseeable federal action. The FAA has an existing lease with the County for the current MALSR system at the Eastern Parcel, and FAA has the ability to manage the structures as they deem necessary for airport safety.

The project site is located within the boundaries of the County's Draft North County Multiple Species Conservation Program (NC MSCP) Plan, which has not yet been approved or adopted. As shown in Figure 2.2-1, the project site has draft designations as Pre-negotiated Take Authorized Areas, Pre-approved Mitigation Area (PAMA), and areas outside of the PAMA. Take Authorized areas identify pre-negotiated development projects that have been coordinated with County and Wildlife Agencies to develop designs that are compatible with preservation. The Airport's Take Authorized Area was identified for infrastructure improvements including the northerly shift of the vehicle service road and runway, as well as a phased runway extension. Lands designated as a PAMA are "areas identified with high biological value in which conservation will be encouraged." Impacts are allowed within the PAMA designation, but require a higher mitigation ratio than areas pre-negotiated for development.

Only a small corner of the Airport in the northwest corner and portions of the Eastern Parcel are within proposed PAMA areas. The majority of the Airport and studied portions of the Eastern Parcel occur outside of lands identified as PAMA under the Draft NC MSCP Plan (Figure 2.2-1).

As noted above, the Eastern Parcel contains preserved lands. Specifically, Conservation Easement Deed #2004-1123441 was authorized by the County Board of Supervisors on June 23, 2004 (08), subsequently approved on October 14, 2004, and recorded on November 30, 2004. As shown on Figure 2.2-5, the existing Conservation Easement would not be impacted by the Proposed Project.

2.2.1.1 Regulatory Setting

Federal

Federal Endangered Species Act

Administered by the USFWS, the Federal Endangered Species Act (FESA) provides the legal framework for the listing and protection of species (and their habitats) 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. A total of 11.7 acres of designated critical habitat for coastal California gnatcatcher is present in the northwest portion of the Airport (Figure 2.2-2), and 0.33 acre of designated critical habitat for San Diego thornmint (*Acanthomintha ilicifolia*) is present in areas of the Eastern Parcel.

Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the federal Migratory Bird Treaty Act (MBTA), as amended under the Migratory Bird Treaty Reform Act of 2004 (Federal Register [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 15 to September 15). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

State

California Endangered Species Act

The California Endangered Species Act (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 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 (California Fish and Game [CFG] Code Section 2080.1[a]). If consultation with USFWS is conducted under FESA and a determination is issued, CDFW can issue a Consistency Determination stating a project would also comply with CESA.

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.

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 also protected by CFG Code Section 3503.5, which similarly 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.

Natural Communities Conservation Planning Act

The Natural Communities Conservation Plan (NCCP) program is a cooperative effort to protect habitats and species. It began under the State's NCCP Act of 1991. This law is designed to identify and protect individual species that have already declined significantly in number.

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.

The Proposed Project is predominately designated as a Take Authorized development project under the Draft NC MSCP. This designation is for projects that have planned development footprints that have been factored into the Draft NC MSCP's conservation analysis. The USFWS, CDFW, and County met several times from November 2005 through August 2010 to discuss hardline requirements for the Proposed 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 in Appendix B to this PEIR. Mitigation for impacts to sensitive vegetation communities described herein is consistent with the mitigation strategy outlined in the 2011 letter. The agreed-upon designations are illustrated in Figure 2.2-1. However, if the draft NC MSCP is not adopted prior to implementation of specific projects under the Master Plan Update, issuance of a Habitat Loss Permit (HLP) would be required for any impacts to coastal sage scrub. The HLP process is discussed further below.

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.

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 or a waiver, which are the Porter-Cologne version of a CWA 401 Water Quality Certification.

Local

City of Carlsbad – Habitat Management Plan

The City's Habitat Management Plan (HMP) was initially adopted in December 1999 and most recently updated in November 2004. The purpose of the HMP is to guide the design, management, monitoring, and public use of the natural open space preserve system within the City of Carlsbad. The HMP is part of a regional planning effort to create an interconnected system of open space lands that will function at the ecosystem level. The HMP constitutes the city's subarea (city-specific) plan within the Multiple Habitat Conservation Program (MSCP) Subregional Plan for north coastal San Diego County (City of Carlsbad 2017a). Figure 2.2-1 depicts HMP designations in proximity to the Airport.

San Diego County Biological Mitigation Ordinance

The San Diego County Biological Mitigation Ordinance (BMO) is the mechanism by which the County implements the MSCP. Compliance with the BMO allows the County to issue Incidental Take Permits for projects that involve impacts to sensitive habitats. The BMO outlines the criteria for avoidance of impacts to sensitive biological resources and the mitigation requirements for projects requiring a discretionary permit.

Habitat Loss Permit Ordinance

The HLP Ordinance was adopted by the County in March of 1994 (County of San Diego 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. In the event a specific project has no impacts to coastal California gnatcatcher, an HLP may still be required to demonstrate that the loss of coastal sage scrub would not jeopardize the coastal California gnatcatcher population. 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. An HLP is not required for projects within the boundaries of the MSCP that have an adopted subarea plan since take authorization of coastal California gnatcatcher (*Polioptila californica californica*) 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.

2.2.1.2 Habitat Types/Vegetation Communities

Eight vegetation communities/habitat types occur in the Proposed Project site and Eastern Parcel (Figure 2.2-3). This section describes vegetation communities located within the site.

Disturbed Habitat (11300)

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 of San Diego 2010a).

Disturbed habitat at the Airport and the Eastern Parcel 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 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 within the Airport and Eastern Parcel.

Southern Maritime Chaparral (37C30)

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 the Eastern Parcel include Nuttall's scrub oak and chamise. This is the dominant habitat type on the Eastern Parcel occupying 9.8 acres within the study area.

Non-Native Grassland (42200)

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 Eastern Parcel totaling 4.3 acres. Characteristic species observed include Mediterranean barley (*Hordeum murinum*), ripgut grass (*Bromus diandrus*), oats (*Avena* sp.), red brome (*Bromus madritensis*), and star-thistle (*Centaurea melitensis*).

Vernal Pool (44000)

Vernal pools are ephemeral wetlands that form in small pools and swales as a result of a subsurface hardpan or claypan that inhibits the percolation of water. A total of 18 vernal pools of varying sizes were identified and mapped in the northwestern portion of the Airport. 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 (Figure 2.2-4; Table 2.2-2). This vernal pool complex lies alongside the airport service road and an operations staging area. The pools receive runoff water from these paved surfaces during storm events, and some may be created by maintenance truck tire ruts.

Diegan Coastal Sage Scrub (including Disturbed) (32500)

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. This habitat is restricted to the northwestern portion of the Airport and totals 10.1 acres.

Granitic Chamise Chaparral (37210)

Chamise chaparral is the most widely distributed chaparral subtype and is dominated by the species chamise. This vegetation community is found from Baja California, Mexico, to northern California in pure or mixed stands.

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.

Non-native Vegetation (11000)

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. Onsite, this habitat consists of a small stand of acacia in the northwestern portion of the Airport, totaling 1.8 acres.

Urban/Developed (12000)

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 runway. A total of 156.5 acres of urban/developed land occur onsite.

2.2.1.3 Special Status Plant Species

Four special status plant species were observed on the Airport: ashy spike-moss (*Selaginella cinerascens*), Palmer's grapplinghook (*Harpagonella palmeri*), vernal barley (*Hordeum intercedens*), and western dichondra (*Dichondra occidentalis*). In addition, the Eastern Parcel contains Nuttall's scrub oak (*Quercus dumosa*) and critical habitat for San Diego thornmint (*Acanthomintha ilicifolia*) as designated by the USFWS.

2.2.1.4 Special Status Wildlife Species

Two special status animal species were observed on the project site during biological surveys conducted for the project: California horned lark (*Eremophila alpestris actia*) and coastal California gnatcatcher.

Raptor Foraging

The County defines raptors as birds of prey such as eagles, hawks, falcons, and owls. Their foraging habitat consists of, "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.)" (County 2010a). After conducting biological surveys of the Airport, no raptors nests and no burrows were observed onsite.

Red-tailed hawk (*Buteo jamaicensis*) was the only raptor species observed on-site passing overhead during biological surveys conducted for the Proposed Project. This species was observed flying over the western portion of the Airport. The red-tailed hawk is the most widespread bird of prey in San Diego County and in the U.S. This species uses any open area for foraging, despite disturbance, and will take advantage of small patches of undeveloped land, although they favor grasslands with scattered trees. This species is known to tolerate considerable urbanization. Although red-tailed hawk was observed flying over the Airport, this 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 as potential raptor foraging habitat.

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*).

2.2.1.5 Jurisdictional Waters and Wetlands

The Proposed Project site supports areas that could potentially be considered jurisdictional waters or wetlands by the USACE, RWQCB, and CDFW. These include vernal pools occurring in the northwest portion of the Airport (Figure 2.2-4), which are the only wetland habitat observed at the Airport during the general biological surveys. No potentially jurisdictional non-wetland waters of the U.S./ephemeral streambed were observed on the Airport. A jurisdictional delineation would be required to map the extent of potential USACE, RWQCB, and CFDW jurisdiction once individual projects are proposed under the Airport Master Plan Update.

A total of 18 vernal pools were mapped on the project site, all of which occur within a narrow rectangular area in the northwest portion of the Airport (see Table 2.2-2; Figure 2.2-4). 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 onsite during USFWS protocol surveys for the species.

U.S. Army Corps of Engineers

Potential waters of the U.S. located at the Airport under the potential jurisdiction of the USACE pursuant to Section 404 of the CWA include vernal pools. Coordination with the USACE regarding whether the onsite vernal pools would be regulated under the CWA would occur at the time that individual projects are designed and proposed for construction. If onsite 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. located at the Airport 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 onsite 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 would occur at the time that individual projects are funded and proposed for construction.

California Department of Fish and Wildlife

There are no potential waters of the State under the jurisdiction of the CDFW pursuant to Section 1600 et seq. of CFG Code located at the Airport. Vernal pools are not regulated by CDFW under Sections 1600 of the CFG Code; therefore, any impacts to vernal pools would not require a Streambed Alteration Agreement.

2.2.1.6 Habitat Connectivity and Wildlife Corridors

Wildlife corridors connect 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.

The draft PAMA designation 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 occurs mostly outside of lands identified as PAMA under the Draft NC MSCP Plan (Figure 2.2-1). As stated in Section 2.2-1, only a small corner of the Airport is within proposed PAMA.

With respect to wildlife movement, the northwestern corner of the Airport 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 of Carlsbad 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 of Carlsbad 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 City's HMP Linkage F is known to support several nesting gnatcatcher pairs.

Relocation of the existing access road and MALSR navigational lighting system 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. The existing access road is a narrow, restricted-use, very low-volume facility that would not have fencing or other potential impediments to wildlife movement or interrupt visual continuity. The MALSR currently exists on the Eastern Parcel, and the shift of the lighting would not substantially increase nighttime lighting in this area. Impacts from both the access road and MALSR would be less than significant.

2.2.1.7 Indirect Impacts

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. The entirety of the active airfield is surrounded by 8-to-10-foot chain-link fence that is regularly inspected for security and wildlife exclusion purposes. Project implementation would not substantially increase the existing ongoing night lighting levels at the Airport, which is required by the FAA for safety and as navigational aids. The area is also subject to existing light pollution from adjacent streets and development. The Airport is required by its WHMP to preclude wildlife movement onto the airfield for safety of both the aircraft operators and the wildlife. There are no changes proposed to the exclusionary fencing or policies, and accordingly it is anticipated that continuation of the lighting would not have a significant indirect impact on wildlife. Shift of the Airport lighting system, including the existing

MALSR on the Eastern Parcel, 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.

Noise

Construction-related noise from sources such 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 A-weighted decibels (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 project 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.

2.2.2 Analysis of Project Effects and Determination of Significance

The significance thresholds for biological resources are based specifically on criteria provided in the County's Guidelines for Determining Significance for Biological Resources (County of San Diego 2007a), which were adapted from Appendix G of the CEQA Guidelines.

A significant impact to biological resources would occur if the Proposed Project would:

- 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?
- 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?
- 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?
- 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?
- 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 Habitat Conservation Plan (HCP), NCCP, or other approved local, regional, or state HCP?

2.2.2.1 Special Status Species

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- 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?

Analysis

Special Status Plant Species

The project would result in impacts to five special status plant species; three are County List D species (ashy spikemoss, Palmer's grapplinghook, and western dichondra), one is County List C species (vernal barley), and one is a County List A species (Nuttall's scrub oak). None of these species are federal or state listed. In addition, the Proposed Project would result in impacts to critical habitat for San Diego thorn-mint, which is a federal threatened, state endangered, County List A, and California Rare Plant rank (CRPR) 1B.1 species. However, no impacts to San Diego thorn-mint species would occur as further discussed below.

Ashy Spikemoss

Construction of the vehicle service road and shift of the runway in the northwestern portion of the Airport 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 occurs in other on-site locations outside of the Proposed Project footprint. Thus, impacts to ashy spikemoss would be less than significant.

Nutall's Scrub Oak

While relocation of the MALSR lighting and related navigational aids would be undertaken by the FAA, it is a potentially foreseeable action associated with the Master Plan Update. As such, this component on the Eastern Parcel would impact 0.3 acre of southern maritime chaparral dominated by Nuttall's scrub oak. The County's Guidelines for Determining Significance for Biological Resources state that impacts to a County List A species (such as Nuttall's scrub oak) would be considered less than significant if impacts constitute "less than five percent of the individual plants or of the sensitive species' habitat" (County of San Diego 2007a).

The Eastern Parcel study area contains 9.8 acres of scrub oak-dominated southern maritime chaparral. Because the Proposed Project would impact 0.3 acre, which represents three percent of the total Nuttall's scrub oak habitat onsite, the Proposed Project would result in a less than significant impact. Thus, the Proposed Project would not have a substantial adverse effect on the local long-term survival of Nuttall's scrub oak as impacts would be less than five percent. Approximately 9.5 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.

Palmer's Grapplinghook

Construction of the vehicle service road and shift of the runway in the northwestern portion of the Airport would impact scattered patches of Palmer's grapplinghook. The local long-term survival of this species would not be impacted, as the Proposed 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. Therefore, impacts to Palmer's grapplinghook would be 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 Project impact area (including the Eastern Parcel), and the nearest location is approximately 85 feet north of the proposed relocated MALSR lighting system. Thus, implementation of the Proposed Project 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 biological study area on Eastern Parcel, with an additional 49.3 acres of critical habitat occurring adjacent to the Eastern Parcel 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, as 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.

Therefore, although the Proposed Project would impact 0.33 acre of critical habitat for San Diego thorn-mint, it is considered less than significant because individuals of the species would not be impacted nor would it represent an adverse modification to the critical habitat. 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.

Western Dichondra

Construction of the vehicle service road and shift of the runway in the northwestern portion of the Airport would impact one patch of western dichondra. The local long-term survival of this species would not be impacted, as this species is relatively widespread in the region, and is likely present on nearby preserved lands. Thus, impacts to western dichondra would be less than significant.

Vernal Barley

Construction of the vehicle service road and shift of the runway in the northwestern portion of the Airport would impact one isolated patch of vernal barley. The local long-term survival of this species would not be impacted, as this species is relatively widespread in the region, and is likely present on nearby preserved lands. Thus, impacts to vernal barley would be less than significant.

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 the northwestern portion of the Airport during 2016 protocol surveys, and a second pair was observed just off site to the north. Construction of the vehicle service road and future shift of the runway in the northwestern portion of the Airport would impact 3.1 acres of occupied Diegan coastal sage scrub. Additionally, construction noise would have the potential to displace Coastal California gnatcatcher from nests within suitable habitat adjacent to construction activities. Therefore, impacts to Coastal California gnatcatcher would be considered significant (BI-1).

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, which would be impacted by the future shift of the runway in the northwestern portion of the Airport. However, the Proposed Project site does not contain a regionally significant population of horned lark and impacts would not affect the local long-term survival of this species. Therefore, impacts to California horned lark would be *less than significant.*

Raptors

As discussed above, the only raptor observed flying over the Airport was red-tailed hawk, and this 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. Therefore, impacts to open lands would be limited to areas adjacent to the active airfield that are subject to the Airport's WHMP program and are unlikely to support a prey base for foraging raptors. Although the Proposed Project would impact 0.3 acre of non-native grassland in the Eastern Parcel, the impact to potential foraging habitat for raptors would be negligible. As such, impacts to foraging habitat for raptors would be *less than significant*.

2.2.2.2 Riparian Habitat or Sensitive Natural Communities

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- 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?

Analysis

Implementation of the Proposed Project would result in direct impacts to approximately 4.26 acres of sensitive natural communities, including 0.36 acre of vernal pool, 3.1 acres of Diegan coastal sage scrub (including disturbed), 0.2 acre of granitic chamise chaparral, 0.3 acre of southern maritime chaparral, and 0.3 acre of non-native grassland. Table 2.2-3 provides a summary of project impacts to vegetation communities/habitat types, including sensitive habitat. The impacts are separated into pre-approved mitigation area (PAMA)/preserve, take authorized, and outside PAMA pursuant to the Draft NC MSCP. The 18.8-acre biological study area on the Eastern Parcel consists of County-owned open space that is designated as a combination of Preserve and PAMA under the Draft NC MSCP Plan. Descriptions of these impacts are provided below.

The Proposed Project would impact 3.1 acres of Diegan coastal sage scrub. These impacts would occur in association with construction of the vehicle service road, shift of the runway in the northwestern portion of the Airport, and future EMAS. A total of 2.5 acres of impact 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. As a result, impacts to Diegan coastal sage scrub would be considered *significant* (BI-2).

The Proposed 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 shift of the runway in the northwestern portion of the Airport. Vernal pool impacts would occur within lands identified as Take Authorized in the Draft NC MSCP Plan and would be considered *significant* (BI-3).

The Proposed Project would impact 0.2 acre of granitic chamise chaparral. These impacts would occur in association with construction of the Precision Approach Path Indicator for future runway relocation in the northwestern portion of the Airport. All impacts would occur within lands identified as Take Authorized in the Draft NC MSCP Plan. Impacts to this native plant community would be considered *significant* (BI-4). 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.

The Proposed Project would impact 0.3 acre of southern maritime chaparral. These impacts would occur in association with relocation of the existing MALSR navigational lighting system,

on the Eastern Parcel. Impacts would occur within lands identified as PAMA in the Draft NC MSCP Plan. This impact would be *significant* according to County Guideline 4.1.A (BI-7).

The Proposed Project would impact 0.3 acre of non-native grassland. These impacts would occur in association with relocation of the existing MALSR navigational lighting system on the Eastern Parcel. Impacts would occur within lands identified as PAMA in the Draft NC MSCP Plan. This impact would be *significant* according to County Guideline 4.1.A (BI-8).

Approximately 1.4 acres of impact would occur within areas identified as PAMA in the Draft NC MSCP Plan, of which 0.3 acre is disturbed habitat or developed land, 0.6 acre is Diegan coastal sage scrub, 0.3 acre is southern maritime chaparral, and 0.2 acre of non-native grassland whose impacts are analyzed above. Impacts proposed within PAMA are in the Eastern Parcel and the far northwest corner of the Airport, where a small area of PAMA is mapped adjacent to Take Authorized lands and areas outside PAMA (Figure 2.2-1). All other proposed impacts would occur within Take Authorized lands or areas identified as outside PAMA under the Draft NC MSCP and would be considered *less than significant*.

2.2.2.3 Jurisdictional Wetlands

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- 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?

Analysis

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. As described in Section 2.2.2.2, the Proposed Project would impact 0.36 acre of areas mapped as vernal pool habitat (Table 2.2-2), located entirely within the northwestern portion of the Airport. 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.

Impacts to this 0.36 acre of vernal pool habitat may be considered federal wetland by the USACE. Individual future projects that could impact vernal pools would require coordination with the USACE regarding whether the on-site vernal pools would be regulated under the CWA at the time they are funded and proposed for construction. If on-site vernal pools impacted by future individual projects are determined to be wetlands regulated pursuant the CWA, these impacts would be considered *significant* (BI-5).

2.2.2.4 Wildlife Movement and Nursery Sites

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- 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?

Analysis

The Proposed Project site includes an active airfield and does not serve as a nursery site, thus, no impact to nursery sites would occur.

Outside of the active airfield, relocation of the 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 tall exclusionary 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.

The Airport is subject to a WHMP that 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 would not substantially change the current use of the project site; the perimeter would remain fully fenced, and is not currently considered a wildlife movement corridor. Habitat in the northwestern corner of the Airport functions as a small extension of Linkage F, identified in the 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. Similarly, the project site 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. Additionally, 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. The Proposed Project would not impede wildlife access to on-site areas necessary for reproduction, as sufficient habitat would be avoided on site, and would not further constrain existing connections to off-site lands. Implementation of the Proposed Project would impact small portions of stepping-stone gnatcatcher habitat in the northwestern portion of the Airport, but would not preclude birds from continuing to use the local 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. Therefore, impacts on wildlife movement would be *less than significant*.

2.2.2.5 Local Policies, Ordinances, and Adopted Plans

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- 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, or other approved local, regional or state HCP?

Analysis

No adopted HCP, Resource Management Plan, Special Area Management Plan, Watershed Plan, or other regional planning efforts are applicable to the Proposed Project. Although the project is located within the boundaries of the Draft NC MSCP, there is no adopted NCCP; therefore, the County's BMO does not currently apply. Although 1.4 acres occur within lands identified as PAMA or preserve under the Draft North County Plan, the majority of the Airport is identified as Take Authorized or lands otherwise outside of PAMA. A small area in the northwestern corner is not critical for assemblage of regional habitat preserves, particularly considering the existing preserve lands northwest of the Airport and the large areas of PAMA that would remain unaffected on County-owned lands within and adjacent to the Eastern Parcel. As identified by the City HMP, the Airport is located adjacent to lands designated as "Future Preserve Proposed Hardline" and "Established Private and City-owned Preserve." However, implementation of the Proposed Project is confined to the existing Airport boundary, including the Eastern Parcel, and would not encroach or impact these lands. Furthermore, the Proposed Project would not preclude additional preservation of adjacent or nearby habitat under the HMP.

The Proposed Project will permanently impact 3.1 acres of Diegan coastal sage scrub (including disturbed Diegan coastal sage scrub) outside an approved NCCP (i.e., MSCP) area. As part of the NCCP process, the County was allocated 2,953.3 acres of coastal sage scrub impacts outside of the boundaries of the MSCP. This constitutes the County's five percent habitat loss allowance. As of September 2018, impacts totaling 1,316.95 acres have been recorded or are pending, leaving approximately 1,636.35 acres of allowed coastal sage scrub impacts remaining. Therefore, impacts to 3.1 acres of coastal sage scrub would not exceed the five percent threshold. Should the impact occur after adoption of the NC MSCP, conformance with the adopted plan will be documented at the time project-specific impacts are proposed. Therefore, the Proposed Project would not conflict with local policies or ordinances protecting biological resources of an adopted HCP or NCCP.

Implementation of the project could require construction during the avian breeding season, which could potentially result in impacts to migratory birds, 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. Therefore, the project could conflict with the MBTA and result in impacts that would be considered *significant* (BI-6).

2.2.3 Cumulative Impact Analysis

The Proposed Project has the potential to contribute to the cumulative impact on coastal California gnatcatcher and raptors (i.e., loss of foraging habitat). However, the project site is within County-owned lands that are surrounded by the City of Carlsbad, which has an approved subarea plan (City's HMP). Cumulative losses in the project vicinity have been addressed by the implementation of the City's HMP. Although the project could contribute to a significant impact on special status wildlife species, these impacts would be fully mitigated in accordance with mitigation measures M-BI-1a trough M-BI-1c below. Additionally, any impacts to coastal California gnatcatcher in a non-NCCP area would require FESA and CESA compliance. Direct and cumulative impacts would be fully mitigated under the jurisdiction and within the regional perspective of the wildlife agencies. Therefore, the Proposed Project's contribution to cumulative impacts on coastal California gnatcatcher would be less than significant.

The Proposed 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.

The Proposed Project would not impact wildlife movement or nursery sites. Consequently, no cumulative impact related to wildlife movement or nursery sites would occur. Similarly, the project would implement project design features and mitigation measures to reduce project-level impacts related to conflicts with MBTA to a level less than significant. 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. Therefore, no cumulative impacts related to conflicts with local policies or ordinances protecting biological resources would occur.

2.2.4 Significance of Impacts Prior to Mitigation

BI-1: The Proposed Project would impact coastal California gnatcatcher-occupied habitat resulting in the potential to impact California gnatcatcher nests. This would be considered a significant direct and indirect impact.

BI-2: The Proposed Project would impact 3.1 acres of Diegan coastal sage scrub (including disturbed). This would be considered a significant impact to the sensitive vegetation community.

BI-3: The Proposed Project would impact approximately 0.36 acre of areas mapped as vernal pool habitat. This would be considered a significant impact to the sensitive vegetation community.

BI-4: The Proposed Project would impact 0.2 acre of granitic chamise chaparral. This would be considered a significant impact to the sensitive vegetation community.

BI-5: The Proposed Project would impact approximately 0.36 acre mapped as vernal pool habitat that could be determined to be wetlands regulated pursuant the CWA during future coordination with USACE and applicable jurisdictional agencies. If these vernal pools are determined to be wetlands, this would be considered a significant impact.

BI-6: Construction activities may result in impacts to migratory birds or active migratory bird nests and/or eggs protected under the MBTA. This would conflict with the policies of the MBTA and be considered a significant impact.

BI-7: The Proposed Project would impact 0.3 acre of southern maritime chaparral. This would be considered a significant impact to the sensitive vegetation community.

BI-8: The Proposed Project would impact 0.3 acre of non-native grassland. This would be considered a significant impact to the sensitive vegetation community.

2.2.5 Mitigation Measures

The following mitigation measures would be incorporated into implementation of the Proposed Project (and as outlined in Tables 2.2-4 and 2.2-5). All biological resources under the jurisdiction of federal, state, and local regulations will be mitigated in consultation and oversight of the applicable regulatory agency.

Impact BI-1: Special Status Species: coastal California gnatcatcher

M-BI-1a: If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to coastal California gnatcatcher habitat (Diegan coastal sage scrub) shall occur at a 2:1 ratio in accordance with the adopted NC MSCP and mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through the preservation of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), 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 project impacts would occur, 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.

If grubbing or clearing of occupied Diegan coastal sage scrub must occur during the breeding season of the coastal California gnatcatcher (February 15–August 31), 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 M-BI-1b for mitigation for indirect noise effects).

M-BI-1b: 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 occur 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 (dB) 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.

Impact BI-2: Sensitive Natural Communities: Diegan coastal sage scrub

M-BI-2: If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to 3.1 acres of Diegan coastal sage scrub shall occur at a 2:1 ratio (if not otherwise mitigated as part of M-BI-1a) in accordance with the adopted NC MSCP and the mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through the preservation of 6.2 acres of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), or at another location deemed acceptable by the County and Wildlife Agencies.

If the NC MSCP is not adopted at the time project impacts would occur, mitigation for impacts to Diegan coastal sage scrub shall also occur at a 2:1 ratio pursuant to habitat mitigation ratios applied for areas outside of approved MSCP Plans as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010.

Impact BI-3: Sensitive Natural Communities: vernal pools

M-BI-3: If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts up to 0.36 acre of areas mapped as vernal pool habitat shall occur at a minimum 1:1 ratio in accordance with the adopted NC MSCP and mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through vernal pool creation/restoration 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 project impacts would occur, then mitigation for impacts to vernal pools shall occur at a 5:1 ratio pursuant to habitat mitigation ratios as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010. As required by the regulating agencies, including the USACE and RWQCB, impacts to vernal pools may require issuance of a CWA Section 404 permit and either a CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act Water Discharge Requirements (WDRs). Federally listed species have not been detected in onsite vernal pools, thus take authorization under the Endangered Species Act is not anticipated to be required.

Impact BI-4: Sensitive Natural Communities: granitic chamise chaparral

M-BI-4: If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to 0.2 acre of chamise chaparral shall occur at a 2:1 ratio in accordance with the adopted NC MSCP and mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through the preservation of 0.4 acre of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), or at another location deemed acceptable by the County and Wildlife Agencies.

If the NC MSCP is not adopted at the time project impacts would occur, then mitigation for impacts to granitic chamise chaparral shall occur at a 0.5:1 ratio pursuant to habitat mitigation ratios applied for areas outside of approved MSCP Plans as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010.

Impact BI-5: Wetlands

M-BI-5: On-site vernal pools impacted by future individual projects would be mitigated at a minimum 1:1 ratio per mitigation measure M-BI-3. If the NC MSCP is not adopted at the time project impacts would occur, then mitigation for impacts to vernal pools shall occur at a 5:1 ratio pursuant to habitat mitigation ratios as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010. As required by the regulating agencies, including the USACE and RWQCB, impacts to vernal pools may require issuance of a CWA Section 404 permit and either a CWA Section 401 Water Quality

Certification or State Porter-Cologne Water Quality Control Act WDRs. Federally listed species have not been detected in onsite vernal pools, thus take authorization under the Endangered Species Act is not anticipated to be required.

Impact BI-6: Policies or Ordinances (MBTA)

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.

Impact BI-7: Sensitive Natural Communities: southern maritime chaparral

M-BI-7: If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to 0.3 acre of southern maritime chaparral shall occur at a 3:1 ratio in accordance with the adopted NC MSCP and mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through the preservation of 0.9 acre of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), or at another location deemed acceptable by the County and Wildlife Agencies.

If the NC MSCP is not adopted at the time project impacts would occur, mitigation for impacts to southern maritime chaparral shall also occur at a 3:1 ratio pursuant to habitat mitigation ratios applied for areas outside of approved MSCP Plans as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010.

Impact BI-8: Sensitive Natural Communities: non-native grassland

M-BI-8: If NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to non-native grassland shall occur at the applicable ratio defined in the NC MSCP. The aforementioned joint letter from USFWS and CDFW (2011 Hardline letter) did not identify impacts or mitigation to non-native grassland.

If the NC MSCP is not adopted at the time project impacts would occur, mitigation for impacts to non-native grassland shall occur at a 0.5:1 ratio pursuant to habitat mitigation ratios applied for areas outside of approved MSCP Plans as defined by the County Guidelines for Determining Significance for

Biological Resources dated September 15, 2010. Mitigation for impacts to 0.3 acre of non-native grassland would occur through the preservation of 0.15 acre of non-native grassland on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), or at another location deemed acceptable by the County and Wildlife Agencies.

2.2.6 Conclusion

Implementation of the Proposed Project would have the potential to result in impacts to Special Status Species, Riparian Habitat or Sensitive Natural Communities, Jurisdictional Wetlands, and Local Policies, Ordinances, and Adopted Plans. However, consultation and permitting with applicable regulatory agencies, including implementation of mitigation measures M-BI-1a through M-BI-6 would reduce all impacts to biological resources to a level *less than significant*.

Table 2.2-1. Biological Surveys

Survey Type	Date		Personnel[1]
Year 2017			
Wet season fairy shrimp survey	March 17		Jason Kurnow
	March 10		
	March 2		Amy Mattson
	February 23		Jason Kurnow
	February 16		
	February 10		
	February 3		
	January 27		
	January 20		
	January 3		
	January 6		
	January 4		
Year 2016			
General biological survey, vegetation community/ habitat type mapping	October 13		Stacy Nigro
	March 29		Erica Harris, Stacy Nigro
	March 22		
Rare plant	June 6		Amy Mattson
	April 15		
	April 6		Stacy Nigro
Coastal California gnatcatcher	April 22	Survey 3	Erica Harris
	April 14	Survey 2	Erica Harris
	March 31	Survey 1	Erica Harris
Wet season fairy shrimp survey	December 23		Jason Kurnow
	December 19		
	November 29		
	November 22		
Year 2013			
Wildlife hazard assessment survey	December 19		Erica Harris
	December 16		
	November 26		
	November 18		
Year 2008			
Dry season fairy shrimp survey	October 1		Cheri Boucher, Brenna Ogg[2]
Year 2006			
Wet season fairy shrimp survey	April 6		Stan Spencer[3]
	March 26		
Year 2005			
Dry season fairy shrimp survey	August 6		Chuck Black[4]

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

Table 2.2-2. Vernal Pools Within Project Site

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)
VP-17	0.0016 (70)
VP-18	0.0027 (118)
TOTAL	**0.3609 (15,724)**

[1] Rounded to the nearest 0.0001 acre.

Table 2.2-3. Vegetation Community Impacts[1]

Vegetation Community[2]	Existing within the Study Area		IMPACTS[3]			
	Active Airfield	Eastern Parcel	Inside PAMA/ Preserve	Take Authorized	Outside PAMA	Total Impacts
Vernal Pools (44000)	0.36	0	0	0.36	0	**0.36**
Diegan Coastal Sage Scrub (including disturbed) (32500)	10.1	0	0.6	2.5	<01[4]	**3.1**
Granitic Chamise Chaparral (37210)	0.4	0	0	0.2	0	**0.2**
Non-native Vegetation (11000)	1.8	0	0	0.3	0.3	**0.6**
Southern Maritime Chaparral (37C30)	0	9.8	0.3	0	0	**0.3**
Non-Native Grassland (42200)	0	4.3	0.2	0.1	0	**0.3**
Disturbed Habitat (11300)	62.2	4.4	0.2	28.2	8.8	**37.2**
Developed Land (12000)	156.2	0.3	0.1	15.0	56.3	**71.4**
TOTAL	**231.1**	**18.8**	**1.4**	**46.66**	**65.4**	**112.83**

[1] Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats and other vegetation less than 1.0 acre are rounded to the nearest 0.01.
[2] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).
[3] Combined impacts from Active Airfield and Eastern Parcel. All impacts are anticipated to be permanent. Impacts are categorized in this table based on Draft NC MSCP designations for reference.
[4] Impacts to coastal sage scrub outside of PAMA total 0.01 acre.

Table 2.2-4. Mitigation of Vegetation Communities (with adoption of Draft NC MSCP)[1]

Vegetation Community[2]		Study Areas[3]	Total Impacts	Mitigation Ratio	Mitigation
Vernal Pools (44000)		0.36	0.36	1:1	0.36
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 Vegetation (11000)		1.8	0.6	n/a	0
Southern Maritime Chaparral (37C30)		9.8	0.3	3:1	0.9
Non-Native Grassland (42200)	Take Authorized[4]	4.3	0.05	0.5:1	0.03
	PAMA[4]		0.25	1:1	0.25
Disturbed Habitat (11300)		66.6	37.2	n/a	0
Developed Land (12000)		156.5	71.4	n/a	0
TOTAL		**249.9**	113.46		**8.14**

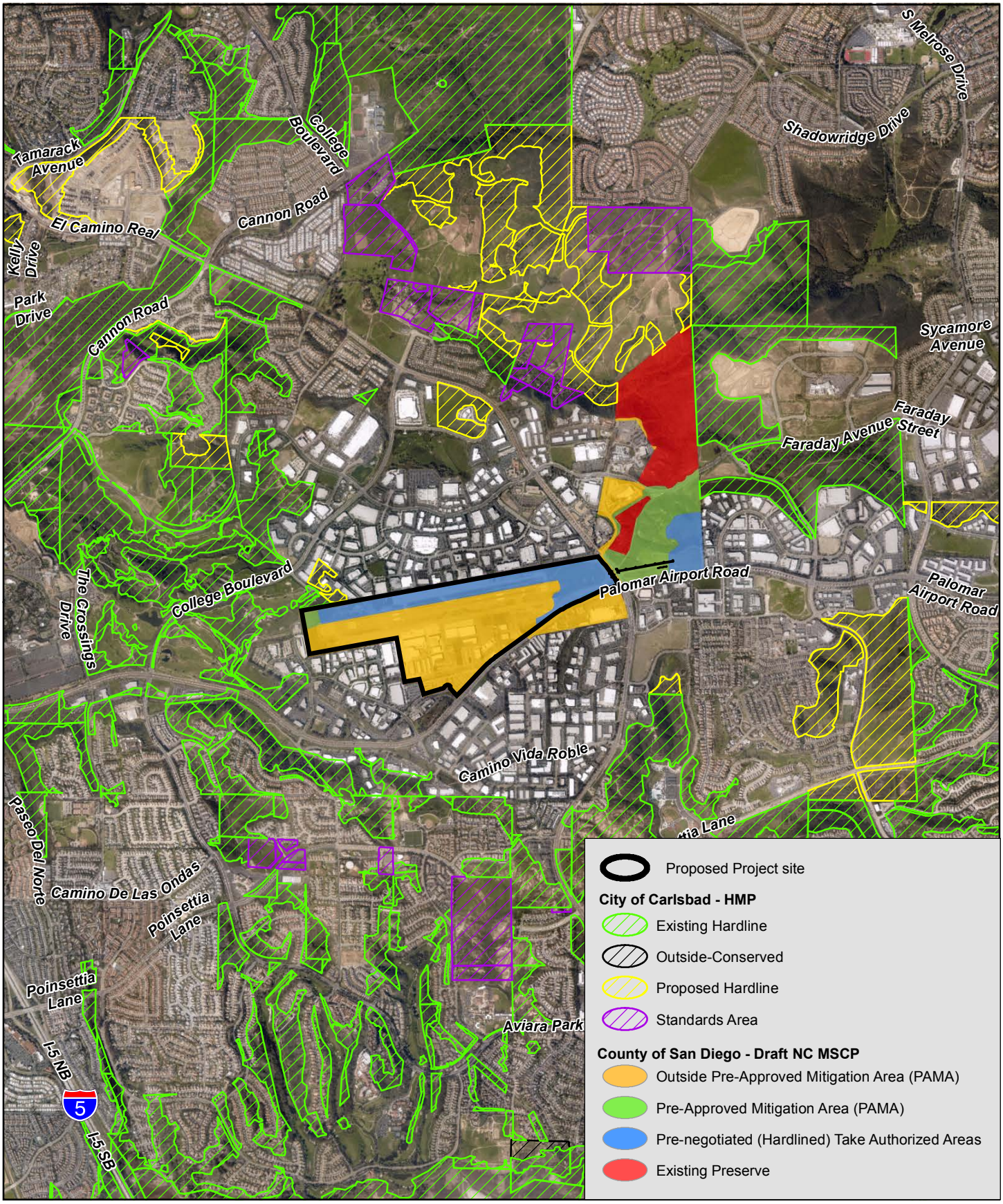
[1] All impacts and mitigation are reflected in acres. Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats and other vegetation less than 1.0 acre are rounded to the nearest 0.01.
[2] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).
[3] Includes Active Airfield and Eastern Parcel.
[4] Draft NC MSCP designations as of September 2018.

Table 2.2-5. Mitigation of Vegetation Communities (without adoption of Draft NC MSCP)[1]

Vegetation Community[2]	Study Areas[3]	Total Impacts	Mitigation Ratio	Mitigation
Vernal Pools (44000)	0.36	0.36	5:1	1.8
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 Vegetation (11000)	1.8	0.6	n/a	0
Southern Maritime Chaparral (37C30)	9.8	0.3	3:1	0.9
Non-Native Grassland (42200)	4.3	0.3	0.5:1	0.15
Disturbed Habitat (11300)	66.6	37.2	n/a	0
Developed Land (12000)	156.5	71.4	n/a	0
TOTAL	**249.9**	113.46		**9.15**

[1] All impacts and mitigation are reflected in acres. Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats and other vegetation less than 1.0 acre are rounded to the nearest 0.01.
[2] Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).
[3] Includes Active Airfield and Eastern Parcel.

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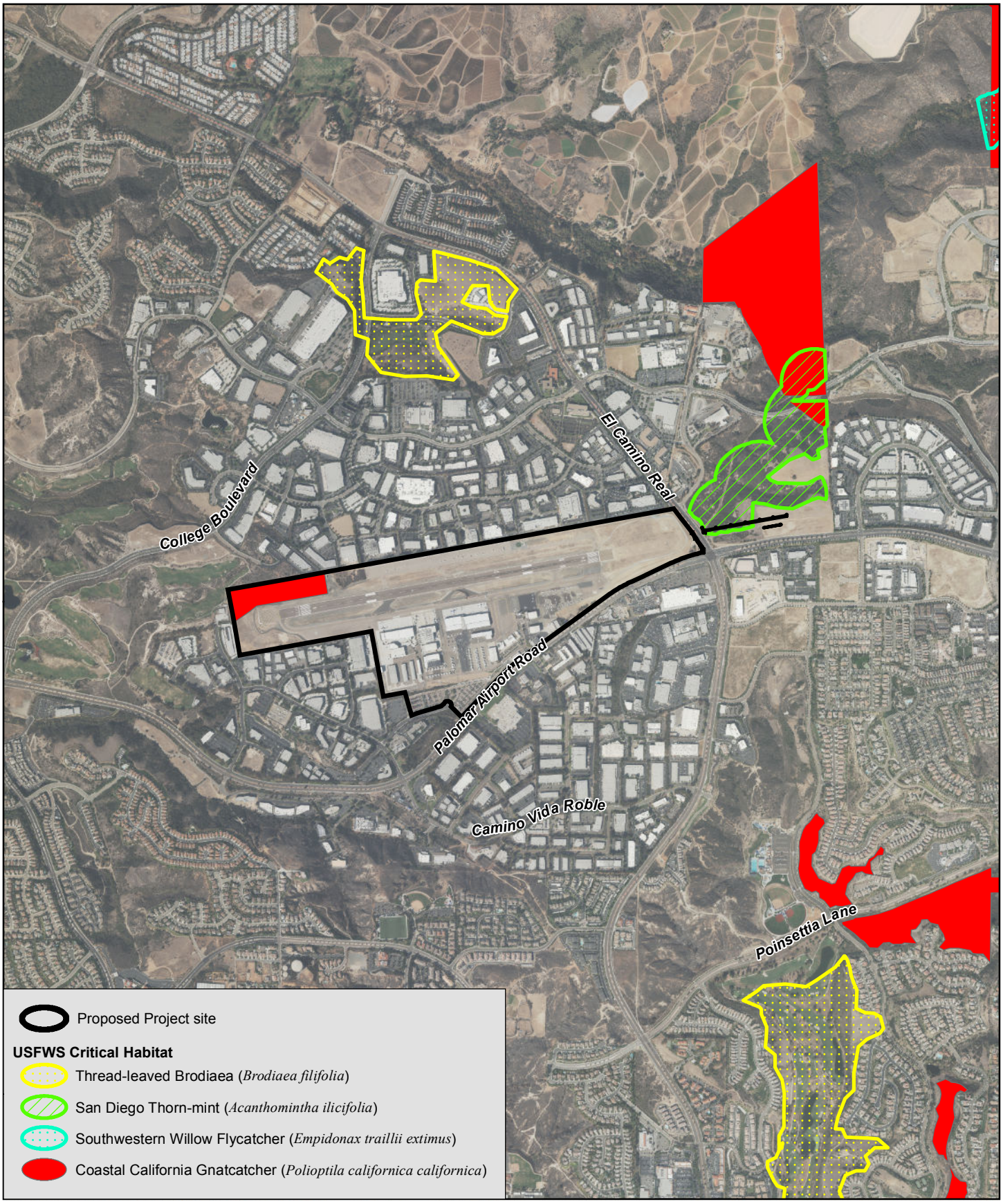
McClellan-Palomar Airport Master Plan Update
Program EIR

N 0 3,000 Feet

Regional Preserve Areas

Figure 2.2-1

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Source: Helix 2017

McClellan-Palomar Airport Master Plan Update
Program EIR

0 2,000 Feet

USFWS Critical Habitat

Figure 2.2-2

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Proposed Project site

Impact Footprint

Vegetation

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

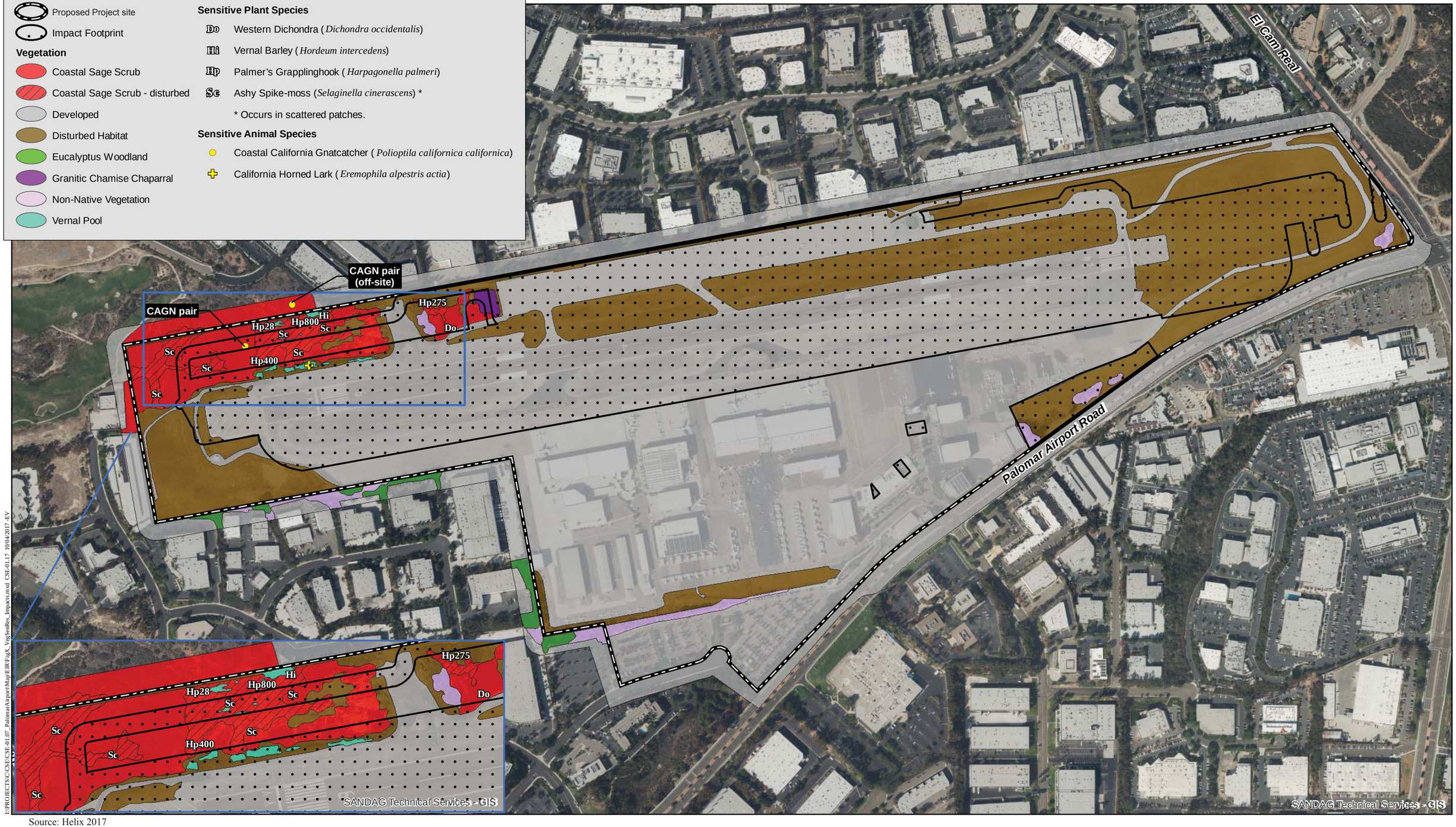
Sensitive Plant Species

- Do Western Dichondra (*Dichondra occidentalis*)
- Hi Vernal Barley (*Hordeum intercedens*)
- Hp Palmer's Grapplinghook (*Harpagonella palmeri*)
- Sc Ashy Spike-moss (*Selaginella cinerascens*) *

* Occurs in scattered patches.

Sensitive Animal Species

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



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Source: Helix 2017

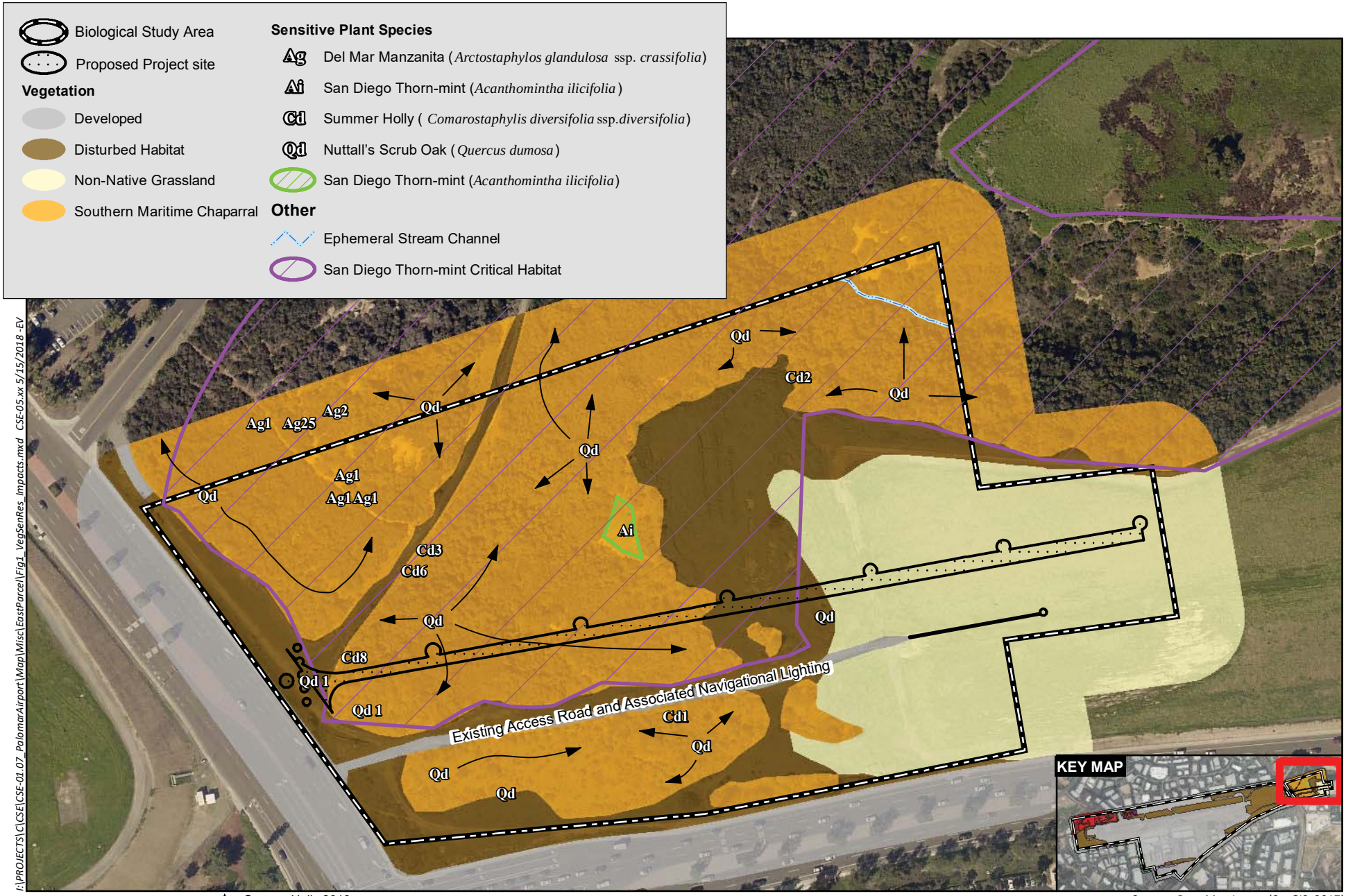
McClellan-Palomar Airport Master Plan Update
Program EIR

N 0 600 Feet

Vegetation and Sensitive Biological Resources (Active Airfield)

Figure 2.2-3a

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Vegetation and Sensitive Biological Resources (Eastern Parcel)

McClellan-Palomar Airport Master Plan Update
Program EIR

Figure 2.2-3b

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Source: Appendix B

McClellan-Palomar Airport Master Plan Update
Program EIR

Vernal Pools
Figure 2.2-4

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Existing Conservation Easement on Eastern Parcel

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2.3 Hazards and Hazardous Materials

The purpose of this section is to determine whether implementation of the Proposed Project would result in significant environmental impacts from hazards and hazardous materials. The analysis is based on the Phase I Environmental Site Assessment (ESA) prepared for the project by Ninyo & Moore Consultants (Appendix C). The purpose of the Phase I ESA is to identify and evaluate the presence of recognized environmental conditions associated with the Proposed Project site. The methodology of the Phase I ESA included a site survey, visual observation, interviews regarding current property usage and conditions, review of historical information (historic records sources, historic aerial photographs and topographic maps, reverse street directories, Sanborn fire insurance maps and building department records), and review of regulatory agency databases and files pertaining to the Airport and surrounding uses. The Phase I ESA also reviewed the presence of underground storage tanks (USTs) and the potential for vapor encroachment.

The Proposed Project consists of near-, intermediate-, and long-term project elements that may have potential hazards or hazardous materials impacts. Areas of impact in this section 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 Update projects, the exact impact area will be compared against known hazards or hazardous materials as documented in the Phase I ESA. Additional analysis under CEQA will be required for projects at the time that they are designed and proposed.

2.3.1 Existing Conditions

The Proposed Project site is surrounded on all sides by urban development and includes roadways, commercial uses, and industrial uses. As designated by the City of Carlsbad Land Use Map, open space is located immediately west of the Airport (overlaid by a municipal golf course), as well as east of El Camino Real. The Airport itself is generally flat, however it is situated atop a mesa approximately 66-feet above land surrounding the Airport. The Pacific Ocean is approximately two miles to the west of the Airport. See Chapter 3.1.7 Land Use for a full description of surrounding land uses.

Current uses of the Airport include the runway and taxiways for aircraft operations, the existing passenger terminal, surface parking lots, an air traffic control tower, hangars, maintenance facilities, and aircraft parking. One 12,000-gallon aviation fuel aboveground storage tank is located north of the runway and 12 USTs are located to the south of the runway (see Appendix C). The existing ARFF station is located south of the runway, adjacent to the passenger terminal. The ARFF is responsible for providing on-airport emergency response as a requirement of the of the Airport's Class I Part 139 Certification. The ARFF currently stores chemicals used for the maintenance of vehicles and firefighting.

Historical Uses

Three units of an inactive solid waste landfill underlay portions of the Airport as shown in Figure 2.3-1. The landfill was operated by the County as a municipal solid waste disposal facility from

1962 to 1975. The landfill was capped and filled with soil and/or asphalt pavement, and a gas collection control system (GCCS) was installed to collect and diffuse landfill gas (i.e., CH_4). The landfill GCCS is inspected monthly for leaks and damage as well as monitoring wells that are monitored semi-annually. The RWQCB changed the landfill classification from Category 1 to Category 2 on July 12, 2016, meaning there is a reduced risk to drinking water (see Appendix C).

Airport Certification Manual and Airport Emergency Plan

Pursuant to FAA 14 CFR Part 139, the County is required to maintain a current Airport Certification Manual (ACM), including an Airport Emergency Plan, which is designed to meet FAA rules and regulations. The ACM provides clear direction and identifies responsibilities in the day-to-day operation of the Airport, and it outlines operating procedures to address routine matters, unusual circumstances, or emergencies that may arise. The ACM is required by FAA as a component of the Airports Class I Part 139 Certification status, which allows for commercial airline service. Individual sections of the ACM are updated on an as-needed basis with FAA approval. The most recent revisions were approved by FAA in August 2017 as reflected in the applicable sections. Specifically, Chapter 11 of the ACM outlines the requirements for handling hazardous materials at the Airport, and the level of training required. The ACM is essential to ensure safe and efficient operation of the Airport. Chapter 13 of ACM encompasses the Airport Emergency Plan as outlined in FAA AC 150/5200-31, which has been approved by FAA. At the time of this writing, the Airport Emergency Plan is being revised; however, for security reasons it is not available for release to the public.

Hazardous Materials Business Plans

All business entities that handle, store, or dispose of hazardous materials in prescribed quantities must prepare a Hazardous Materials Business Plan (HMBP). The HMBP is enacted as soon as a there is a fire or explosion, or an accidental hazardous material is released into the environment. HMBPs must be prepared as outlined by Chapter 6.95 of the California Health and Safety Code (H&SC) and/or the County Code Section 68.1113 and at a minimum, should contain an inventory of hazardous materials, an emergency response plan, and an employee-training program. HMBPs are submitted to the County Department of Environmental Health's (DEH) Hazardous Materials Division and revised or amended every three years. However, HMBPs can be amended sooner if there is a 100 percent increase in any hazardous material listed on the inventory, a threshold is exceeded for a previously undisclosed hazardous materials, a change in the storage, location or use of a hazardous material, or a change in the business name, address, or ownership. The Airport handles, stores, and disposes of hazardous materials. As such, it is required to maintain and update a HMBP.

Risk Management Plans

Businesses that maintain a Risk Management Plan (RMP) within San Diego County are primarily those that handle chlorine gas (e.g., wastewater treatment plants and refrigeration facilities). The Airport does not handle chlorine gas and is not required to have a RMP.

Listed Sites

There are many government data sources, including databases that are available to identify sites that may have been subject to the release of hazardous materials. Phase I ESAs are commonly used to identify the history of a site as it related to hazardous materials. Phase I ESAs are prepared in accordance with the standards prescribed by the American Society for Testing and Materials (ASTM). These standards require Phase I ESAs to search many federal, state, and local regulatory data sources and databases. As mentioned above, a Phase I ESA was prepared for the Proposed Project and included as Appendix C to this PEIR.

Cortese List (Government Code Section 65962.5)

Provisions set forth in Government Code Section 65962.5 are commonly referred to as the Cortese List. Regulatory agencies are responsible for maintaining data sources and databases containing information regarding sites and/or facilities meeting requirements for the Cortese List.

EnviroStor Database

The Department of Toxic Substances Control (DTSC) maintains the EnviroStor database for San Diego County, which includes the following types of sites:

- Federal Superfund Sites (National Priorities List);
- State Response, including Military Facilities and State Superfund;
- Voluntary Cleanup; and
- School sites.

Data on these sites usually includes the following: site name, address, type of site, status of site, past uses having caused the contamination, current potential contaminations, restricted use (if applicable), planned and completed activities, and site history.

The EnviroStor database lists 29 sites in the City of Carlsbad. According to EnviroStor, there are no active cleanup sites on airport property (DTSC 2016a). The closest cleanup site is the Melles Griot, Inc., Laser Division property, which is located adjacent to the Airport's northern property boundary. This site is categorized as an inactive tiered permit cleanup site (DTSC 2016b).

GeoTracker Database

The SWRCB maintains the GeoTracker database that provides information for the state regarding public drinking water supplies, underground fuel tanks, and fuel pipelines. The GeoTracker contains data on leaking underground fuel tanks (LUFTs), thereby allowing the public to assess the status of their drinking water supply. Additionally, the GeoTracker maintains data on non-LUFT cleanup programs that include the Department of Defense Sites, Spills-Leaks-Investigations-Cleanup Sites, and Land Disposal programs.

According to GeoTracker, no open cleanup sites exist on airport property (SWRCB 2015). The closest open LUFT cleanup site is ARCO, which is south of the Airport at 1991 Palomar Airport Road. Four closed cleanup sites for LUFTs exist on airport property.

Solid Waste Disposal Sites

The County's Solid Waste LEA serves as the lead agency tasked with investigating and inspecting active, closed, abandoned, or illegal waste disposal sites within San Diego County, including the City of Carlsbad. The LEA coordinates with all regulating agencies involved in solid waste management and disposal activities. These agencies work together to review work plans, site reports, and issue no further action letters related to burn dumpsites remediation efforts.

Burn Dump Sites

Burn ash (e.g., ash, ash-contaminated soil, debris, and refuse) is the result of open burning of municipal solid waste, which was common practice between the late 1800s and early 1970s. While ash is the most common byproduct of open burning, open burning is not the only source of ash. Ash is also created during low temperature incineration, which is also known to have occurred within commercial waste streams and was typically disposed of on-site.

The Airport does not contain a burn dumpsite. The City of Carlsbad only has one burn dump site, which is located on the northern edge of the City boundary located approximately 3.5 miles northwest of the Airport (County of San Diego 2011a).

Active Landfills

When a project is proposed on or near a landfill site (active, abandoned, and closed), human exposure to landfill gas migration and additional issues related to human exposure to hazards are present. There are six active landfills in the San Diego region that serve the residents, businesses, and military operations of both incorporated and unincorporated areas. The Sycamore, Otay, and Borrego landfills are owned and operated by a private waste service company. Las Pulgas and San Onofre landfills are owned and operated by the U.S. Marine Corps, and the Miramar Landfill is owned and operated by the City of San Diego (County of San Diego 2011a). The City of Carlsbad, including the Airport, are serviced by the Republic Services Garbage Dump and Waste Management.

Inactive Landfills

Inactive landfills are sites that no longer accept solid waste. However, maintenance is still required to keep these closed sites environmentally safe. This includes monitoring landfill gas, maintaining active landfill gas control systems, maintaining stormwater Best Management Practices (BMPs), maintaining soil cover, and monitoring groundwater quality and surface water. The inactive landfill sites throughout San Diego County are managed by the County Department of Public Works, private property owners or parties, or other jurisdictions.

As discussed above, portions of the Airport are underlain by three cells of an inactive landfill. There are three units of the landfill as illustrated in Figure 2.3-1. The landfill was previously operated by the County, who still owns and continues to manage the site. The landfill was capped, and a GCCS was installed to monitor and control gas migration, as well as monitoring wells.

Transfer Stations

Private transfer stations or rural county bin sites serve as temporary holding locations for solid waste not placed directly into landfills. The Palomar Transfer Station is the closest transfer station to the Airport and is less than one mile northeast of the Airport (California Department of Resources Recycling and Recovery [CalRecycle] 2016).

Formerly Used Defense Sites

Formerly Used Defense Sites (FUDS) are under the jurisdiction of the USACE. Previously under the jurisdiction of the Secretary of Defense, FUDS are actual properties owned, leased, or otherwise possessed by the U.S. Ownership of these listings are typically transferred to other entities, including corporations, federal agencies, private individuals, state and local governments, or tribal governments. FUDS include, but are not limited to, building demolition and debris removal; contained (i.e., containerized) or non-contained hazardous, toxic and radioactive waste; military munitions including munitions constituents; and potentially responsible party sites (this is where a private entity and the Government share the burden). There are no FUDS are within the City of Carlsbad.

Historic Agriculture

Agriculture activities may be considered hazardous because of the application of fertilizers, herbicides, and pesticides. These can potentially contaminate soil and groundwater. Historic pesticide use on or nearby adjacent lands pose a potential threat to groundwater resources and contamination of public or private drinking water wells.

The County General Plan defines agricultural resources as any land with active agricultural operation or history of agricultural production such as the raising of livestock, fur-bearing animals, fish or poultry, and dairying. There are no known historic agriculture uses of land at the Proposed Project site, nor is any land in the immediate vicinity of the Airport currently used for agricultural purposes (City of Carlsbad 2016a).

Petroleum

Petroleum hydrocarbons, the most commonly used group of chemicals, are found in a variety of household, commercial, and industrial products. These include, but are not limited to, fuel, oil, paint, dry cleaning solvent, and non-chlorinated solvents. Petroleum hydrocarbons have the potential to cause soil and groundwater contamination if not handled properly. The Airport stores and handles petroleum hydrocarbons in a number of materials, particularly fuel, oil, and paint. Additionally, underground petroleum gas lines traverse through the City of Carlsbad along El Camino Real to the east of the Airport.

Underground Storage Tanks

USTs are those that are used to store hazardous materials or substances either entirely or largely under the ground surface. USTs are one of the most common sources of petroleum contamination into both soils and the groundwater. Most contamination results during the removal of USTs. As part of the UST Program, the County DEH permits, regulates, and enforces state and federal policies regarding USTs. This includes the construction/installation,

modification, upgrade, and removal of USTs. There are 12 USTs at the Airport that are currently used by FBOs, including Atlantic Aviation, Jet Source, Magellan Aviation, Royal Jet, and Western Flight. As noted in the Phase I ESA (Appendix C), all reported cases of UST leaks or contamination have been remediated, and there are no open or active UST cases at the Airport.

Hazardous Building Materials

The Federal Occupational Safety and Health Administration (OSHA) and State OSHA (CalOSHA) defines hazardous chemicals as those that pose a risk to employees should they be exposed to those chemicals at the workplace. Lead-based paint (LBP) and asbestos containing materials are two hazardous substances frequently encountered during construction and demolition activities.

Regulatory Setting

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA; 42 United States Code Sec. 6901 et seq.) was enacted in 1976 as an amendment to the Solid Waste Disposal Act to address the nationwide generation of municipal and industrial solid waste. RCRA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. The RCRA addresses only active and future facilities; it does not address abandoned or historical sites, which are covered by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); see following section.

USTs are regulated under Subtitle I of RCRA, which establishes construction standards for new UST installations (those installed after December 22, 1988), as well as standards for upgrading existing USTs and associated piping.

Comprehensive Environmental Response, Compensation, and Liabilities Act

CERCLA, also called the Superfund Act (42 U.S. Code [USC] Section 9601 et seq.), is intended to protect the public and the environment from the effects of prior hazardous waste disposal and new hazardous material spills. It provides a framework for the remediation of hazardous waste disposal sites, provides funding for remediation and creates a list of national priority sites (i.e., Superfund sites), and provides standards and practices for conducting a Phase I ESA (USC, Title 42, Section 96011 et seq., 1980). The Superfund Amendments and Reauthorization Act of 1986 (PL-99-499) amends some provisions of the CERCLA and provides for a Community Right-to-Know program. According to EnviroStor, there are no Superfund sites located at the Airport.

Toxics Substances Control Act

The Toxic Substances Control Act (TSCA) addresses the production, importation, use, and disposal of specific chemicals, including polychlorinated biphenyls (PCBs), asbestos, and LBP. These regulations ban the manufacture of PCBs although the continued use of existing PCB-

containing equipment is allowed. TSCA also contains provisions controlling the continued use and disposal of existing PCB-containing equipment. The disposal of PCB wastes is also regulated by TSCA (40 CFR Part 761), which contains life cycle provisions similar to those in the RCRA. In addition to TSCA, provisions relating to PCBs are contained in the Hazardous Waste Control Law, which lists PCBs as hazardous waste.

Uniform Fire Code

The Uniform Fire Code (UFC) is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The UFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The UFC and the Uniform Building Code (UBC) use a hazard classification system to determine what protective measures are required for fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the UFC employs a permit system based on hazardous materials classifications.

Federal Occupational Safety and Health Administration

The Federal OSHA implements the Federal Occupational Safety and Health Act of 1970 that contains provisions with respect to hazardous materials handling. Federal OSHA requirements are designed to promote worker safety, worker training, and a worker's right-to-know (CFR Title 29 Section 1910 et seq.).

State

California Occupational Safety and Health Administration

The U.S. Department of Labor has delegated the authority to administer OSHA regulations to the State of California. CalOSHA is administered and enforced by the Division of Occupational Safety and Health (California Code of Regulations [CCR] Title 8 Chapter 3.2.2; California Labor Code Section 6300-6719). CalOSHA is very similar to the Federal OSHA program. Among other provisions, CalOSHA requires employers to implement a comprehensive, written Injury and Illness Prevention Program for potential workplace hazards, including those associated with hazardous materials.

California Health and Safety Code, Hazardous Material Release Response Plans and Inventory

The California H&SC Chapter 6.95 identifies two programs that directly relate to CEQA's analysis on the release of hazardous materials. For San Diego County, these two programs are the HMBP program and the California Accidental Release Prevention (CalARP) program. The County's DEH Hazardous Materials Division is the responsible agency for overseeing the implementation of the HMBP and CalARP programs. Both of these programs establish threshold quantities for hazardous materials and where thresholds are exceeded, a HMBP is required.

California Health and Safety Code, Hazardous Waste Control

The California H&SC Chapter 6.5 is the guiding document for any generation, treatment, storage, and/or disposal of hazardous materials, including a material that is disposed of (i.e., burned, discarded, or relinquished) where there is no applicable reuse for the material. The disposed-of material could cause significant impacts to the public or the environment. Typical hazardous materials include, but are not limited to paints, used oil, acids, and corrosives. Generally speaking, any material with a danger label or warning is considered a hazardous material.

California Health and Safety Code, Underground Storage Tank Regulations

The California H&SC Chapter 6.7 prescribes requirements for owners and operators of USTs, as well as any cleanup activities, funds, liability, and responsibilities of USTs.

California Human Health Screening Levels

California Human Health Screening Levels (CHHSLs) were developed by the Office of Environmental Health Hazard Assessment for the California Environmental Protection Agency (CalEPA). CHHSLs are concentrations of 54 chemicals found in soil or soil-gas below thresholds of concern for risks to human health. The concentration levels were developed based on chemical toxicity values and exposure assumptions as published by the U.S. Environmental Protection Agency (USEPA) and CalEPA. CHHSLs are used to screen sites with known hazardous materials spills for the potential impacts to the public and human health.

California Regional Water Quality Control Board

Under authority from the State Water Resources Control Board, the San Diego RWQCB's goal is to preserve, enhance, and restore the quality of California's water resources and drinking water. In accordance with RWQCB Order 96-13, *Waste Discharge Requirements for Post-Closure Maintenance*, the County is required to conduct semi-annual monitoring inspections of the landfill areas. The purpose of these surveys is to ensure the County is properly maintaining the landfill and to ensure the inactive landfill units are not impacting groundwater or surface water quality. Groundwater inspections are conducted by utilizing monitoring wells, while surface water inspections include observing slopes, cracks, or land settlement to ensure there is a positive gradient to prevent ponded water. The County's Department of Public Works Landfill Management Unit is responsible for conducting these inspections, which are conveyed to the San Diego RWQCB.

Local

San Diego County General Plan

The County General Plan's Safety and Mobility Elements address hazardous substances and fire protection and emergency services. They provide safety considerations and goals to reduce the risk of personal injury, loss of life, property damage, and environmental damage from both natural and human hazards including, but not limited to wildfires, airport hazards, and hazardous materials (County of San Diego 2016).

San Diego County Air Pollution Control District

Under authority from the California Air Resources Board (CARB), the San Diego Air Pollution Control District (SDAPCD) is a government agency that regulates sources of air pollution within San Diego County. The County Board of Supervisors serves as the Air Pollution Control Board. In accordance with Rule 59 of SDAPCD's Rules and Regulations, the County maintains a permit with SDAPCD to operate the underground GCCS system for the inactive landfill.

San Diego County, Site Assessment and Mitigation Program

The County DEH instituted the Site Assessment and Mitigation Program, which is a list of contaminated sites maintained by County DEH. Contaminated sites on the list are those that are either going through environmental investigations and/or remediation activities; or have previously gone through environmental investigations and/or remediation activities. According to the Phase I ESA (Appendix C), 17 sites are located within a half-mile of the Airport.

San Diego County Consolidated Fire Code

The County Consolidated Fire Code includes all 16 fire districts with the intent to protect the public. The Consolidated Fire Code establishes requirements for fire protection systems, and for penalties for code violations. Additionally, the Consolidated Fire Code regulates hazardous materials to ensure the safety and health of the public, as well as sets limits for access, water supply, and vegetation management activities.

San Diego County, Local Enforcement Agency

Under Title 27 of the CCR, LEA is responsible for regulating active, closed, inactive, illegal, and abandoned waste disposal sites.

San Diego County Multi-Jurisdictional Hazard Mitigation Plan

The County developed a Multi-Jurisdictional Hazard Mitigation Plan (2010) in coordination with all jurisdictions with the County to identify risks, both manmade and natural, and mitigation measures to minimize damage. It provides coordination between jurisdictions of mitigation programming and promotes public awareness to local policies for hazard mitigation.

San Diego County Operational Area Emergency Plan

The City of Carlsbad is a member of the Unified San Diego County Emergency Services Organization, which maintains the Operational Area Emergency Plan for the County. This plan is an emergency plan defining responsibilities, establishing emergency organizations, defining lines of communications, and requiring subsequent plans for each jurisdiction that has identified responsibilities in an emergency. Appendix Q of the Operational Area Emergency Plan identifies evacuation routes in San Diego County. The Airport is not located along a local evacuation route. The closest evacuation route is I-5 approximately two miles west of the Airport near the coastline. Construction and operation of the Proposed Project would not require activities that would interfere with the evacuation route.

McClellan-Palomar Airport Land Use Compatibility Plan

The ALUCP contains safety restrictions consistent with FAA guidelines established in an AC with regard to safety concerns associated with the construction of high-rise buildings near the Airport, since such buildings may present a hazard to airport property operations (FAA 2007a). Federal Aviation Regulations Part 77, Objects Affecting Navigable Airspace, establishes minimum standards to ensure air safety by regulating the construction or alteration of buildings or structures that may affect airport operations (CFR Title 14 Part 77).

City of Carlsbad

Similar to the County's General Plan, the City of Carlsbad General Plan is comprised of several elements, including a Public Safety Element. While this Element does address the Airport regarding land use restrictions to ensure public safety, it does not address potential hazardous materials. Rather, the City General Plan defers to applicable federal, state, and local regulations with the exception of Carlsbad Municipal Code Chapter 6.03, which reiterates that County DEH is the local agency responsible for implementing the CalEPA's Unified Program and specifies reporting, disclosure, and monitoring requirements for hazardous materials and hazardous waste establishments.

2.3.2 Analysis of Project Effects and Determination as to Significance

The identified significance thresholds for impacts related to hazards and hazardous materials are based on the County's Guidelines for Determining Significance to Hazardous Materials (County of San Diego 2010b), Airport Hazards (County of San Diego 2007b), Emergency Response Plans (County of San Diego 2014), and Wildland Fire and Fire Protection (County of San Diego 2010c). A significant impact related to hazards and hazardous materials would occur if:

- The project is a business, operation, or facility that proposes to handle hazardous substances in excess of the threshold quantities listed in Chapter 6.95 of the H&SC, generate hazardous waste regulated under Chapter 6.5 of the H&SC, and/or store hazardous substances in USTs regulated under Chapter 6.7 of the H&SC and the project will not be able to comply with applicable hazardous substance regulations.
- The project is a business, operation, or facility that would handle regulated substances subject to CalARP RMP requirements that in the event of a release could adversely affect children's health due to the presence of a school or day care within one-quarter mile of the facility.
- The project is located on or within one-quarter mile from a site identified in one of the regulatory databases compiled pursuant to Government Code Section 65962.5 or is otherwise known to have been the subject of a release of hazardous substances, and as a result the project may result in a significant hazard to the public or the environment.
- The project proposes structure(s) for human occupancy and/or significant linear excavation within 1,000 feet of an open, abandoned, or closed landfill (excluding

burnsites) and as a result, the project would create a significant hazard to the public or the environment.

- The project is proposed on or within 250 feet of the boundary of a parcel identified as containing burn ash (from the historic burning of trash); and as a result, the project would create a significant hazard to the public or the environment.
- The project is proposed on or within 1,000 feet of a FUDS and it has been determined that it is probable that munitions or other hazards are located onsite that could represent a significant hazard to the public or the environment.
- The project could result in human or environmental exposure to soils or groundwater that exceed EPA Region 9 Preliminary Remediation Goals, CalEPA CHHSLs, or Primary State or Federal Maximum Contaminant Levels for applicable contaminants and the exposure would represent a hazard to the public or the environment.
- The project will involve the demolition of commercial, industrial or residential structures that may contain asbestos containing materials, LBP and/or other hazardous materials and as a result, the project would represent a significant hazard to the public or the environment.
- The project is located within an established Airport Influence Area (AIA) for a public or public use airport and proposes a development intensity, flight obstruction, or other land use that conflicts with the ALUCP or Comprehensive Land Use Plan (CLUP) if no ALUCP is adopted) and as a result, the project may result in a significant airport hazard.
- The project would involve airport improvements or operational changes that would render existing or approved land uses incompatible with an applicable ALUCP or CLUP or for airports without an ALUCP or CLUP would render existing or approved land uses incompatible with the California Airport Land Use Planning Handbook's Safety Compatibility Criteria Guidelines for Maximum Residential Density, Maximum Non-Residential Intensity, or Safety Compatibility Zones-Prohibited Uses (County Guidelines Tables 3, 4, and 5) and as a result, the project may result in a significant airport hazard.
- The proposed project is determined by the FAA to constitute a hazard to aviation based on FAA review of Form 7460-1, is inconsistent with current FAA Heliport Design Criteria for Heliports not subject to an ALUCP or CLUP, or conflicts with FAA rules or regulations related to airport hazards and as a result, the project may result in a significant airport hazard.
- The project proposes one of the following unique institutions in a dam inundation zone as identified on the inundation map prepared by the dam owner: hospital; school; skilled nursing facility; retirement home; mental health care facility; care facility with patients that have disabilities; adult and childcare facility; jails/detention facility; stadium, arena, amphitheater; any other use that would involve concentrations of people that could be exposed to death in the event of a dam failure.
- The project proposes a structure or tower 100 feet or greater in height on a peak or other location where no structures or towers of similar height already exist and as a result, the

project could cause hazards to emergency response resulting in interference with the implementation of an emergency response.

- The project cannot demonstrate compliance with all applicable fire codes.
- A comprehensive Fire Protection Plan has been accepted, and the project is inconsistent with its recommendations.
- The project does not meet the emergency response objectives identified in the Public Facilities Element of the County General Plan or offer feasible alternatives that achieve comparable emergency response objectives.

2.3.2.1 Substance Handling

Guidelines for Determination of Significance

A significant impact would occur if:

- The Project is a business, operation, or facility that proposes to handle hazardous substances in excess of the threshold quantities listed in Chapter 6.95 of the H&SC, generate hazardous waste regulated under Chapter 6.5 of the H&SC, and/or store hazardous substances in USTs regulated under Chapter 6.7 of the H&SC and the project will not be able to comply with applicable hazardous substance regulations.
- The Project is a business, operation, or facility that would handle regulated substances subject to CalARP RMP requirements that in the event of a release could adversely affect children's health due to the presence of a school or day care within one-quarter mile of the facility.

Analysis

The Proposed Project includes a phased 20-year Airport Master Plan Update strategy to prioritize projects at the Airport that provide safety and operational enhancements. As part of the Master Plan Update, improvements would include realignment of aircraft movement areas, navigational aids, improvements to landside facilities and parking. Construction of the Proposed Project would involve hazardous materials typical to construction, including gasoline, motor oils, paints, solvents, and other similar materials. There are 12 USTs currently at the Airport. It is not anticipated that these tanks would be disturbed by construction of the Proposed Project. The Proposed Project would include removal of a 12,000-gallon aboveground fuel tank; however, the tank does not contain any underground components. Therefore, construction of the proposed project in conformance with applicable regulations would result in a less-than-significant impact with regard the transport, use, storage, and disposal of hazardous materials.

Continued operation of the Airport and related aviation uses, including operation and maintenance-related uses that may use hazardous materials such as petroleum products, cleaners, and solvents on a routine basis, is not anticipated to change from existing conditions. All potentially hazardous materials would continue to be used, stored, and disposed in accordance with manufacturers' instructions and handled in compliance with applicable federal,

state, and local standards and regulations. All personnel involved in refueling are required to abide by FAA standards, including FAA AC 150/5230-4B, *Airport Fuel Storage, Handling, Training, and Dispensing on Airports*. These standards specify safety requirements, such as emergency fuel shutoff systems, fire safety and fire extinguishers, storage and transport safety. Furthermore, routine maintenance activities would continue to occur at various locations throughout the Airport as part of maintaining the existing facilities. These activities could potentially produce typical hazardous materials and wastes such as fuel, paints, commercial cleansers, herbicides and pesticides, solvents, and lubricants. These hazardous materials are regulated by applicable federal, state, and local regulations. Compliance with these requirements would serve to minimize health and safety risks to people or structures associated with the routine use, transport, and disposal of hazardous materials.

An integral component of the regularly-updated ACM includes the HMBP, which is submitted to the California DTSC each time the plan is updated. Whether during construction or operation, any spill of hazardous materials onsite would be remediated and treated in accordance with applicable regulations. The HMBP includes measures to appropriately handle an onsite accidental release of fuel or other material from equipment. Furthermore, site inspections of the Airport are routinely conducted by various local and State agencies for such items as storm water quality, landfill integrity, and hazardous materials. Therefore, the Proposed Project is considered to have a *less than significant* impact with regard to accidental release of hazardous materials.

Lastly, there are no schools or day care facilities located within one-quarter mile of the Airport. The closest school is Pacific Ridge School, which is located over 1.3 miles southeast of the Airport at 6269 El Fuerte Street. Therefore, operation of the proposed project is considered to be not significant with regard to accidental release of hazardous materials near schools.

2.3.2.2 Projects with Existing On-site Contamination

Guidelines for Determination of Significance

A significant impact would occur if:

- The Project is located on or within one-quarter mile from a site identified in one of the regulatory databases compiled pursuant to Government Code Section 65962.5 or is otherwise known to have been the subject of a release of hazardous substances, and as a result the project may result in a significant hazard to the public or the environment.
- The Project proposes structure(s) for human occupancy and/or significant linear excavation within 1,000 feet of an open, abandoned, or closed landfill (excluding burnsites) and as a result, the project would create a significant hazard to the public or the environment.
- The Project is proposed on or within 250 feet of the boundary of a parcel identified as containing burn ash (from the historic burning of trash); and as a result, the project would create a significant hazard to the public or the environment.

- The Project is proposed on or within 1,000 feet of a FUDS and it has been determined that it is probable that munitions or other hazards are located onsite that could represent a significant hazard to the public or the environment.
- The Project could result in human or environmental exposure to soils or groundwater that exceed USEPA Region 9 Preliminary Remediation Goals, CalEPA CHHSLs, or Primary State or Federal Maximum Contaminant Levels) for applicable contaminants and the exposure would represent a hazard to the public or the environment.
- The Project will involve the demolition of commercial, industrial, or residential structures that may contain asbestos containing materials, LBP and/or other hazardous materials and as a result, the project would represent a significant hazard to the public or the environment.

Analysis

As previously described, a Phase I ESA was prepared for the Proposed Project, and an on-site investigation was conducted for evidence of hazardous materials and waste. Advanced database records searches were also conducted and revealed the Proposed Project site is not located on a site pursuant to Government Code section 65962.5. The Proposed Project is located within one-quarter mile of Melles Griot, Inc., Laser Division, which is listed as having an inactive tiered permit. However, the Phase I ESA determined that the facility does not present an environmental concern to the Project at this time. Additionally, according to the GeoTracker database, there are no open cleanup sites on the airport property. Therefore, the Proposed Project would result in a less-than-significant impact with respect to listings of hazardous material sites compiled pursuant to Government Code Section 65962.5.

Regarding construction within 1,000 feet of a landfill, the Proposed Project is partially located on an inactive, Class III non-hazardous landfill as defined by the CalRecycle Solid Waste Information System. Construction activities would include runway and taxiway improvements over landfill Unit 3, and potential general aviation parking over landfill Unit 1. Based on the Airport Master Plan Update, no new structures are proposed for human occupancy. In the event structures are installed, they will be required to comply with Title 27 CCR, Section 21190(g), which states that all construction of buildings within 1,000 feet of a landfill boundary must be designed and constructed in a manner so that gas from the landfill does not permeate the building, unless an exemption has been granted.

Furthermore, continued regular aircraft operation at the Airport, including aircraft movement within areas proposed for improvement as identified in the Master Plan Update, is not anticipated to create a new significant hazard to the public or environment as a result of the underlying inactive landfill. In accordance with all applicable regulations, the landfill is capped and filled with soil and/or asphalt pavement, and a GCCS was installed and is regularly monitored and maintained in the collection and diffusion of landfill gas. As outlined in Table 2.3-1, regular monitoring and maintenance activities are conducted at the inactive landfill as regulated by LEA, RWQCB, and SDAPCD. In August 2015, as a part of regular ongoing monitoring, a temporary release of CH_4 was documented resulting from a crack in existing pavement; however, as discussed in the Phase I ESA (Appendix C) and according to SDAPCD

records, the issue was remediated and the Airport is currently in compliance with applicable regulations. As part of the Master Plan Update, the Proposed Project could include protection in-place, reconstruction, or relocation of the existing GCCS system depending on the design engineering of project-specific elements proposed. In July 2016, the San Diego RWQCB reclassified the landfill from Category 1 to Category 2 indicating a reduced risk to drinking water. The LEA currently conducts quarterly inspections of the landfill infrastructure, in addition to coordination with all local, state, and federal regulations and agencies for ongoing activities over the inactive landfill. In conclusion, although it is not anticipated that ongoing aircraft operation at the Airport would result in impacts to the landfill or Airport users, the Proposed Project would include linear excavation near the individual inactive landfill units, and therefore, the Proposed Project has the potential to result in a *significant impact* to an open, abandoned, or closed landfill as defined by County Guidelines (HZ-1).

Regarding burn ash, the Proposed Project is not located within 250 feet of a site containing burn ash. The nearest site containing burn ash is located approximately four miles away. Therefore, no potential impacts are associated with burn ash sites.

Regarding a FUDS site, the Proposed Project is not located within 1,000 feet of a FUDS site. Therefore, no potential impacts are associated with the Proposed Project.

Regarding possible exposure to soils and groundwater, construction activities associated with the Master Plan Update would include grading or excavating at various locations surrounding the airfield. The Phase I ESA confirms that volatile organic compounds (VOCs) and metals were detected in groundwater below landfill Units 1 and 3, respectively. According to the October 2015-March 2016 Semi-Annual Monitoring Report prepared on behalf of County Department of Public Works Landfill Management Unit, the VOCs are likely associated with previous fuel releases at the Airport. As previously discussed, all cases of previous hazardous releases at the Airport have been closed in coordination with the regulatory agencies; however, there is a potential for encountering these contaminants in the soil and/or groundwater during construction resulting in a potentially *significant impact* (HZ-2).

As identified in the Phase I ESA, groundwater was observed onsite with depths ranging between 14 and 49 feet below ground surface in the perched zone, and 44.5 to 215 feet below ground surface in the deep zone. Construction dewatering is not anticipated to be required; however, if dewatering is needed, the Proposed Project would coordinate with the RWQCB to obtain all necessary permitting documents and adhere to monitoring requirements set forth by the RWQCB and applicable regulatory agencies. Additionally, if dewatering is required, groundwater that was found to be contaminated would be treated prior to being discharged in accordance with the RWQCB permit. Compliance with regulatory requirements would ensure that dewatering during construction would not expose workers or off-site sensitive populations to substantial risk resulting from the project's handling of impacted groundwater. Regarding groundwater monitoring wells, there are 22 groundwater monitoring wells that are sampled semi-annually. On July 12, 2016, the RWQCB updated the landfill classification from Category 1 to Category 2, meaning there is a reduced risk to the drinking water supply due to the location of the landfill on non-beneficial groundwater use in the Airport vicinity.

Regarding demolition activities, the proposed project does not propose demolition of any structures. The proposed project will relocate the existing ARFF facilities, but the existing building is not anticipated to be demolished. Therefore, no impacts are associated with the proposed project relating to demolition of contaminated structures.

2.3.2.3 Airport Hazards

Guidelines for Determination of Significance

A significant impact would occur if:

- The project is located within an established AIA for a public or public use airport and proposes a development intensity, flight obstruction, or other land use that conflicts with the ALUCP or CLUP (if no ALUCP is adopted) and as a result, the project may result in a significant airport hazard.
- The project would involve airport improvements or operational changes that would render existing or approved land uses incompatible with an applicable ALUCP or CLUP or for airports without an ALUCP or CLUP would render existing or approved land uses incompatible with the California Airport Land Use Planning Handbook's Safety Compatibility Criteria Guidelines for Maximum Residential Density, Maximum Non-Residential Intensity, or Safety Compatibility Zones-Prohibited Uses (County Guidelines Tables 3, 4, and 5) and as a result, the project may result in a significant airport hazard.
- The proposed project is determined by the FAA to constitute a hazard to aviation based on FAA review of Form 7460-1, is inconsistent with current FAA Heliport Design Criteria for Heliports not subject to an ALUCP or CLUP, or conflicts with FAA rules or regulations related to airport hazards and as a result, the project may result in a significant airport hazard.

Analysis

Cities and counties with land use jurisdiction for areas around airports are required to ensure their general and specific plans are consistent with the ALUCP. The authority of cities and counties to adopt land use plans that are inconsistent with an ALUCP is constrained by State law. (Government Code Section 65302.3 & Public Utilities Code Section 21675.) The current ALUCP for the Airport was adopted on January 25, 2010 and amended twice on March 4, 2010 and December 1, 2011. In accordance with State law, General Plan guidelines explicitly require local land use authorities (in this case, City of Carlsbad and the County) to either modify their respective general plans, specific plans and ordinances (including zoning designations) to be consistent with the ALUCP or to take special steps to overrule the findings of the ALUC (California Government Code Subsection 65302(f) and 65302.3). The SDCRAA is the responsible agency within San Diego County for determining compatibility of land uses within the AIAs of 16 public-use and military airports. However, because the Proposed Project includes improvements on airport property, the ALUCP's land use authority does not apply since all uses and future improvements are regulated by FAA.

As a component of the Master Plan Update, the Proposed Project would include shifting the runway north and extending the runway's east end. As such, the associated safety areas, including the RPZs would result in a corresponding shift. As part of the proposed improvements, land within RPZs should be secured at the earliest opportunity, but are not required to be secured prior to implementation of the Master Plan Update. Lands located within RPZs would be sought overtime as opportunities arise to preclude physical obstructions and incompatible uses; not to expand the Airport's aviation use areas. However, the marginal shift in RPZs would not render existing or approved land uses incompatible with an applicable ALUCP or constitute a hazard to aviation. The Proposed Project would also relocate the existing MALSR to coincide with shifting the runway north and extending the runway's east end to ensure safety during future aircraft operations. The Airport Master Plan Update further describes how the Proposed Project would comply with FAA design standards and therefore, would not introduce new or increased safety hazards to people in the Airport vicinity. Therefore, the Proposed Project would not result in a significant airport hazard.

2.3.2.4 Emergency Response Plans

Guidelines for Determination of Significance

A significant impact would occur if:

- The project proposes one of the following unique institutions in a dam inundation zone as identified on the inundation map prepared by the dam owner: hospital; school; skilled nursing facility; retirement home; mental health care facility; care facility with patients that have disabilities; adult and childcare facility; jails/detention facility; stadium, arena, amphitheater; any other use that would involve concentrations of people that could be exposed to death in the event of a dam failure.
- The project proposes a structure or tower 100 feet or greater in height on a peak or other location where no structures or towers of similar height already exist and as a result, the project could cause hazards to emergency response, resulting in interference with the implementation of an emergency response.

Analysis

The Proposed Project would occur entirely on Airport property, which is not located within a dam inundation zone. The nearest inundation zone is located approximately 3,400 feet northeast of the Airport associated with both the Maerkle Dam and Pechstein Dam (City of Carlsbad 2015b).

Additionally, the Proposed Project does not propose any structures on a peak that could interfere with emergency response, and is not located within an emergency evacuation route. The Proposed Project does include relocating the existing ARFF building, but this would occur within the existing airfield and would not interfere with emergency response. Therefore, the proposed project would not result in impacts associated with interference with emergency response plans.

Furthermore, the County is required to maintain an Airport Emergency Plan (as part of the ACM) in accordance with FAA AC 150/5200-31 that would be activated in the event of an emergency

or disaster. At the time of this writing, the Airport Emergency Plan is being revised; however, for security reasons it is not available for release to the public.

2.3.2.5 Wildland Fires and Fire Protection

Guidelines for Determination of Significance

A significant impact would occur if:

- The project cannot demonstrate compliance with all applicable fire codes.
- A comprehensive Fire Protection Plan has been accepted, and the project is inconsistent with its recommendations.
- The project does not meet the emergency response objectives identified in the Public Facilities Element of the County General Plan or offer feasible alternatives that achieve comparable emergency response objectives.

Analysis

The Proposed Project would comply with all applicable fire codes. According to the California Department of Forestry and Fire Protection (CAL FIRE) 2009 fire map (CAL FIRE 2009), the Airport is not located within a fire hazard severity zone. The site is located in an urbanized area in the City of Carlsbad and is not within or adjacent to a wildlands area as considered by CAL FIRE. The project would be served by existing fire services as discussed in Chapter 3.1.8 of this PEIR, and would be consistent with the adopted fire response strategy as outlined in the Airport ACM. In fact, the Airport served as a temporary staging area for emergency equipment during some of San Diego County's most recent wildfires in 2015. Furthermore, the project would meet the emergency response objectives in the County General Plan. Therefore, the Proposed Project would result in no impacts associated wildlife fires and fire protection.

2.3.3 Cumulative Impact Analysis

A search of past, present, and future projects of the Proposed Project area was conducted to determine whether these projects have the potential to contribute to a cumulative impact related to hazardous materials and hazards (Section 1.7). Construction and operation of the projects listed in Section 1.7 have the potential to involve hazardous materials typical to construction, including gasoline, motor oils, and other similar materials and operation of residential development and road widening, such as herbicides and pesticides, and solvents. All potentially hazardous materials are required to be used and stored in accordance with manufacturers' instructions and handled in compliance with applicable existing federal, state, and local regulations. Any risk associated with transport, use, or disposal of these materials would be minimized to less than significant levels through compliance with these standards and regulations. One of the projects listed (Robertson Ranch) is within one-quarter mile of a site listed on the Cortese List. This project, as well as the Proposed Project, will be required to comply with federal, state, and local regulations and policies related to any existing hazardous materials and associated contamination. By complying with these regulations and policies, the

Proposed Project would not be cumulatively considerable for on-site hazardous materials contamination, and it would not contribute to a significant cumulative impact in these regards.

Prior to construction of any projects listed in Section 1.7**,** soil and groundwater investigation of potential contaminants and applicable mitigation would be required of any sites with previous storage or handling of hazardous. Therefore, each project's compliance with applicable laws and regulations would ensure that the cumulative risk of adverse public health effects associated with hazards and hazardous materials would be *less than significant*.

2.3.4 Significance of Impacts Prior to Mitigation

HZ-1: Grading or excavation on the site may disturb an underlying inactive landfill presenting a potential hazard to the public or the environment.

HZ-2: Grading or excavation on the site may disturb contaminated soil and/groundwater, presenting potential health risks to personnel during construction.

2.3.5 Mitigation Measures

The following mitigation measures are recommended to reduce the potentially significant Proposed Project impacts to a less than significant level:

M-HZ-1: Prior to grading or excavation over the inactive landfill units or other areas of known contaminated soil and/or groundwater, a Soil Management Plan (or equivalent remediation plan) shall be prepared in accordance with applicable federal, state, and local requirements for the purpose of removing, treating, or otherwise reducing potential contaminant concentrations to below human or ecological health risk thresholds. The Soil Management Plan (or equivalent remediation plan) shall outline methods for characterizing and classifying soil for off-site disposal, as needed, during site development. Due to a possible vapor encroachment condition (VEC) at the Airport for petroleum, hydrocarbon, and non-petroleum hydrocarbon contaminants, the Soil Management Plan (or equivalent remediation plan) shall also include a Tier 2 VEC assessment according to ASTM E 2600-10. The timing of this mitigation measure's implementation will vary depending on the timing, funding, and priorities of individual project elements under the Airport Master Plan Update; however, this mitigation measure would be implemented prior to or at the time of impact.

M-HZ-2: Refer to M-HZ-1.

2.3.6 Conclusion

Implementation of the Proposed Project has the potential to result in the use, storage, disposal, and transport of hazardous materials during construction and future operational activities. However, potential impacts would be reduced to less than significant by implementing the identified mitigation measures, including appropriate training regarding work practices of

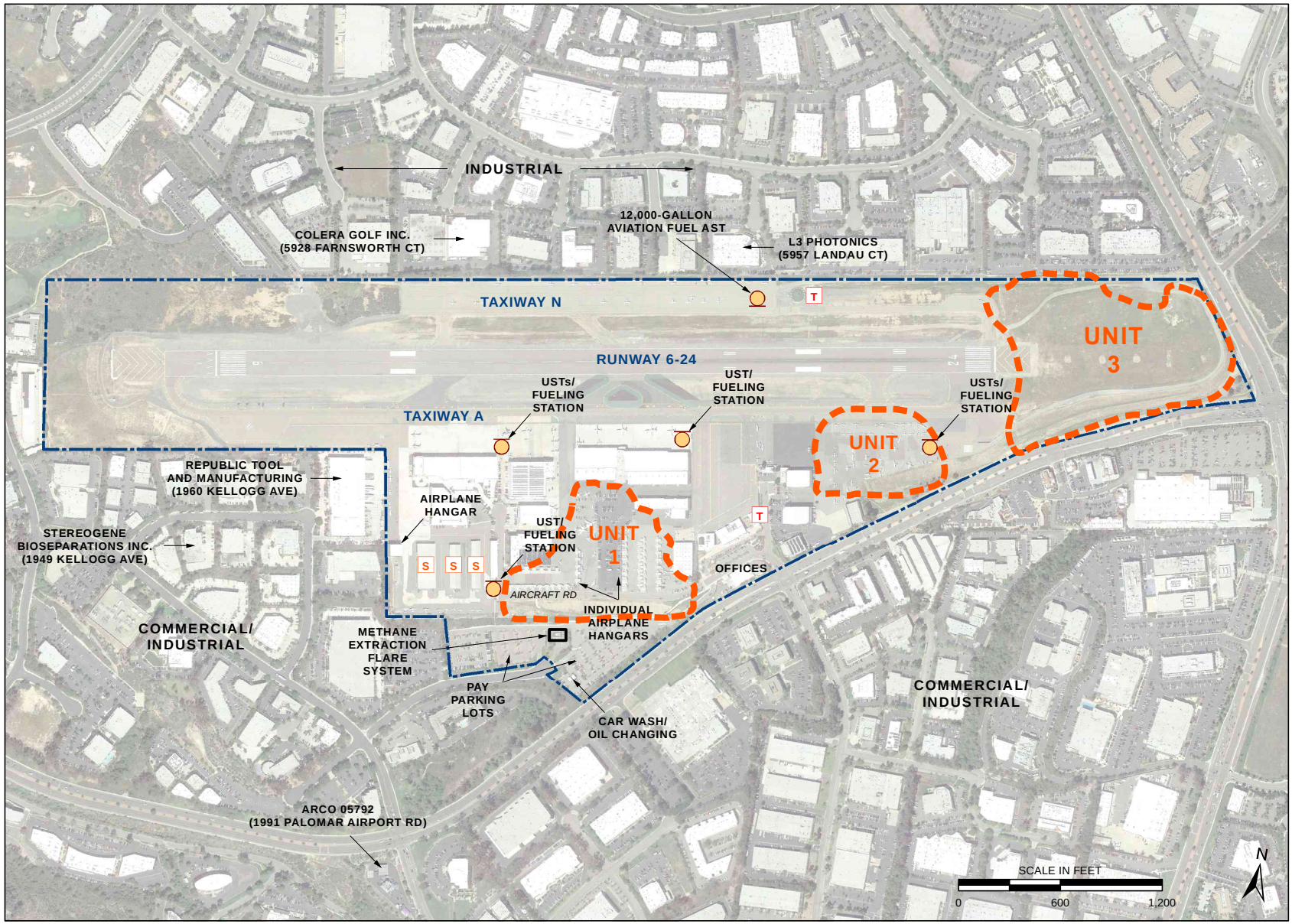
construction contractors and subcontractors related to transport and handling of hazardous materials prior to construction; monitoring of construction activities to ensure compliance with required regulations; and ensuring a Storm Water Pollution Prevention Plan (SWPPP) is prepared and implemented. Implementation of a remediation plan, soil management plan, or equivalent document addressing contaminated soils or groundwater will also assist in reducing potential impacts to *less than significant*.

The construction and operation of any structures on the inactive landfill units associated with the Proposed Project will comply with Title 27 CCR, Section 21190(g) to ensure there is no release of CH_4. Any contaminated soil or groundwater discovered during construction activities associated with the Proposed Project will comply with RWQCB regulations, as well as a Soil Management Plan (or equivalent remediation plan). The Proposed Project will comply with all federal, state, and local regulations and policies. Therefore, the Proposed Project's potential impacts from hazards and hazardous materials would be *less than significant*.

Table 2.3-1. Regulatory Monitoring of Inactive Landfill

Agency	Authority / Regulation	Monitoring	Focus of Monitoring	Reporting
RWQCB	Order 96-13, *Waste Discharge Requirements for Post-Closure Maintenance*	Requires County to monitor semi-annually RWQCB has authority to conduct annual inspections	Groundwater: monitoring wells Surface water: gradient, cracks, settlement to avoid ponding	County submits annual report to RWQCB
APCD	Rule 59 of SDAPCD's Rules & Regulations	Requires County to monitor annually	Gas emissions (check probe data, extraction wells, vaults, flare, etc.)	None required. County provides data as requested
LEA	Title 27 of the CCR	Requires County to monitor monthly LEA has authority to conduct quarterly inspections, but has been visiting monthly	All site conditions: emissions data, cracks, leaks, settlement, drainage, etc.	County submits monthly report to LEA LEA also prepares report following each inspection
County	[Property Owner]	*See above*	All site conditions	*See above*

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Source: Ninyo & Moore 2016

LEGEND

- ABOVE-GROUND STORAGE TANK(S) (AST)
- UNDERGROUND STORAGE TANK(S) (UST)
- S — STORAGE / AIRPLANE HANGARS
- T — TRANSFORMER
- PROPOSED PROJECT BOUNDARY
- INACTIVE LANDFILL BOUNDARY (UNITS 1-3)

McClellan-Palomar Airport Master Plan Update
Program EIR

Onsite Inactive Landfill
Figure 2.3-1

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2.4 Noise

The purpose of this section is to determine whether implementation of the Proposed Project would result in significant environmental impacts related to noise. The analysis is based on the Noise Impact Technical Report prepared by C&S Engineers, Inc. (Appendix D, including Supplemental Noise Analysis) and Acoustical Site Assessment Report prepared by Helix Environmental Planning, Inc. (enclosed with Appendix D). The Proposed Project includes safety and operational efficiency enhancements to address the facility's needs through the 20-year planning period. Improvements to aircraft movement surfaces and support structures are not considered noise inducing. Aircraft in flight are under the jurisdiction and regulatory enforcement of the FAA and as operator of a public-use airport, the County cannot place restrictions on Airport users. However, as ground-facility managers, the County does issue leases for the use of commercial service areas including the ramp, passenger services, and administrative buildings. Noise impacts are analyzed in this section pertaining to the potential increase of commercial activity over the planning period because the County has discretion over the approval of commercial air service leases. Construction noise is also analyzed in this section.

2.4.1 Existing Conditions

Noise Setting

Directly north of the Airport property is land identified by the City of Carlsbad for Planned Industrial land uses. Office buildings line the northern boundary of the airport property, across from the north apron. El Camino Real, located approximately 1,400 feet from the arrival end of Runway 24, creates the eastern boundary of the active airfield. Portions of the County-owned property located on the eastern side of El Camino Real are identified as Open Space. To the south, the airport property is bordered by Palomar Airport Road. The City identifies the area south of the Airport predominantly as Planned Industrial (PI) with some small pockets of land identified as Open Space (OS) or General Commercial (GC). The western boundary of the Airport is identified as Planned Industrial and Open Space, which is utilized as a golf course (The Crossings at Carlsbad).

In general, airports are considered noise-generating neighbors. However, although regulated noise thresholds may not be exceeded, it is acknowledged that people have different levels of perception to noise. While some individuals may consider a particular noise level to be offensive, it may be imperceptible to others. Because of the City of Carlsbad's planning efforts with growth surrounding the Airport (and with adoption of the McClellan-Palomar Airport ALUCP), noise-sensitive land uses are located further away from the Airport. Some land uses are considered more sensitive to ambient noise levels than others because of the amount of noise exposure (both exposure duration and insulation from noise) and the types of activities typically involved. Residences, schools, rest homes, churches, and hospitals are more sensitive to noise than commercial and industrial land uses (FAA 2007b). The closest residential land uses to the Airport are located a half-mile to the southeast, across from the intersection of Palomar Airport Road and El Camino Real (Figure 2.4-1 Nearby Sensitive Receptors). Additional residential land uses can be found further south of the airport property and Palomar Airport Road.

Noise Sources

There are two primary sources of noise attributable to the Master Plan Update: construction noise resulting from planning improvements, and aircraft noise due to potential growth in operations and commercial airline service. Existing noise contours surrounding the Airport were derived from detailed flight information gathered in 2016 (January 1–December 31, 2016). This included an evaluation of data provided by the County's Airport Noise and Operations Monitoring System and FAA's Traffic Flow Management System Counts and Air Traffic Activity System (Appendix D). When measuring noise, Community Noise Equivalent Level (CNEL) is the metric used in California. CNEL is the sound level averaged over a 24-hour period, which includes a 5 dB penalty for noise events during the evening (7:00pm to 10:00pm) and a 10 dB penalty for the nighttime (10:00pm to 7:00am). Figure 2.4-2 Existing Noise Contours (2016) shows noise levels associated with the 70 CNEL, 65 CNEL and 60 CNEL contours over existing land use mapping. Sites located along the contours are equal to the respective contour value.

An ambient noise survey was conducted based on twelve noise measurements taken in ten separate locations. Measurement locations were chosen due to the proximity to the Airport, and potential sensitivity to future construction noise. Nine locations were chosen for 15-minute ambient noise surveys. Of these nine locations, four were measured in areas north of the Airport, four were located south of the Airport, and one was measured just west of the Airport runway (Figure 2.4-3). The results of the 15-minute noise measurements are shown in Table 2.4-1.

Methodology

Aviation Noise

The FAA Office of Environment and Energy (AEE-100) has developed the Aviation Environmental Design Tool (AEDT) for evaluating noise impacts in the vicinity of airports. The FAA requires airports use the AEDT in assessing environmental impacts within and in the vicinity of airports for evaluating physical improvements to the airfield, analyzing changes to existing or new procedures and in assessing land use compatibility. The AEDT Model utilizes flight track information, fleet mix, standard and user-defined profiles and terrain as inputs. The AEDT model produces noise exposure contours that are used for land use compatibility maps. The AEDT program includes built in tools for comparing contours and utilities that facilitate easy export to commercial Geographic Information Systems. The model also calculates predicted noise at specific sites such as hospitals, schools, residences, or other sensitive locations.

Data used to generate noise contours include:

- number of operations by type;
- types of aircraft;
- day/night time distribution by type;
- flight tracks;
- flight track and runway utilization by type;
- flight profiles;
- typical operational procedures; and
- average meteorological conditions.

For a detailed discussion of parameters and assumptions used in the noise model, see Appendix D.

Ground Source Noise

Existing noise levels were measured at the project site with a sound level meter field-calibrated immediately prior to use. Project construction noise was analyzed using the Roadway Construction Noise Model (U.S. Department of Transportation [USDOT] 2008), which utilizes estimates of sound levels from standard construction equipment.

Modeling of construction truck trips was accomplished using the Traffic Noise Model version 2.5. The Traffic Noise Model was released in February 2004 by the USDOT, and calculates the daytime average hourly sound level from traffic data (see Appendix D).

For a detailed discussion of parameters and assumptions used in the noise model, see Appendix D.

Regulatory Setting

Federal

FAA Order 1050.1F

Policies and procedures for evaluating the environmental impacts associated with airport developments are described in FAA Order 1050.1F. For aviation noise analyses, the FAA has determined that the 24-hour cumulative exposure of individuals to noise resulting from aviation activities must be established in terms of yearly day/night average sound level as FAA's primary metric. The FAA recognizes CNEL as a metric for airport actions in California.

Federal Interagency Committee on Noise Report of 1992

The use of the CNEL or Day/Night Noise Level (DNL) metric and the 65 dB criteria have been reviewed by various interest groups in order to assess its usefulness in assessing noise impacts. At the direction of the USEPA and the FAA, the Federal Interagency Committee on Noise was formed to review specific elements of the assessment of airport noise impacts and to make recommendations regarding potential improvements. The Federal Interagency Committee on Noise recommended that if screening analysis determines noise-sensitive areas at or above 65 dB DNL show an increase of DNL 1.5 dB or more, then further analysis should be conducted of noise sensitive areas between DNL 60–65 dB having an increase of DNL 3 dB or more.

Local

City of Carlsbad

The City of Carlsbad Noise Element is included in Chapter 5 of the City's General Plan and includes a Noise Guidelines Manual that provides further guidance in applying the policies and standards of the Noise Element for new development projects within their municipal jurisdiction. This ensures buildings or noise-sensitive land uses are located and constructed to reduce noise

exposure from the Airport. The Noise Element does cite a "Fly Friendly" Program which identifies noise reduction measures for pilots that continues to be implemented. However, this voluntary program was initiated by the County, and it is not a City program. The program educates pilots on advisory flight procedures to minimize noise impacts to airport neighbors and is voluntary because only the FAA has jurisdiction over aircraft in flight. The Proposed Project is located entirely on County-owned land and is not subject to City of Carlsbad's Noise Element regulations and standards.

County of San Diego – Noise Compatibility Guidelines and Noise Standards

The County's Noise Compatibility Guidelines and Noise Standards are presented in Chapter 8 (Noise Element) of the County's General Plan. According to Table N-1 of the Noise Element, the County has established outdoor noise standards of 60 CNEL for single-family, mobile home, senior housing, and convalescent home residential uses. The exterior noise standard for all other residential uses and churches is 65 CNEL. The County has also established an interior noise standard of 45 CNEL for all residential uses.

County of San Diego Noise Ordinance

Standards from the County Noise Ordinance will be used for the purpose of evaluating noise levels from construction activities.

San Diego County Code Sections 36.408 and 36.409, Construction Equipment, state that:

> Except for emergency work, it shall be unlawful for any person to operate construction equipment or cause construction equipment to be operated, that exceeds an average sound level of 75 dBA for an 8-hour period, between 7:00 a.m. and 7:00 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

Section 36.410 of the County's ordinance provides additional limitation on construction equipment beyond Section 36.404 pertaining to impulsive noise. Except for emergency work or work on a public road project, no person shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in Table 2.4-2*, Maximum Sound Levels (Impulsive)*, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25 percent of the minutes in the measurement period.

The minimum measurement period for any measurements is one hour. During the measurement period, a measurement must be conducted every minute from a fixed location on an occupied property. The measurements must measure the maximum sound level during each minute of the measurement period. If the sound level caused by construction equipment or the producer of the impulsive noise exceeds the maximum sound level for any portion of any minute, it will be deemed that the maximum sound level was exceeded during that minute.

McClellan-Palomar Airport Land Use Compatibility Plan

Airport Land Use Commissions (ALUC) were created by State of California Government Code Section 65302(f) and Section 4605.1 of the H&SC for the purpose of establishing a regional level of land use compatibility between airports and their surrounding environs. The SDCRAA acts as the County's ALUC. The Commission has adopted ALUCPs for County airports including McClellan-Palomar Airport, which was adopted in 2010 and amended in 2011.

The ALUCP provides compatibility policies and criteria applicable to local agencies in their preparation or amendment of general plans and to landowners in their design of new development. Projects located within the AIA of an adopted ALUCP are subject to specific criteria. From a noise compatibility standpoint, the ALUCPs establish noise/land use acceptability criteria for sensitive land uses at 65 CNEL for outdoor areas and 45 CNEL for indoor areas of residential land uses. These criteria are outlined under Chapter 3 of the ALUCP.

As part of the ALUCP, policies were established to specifically address potential noise impacts to areas surrounding the Airport. Included in the ALUCP analysis was the modeling of noise contours that reflected annual operations anticipated under the previous Airport Master Plan. Using the noise contours, policies (Table III-1 and 2.11.5 Avigation Easement Dedication) were adopted conditioning new noise-sensitive development within the 60 CNEL noise contour and higher to be sound attenuated and provide the County with an avigation easement allowing the right of flight in the airspace above the property.

2.4.2 Analysis of Project Effects and Determination as to Significance

In the absence of CEQA noise thresholds applicable to aircraft noise sources, the federal threshold is applied according to FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures,* and FAA Order 5050.4b, National Environmental Policy Act (NEPA) *Implementing Instructions for Airport Projects*, as discussed below. The identified significance thresholds for ground source (non-aircraft) noise impacts are based on criteria provided in County Guidelines for Determining Significance, Noise, dated January 27, 2009.

A significant impact to ground-source noise would result if:

1. Project implementation would result in the exposure of any on- or off-site existing or reasonably foreseeable future noise sensitive land uses to exterior or interior noise (including noise generated from the Proposed Project together with noise from roads [existing and planned Mobility Element roadways], railroads, airports, heliports, and all other noise sources) in excess of any of the following:

    a. Exterior Locations: 60 dB CNEL; or an increase of 10 dB (CNEL) over pre-existing noise.

    b. Interior Locations: 45 dB (CNEL).

2. Project implementation would generate non-construction airborne noise which, together with noise from all sources, will be in excess of the limit specified in the San Diego

County Code Section 36.404 at the property line of the property on which the noise is produced or at any location that is receiving the noise.

3. Noise generated by construction activities related to the project would exceed the standards listed in San Diego County Code Section 36.409.

4. Impulsive noise generated by construction activities related to the project would exceed the standards listed in San Diego County Code Section 36.410.

5. Noise-sensitive land uses and vibration-sensitive land uses would be exposed to excessive ground-borne vibration or noise.

As discussed above, the County Guidelines for Determining Significance and CEQA Guidelines Appendix G do not designate an applicable threshold of significance related to changes in aircraft noise levels. Accordingly, the well-established significance thresholds for aviation-related noise impacts that are used in this analysis is from FAA Order 1050.1F and FAA's Environmental Desk Reference for Airport Actions. As established by FAA Order 1050.1F, an increase in noise levels associated with the Proposed Project is measured by comparing conditions with and without the project in the same year. FAA guidance specifies that a detailed noise analysis may be required if there is a 1.5 dBA increase in CNEL in noise sensitive areas exposed to 65 dBA CNEL or greater. The use of the 1.5 CNEL threshold is consistent with noise analyses conducted for other Airport projects by the Caltrans Division of Aeronautics throughout both San Diego County and the State of California. Therefore, the 1.5 CNEL threshold is accepted here as a CEQA threshold of significance to describe significant increases of aircraft noise exposure. The FAA recognizes CNEL as an alternative metric for California. For purposes of this study and recognized by the FAA for use in California, CNEL is used in lieu of DNL.

The analysis in this PEIR includes a comparison of the Proposed Project's potential aviation noise impact associated with increased commercial air service activity in existing (2016) conditions, and future (2036) conditions. The County has no discretion or enforcement over non-commercial aviation activity, so for the purposes of identifying potential noise impacts attributable to the Proposed Project, the noise impact analysis does not include anticipated growth of non-commercial aircraft growth over the planning period. Furthermore, as discussed in the Master Plan Update, the forecasted number of non-commercial aircraft operations is expected to increase during the Master Plan Update's 20-year planning period, which would occur with or without the Proposed Project. Nonetheless, although non-commercial aviation activity is not attributable to the Proposed Project, it was analyzed and disclosed in the noise technical studies (Appendix D).

A significant impact from (aircraft) noise would occur if the project would:

1. Cause noise sensitive areas located at or above DNL 65 dB to experience a noise increase of at least 1.5 dB when compared to the No Project Alternative for the same timeframe. An increase from DNL 63.5 dB to DNL 65 dB over a noise sensitive area is a significant impact.

2.4.2.1 Noise Sensitive Land Uses

Guidelines for the Determination of Significance

A significant ground-source noise impact would occur if:

- Project implementation would result in the exposure of any on- or off-site existing or reasonably foreseeable future noise sensitive land uses to exterior or interior noise (including noise generated from the Proposed Project together with noise from roads [existing and planned Mobility Element roadways], railroads, airports, heliports, and all other noise sources) in excess of any of the following:
    - Exterior Locations: 60 dB CNEL; or an increase of 10 dB (CNEL) over pre-existing noise.
    - Interior Locations: 45 dB (CNEL).

A significant impact from (aircraft) noise would occur if the project would:

- Cause noise sensitive areas located at or above DNL 65 dB to experience a noise increase of at least 1.5 dB when compared to the No Project Alternative for the same timeframe. An increase from DNL 63.5 dB to DNL 65 dB over a noise sensitive area is a significant impact.

Analysis must be conducted through the use of modeled noise contours along with local land use information and general guidance contained in Appendix A of 14 CFR Part 150. As a means of implementing the Aviation Safety and Noise Abatement Act, the FAA adopted Regulations on Airport Noise Compatibility Planning Programs. These 14 CFR Part 150 regulations include published noise and land use compatibility charts to be used for land use planning with respect to aircraft noise.

Analysis

Noise-sensitive land uses (NSLUs) are any residence, hospital, school, hotel, resort, library, or similar facility where quiet is an important attribute of the environment. Currently, no NSLUs exist on the Proposed Project site and none are proposed to be developed as part of the Proposed Project; therefore, no noise exposure impacts would occur to on-site NSLUs.

In accordance with FAA guidelines, the noise analysis is measured by comparing conditions with and without the project in the same implementation year (i.e., 2036). As such, 2036 conditions were modeled to determine the natural forecasted growth in aircraft operations with and without the two aforementioned components. In other words, for the purpose of the noise analysis, the “without project” scenario anticipates that aircraft operations would naturally continue to increase overtime regardless of commercial airline activity or capital improvements associated with the Master Plan Update.

In accordance with FAA Order 1050.1F, the impact analysis was conducted by comparing the noise exposure areas modeled for the future (2036) without project versus the future (2036) Proposed Project condition. Furthermore, the Airport Master Plan Update includes a reasonable

range of potential uses of the Airport facilities for next 20-year planning period. Different forecast and planning scenarios were taken into account, and the environmental review includes the highest forecasted uses of the site for determining potential impacts. As such, this noise analysis considers two different forecast planning scenarios as discussed in the Master Plan Update. These scenarios are called passenger activity levels (PAL) that consider a range of potential commercial air service use, and include PAL 1 (totaling 195,050 annual aircraft operations) and PAL 2 (totaling 208,004 annual aircraft operations).

Two individual elements of the Proposed Project would change the nature of noise around the airport: the northerly shift of Runway 06-24 by 123 feet, and the implementation of a phased runway extension to the east. These components would result in minor adjustments to the flight tracks, which would update the noise contours. Areas added onto the east end of the runway would be available for increased takeoff length. Accordingly, aircraft using Runway 24 would be airborne sooner on the west end of the runway. The Airport Master Plan Update also discusses a national trend where smaller, piston-fired engines will be phased out while larger business jets will increase in airport fleet mixes – a trend that has already begun at the Airport. The shift to business jets in the future fleet mix would more accurately represent the newer and often quieter and more efficient aircraft that are likely to be using the Airport under Future Conditions (2036). As the FAA continues to phase out older, noisier civil aircraft, some stages[6] of aircraft are no longer flown. According to FAA published information on FAA Noise Levels, Stages, and Phaseouts, by December 31, 2015, all civil jet aircraft, regardless of weight were required to meet Stage 3 or Stage 4 noise standards to fly within the contiguous U.S.

The shift to business jets would also affect the duration that aircraft would be within the noise environs. As compared to aircraft with piston-fired engines, the approach and departure speeds allow the aircraft a more efficient entrance and exit within the noise envelope. Additionally, the jets are more likely to enter and exit the flight tracks, not stay within the local “touch and go” flight pattern.

Figure 2.4-4 illustrates the comparison between future conditions with and without the Proposed Project under the PAL 1 scenario in accordance with FAA guidelines. Figure 2.4-4 shows the 65 CNEL contour over the existing land uses surrounding the Airport.

Similarly, Figure 2.4-5 illustrates the comparison between future conditions with and without the Proposed Project under the PAL 2 scenario. Figure 2.4-5 shows the 65 CNEL contour over the existing land uses surrounding the Airport. Figure 2.4-5 presents the largest potential noise increase by comparing noise contours under the PAL 2 scenario with 2036 without project conditions.

The analysis shows that the Proposed Project will shift the 65 CNEL noise contour east, further away from noise sensitive land uses located south of Palomar Airport Road. The PAL 2 noise contours extend over Planned Industrial and Open Space land uses that are not defined by the FAA or ALUCP as noise sensitive. These land uses are not defined by the FAA or ALUCP as

[6] The FAA regulates the maximum noise levels that individual civil aircraft can emit through certain noise certification standards. These standards designate changes in maximum noise level requirements by "stage" designation. For civil jet aircraft, there are four stages, with Stage 1 being the loudest and Stage 4 being the quietest.

noise sensitive land uses. Therefore, there are no noise sensitive land uses that would be exposed to noise levels at or above 65 CNEL and result in an increase of 1.5 dB or greater. As such, the Proposed Project's noise impact would be less than significant because there are no NSLU onsite, and future aircraft operations would not generate noise levels that exceed 1.5 dB over noise sensitive land uses.

In addition, public comments concerning aircraft noise levels that were received during prior public review periods were also analyzed for potentially significant impacts. Specifically, the County reviewed all public comments during three separate review periods: (1) Notice of Preparation/Initial Study published on February 29, 2016 for 30 days; (2) Draft PEIR published on January 18, 2018 for 61 days; and (3) recirculated portions of the Draft PEIR published on June 21, 2018 for 46 days. Public comments that included an address or nearby landmark (such as a park or an intersection) sufficient to identify a location were included within the Supplemental Noise Analysis (Appendix D). Comments that did not provide location data or sufficient information to discern a specific location at which to measure potential noise impacts were not included. Upon reviewing all public comments, a total of 66 locations were identified for inclusion in the Supplemental Noise Analysis, including locations in the Cities of Carlsbad, Encinitas, Oceanside, San Marcos, and Vista.

Consistent with the analysis above, four scenarios were analyzed in the identified locations for significant noise levels: (1) Baseline (existing conditions; 2016); (2) Future Conditions (2036) without Project; (3) Future Conditions (2036) with Project PAL1; and (4) Future Conditions (2036) with Project PAL2. After reviewing all locations in comparison to the noise levels in each of these four scenarios, the analysis concluded that none of the locations would be located within the 65 CNEL contour. In fact, all locations would be located outside of the 60 CNEL contour in all four scenarios. Therefore, the Supplemental Noise Analysis verifies that no aircraft-related significant noise impacts would occur in areas affected by the Proposed Project (i.e., Master Plan Update) as a result of the Proposed Project as identified in light of public comments. Accordingly, aircraft-related noise impacts would be less than significant, and no mitigation would be required.

Lastly, ~~T~~the following discussion also includes analysis comparing the highest planning scenario (PAL 2) to existing conditions (2016). Based on the Master Plan Update, the PAL 2 scenario identifies a maximum forecast of 208,004 annual aircraft operations. Further, the Master Plan Update deduced that natural growth of aviation activity at the Airport without any commercial airline activity would total 180,450[7]. This means the difference of 27,554 annual operations would occur as a result of the PAL 2 Proposed Project. When combined with existing conditions (149,029), the total would equal 176,583 annual aircraft operations. A comparison of the Proposed Project noise contour under existing conditions is illustrated in Figure 2.4-6. Despite this increase in aircraft operations, there are no noise sensitive land uses that would be exposed to noise levels at or above 65 CNEL. Furthermore, this number of operations would still be below the noise contours associated with the maximum planning scenario (PAL 2) in 2036,

[7] The Airport Master Plan Update calculates that PAL 2 would result in 180,264 annual operations without commercial activity. However, for the purposes of this PEIR, the PAL 1 forecast of 180,450 was used since it represents the highest planning scenario.

which similarly concluded that the Proposed Project would not expose noise sensitive uses at or above 65 CNEL to result in an increase of 1.5 dB or greater.

2.4.2.2 Project Generated Airborne Noise

Guidelines for the Determination of Significance

A significant noise impact would occur if:

- Project implementation would generate non-construction airborne noise which, together with noise from all sources, will be in excess of the limit specified in the San Diego County Code Section 36.404 at the property line of the property on which the noise is produced or at any location on a property that is receiving the noise.

Analysis

As described above, impacts associated with future aircraft operations would be less than significant. Additionally, the closest signalized intersections to the Proposed Project are located at Palomar Airport Road/Yarrow Drive and Palomar Airport Road/El Camino Real. As noted, the forecasted increase in on-road vehicular trips to and from the Airport would occur regardless whether the Master Plan Update is implemented. As shown on Figure 2.4-1, the closest noise sensitive receptor (Bressi Ranch) is located over a quarter-mile from the Airport. The forecasted increase in vehicle traffic trips to and from the Airport would progressively take place over the 20-year planning period, dependent upon the forecasted increase in commercial aircraft operations. Therefore, impacts associated with future vehicle trips would be less than significant.

2.4.2.3 Construction Activities

Guidelines for the Determination of Significance

A significant construction noise impact would occur if:

- Noise generated by the construction activities related to the project would exceed the standards listed in County Code Section 36.409.

- Impulsive noise generated by construction activities related to the project would exceed the standards listed in County Code Section 36.410.

Analysis

General Construction Noise

Construction noise would involve multiple construction activities that would require different equipment during each project element. Construction noise for each project element was analyzed based on the proximity to nearby occupied properties and the types of construction equipment used. The loudest pieces of equipment were analyzed to assess the worst-case scenario for each project element.

Generally, the nearest occupied properties to future construction sites are the offices north and south of the airport boundary. Demolition and construction may occur at distances as close as 60 feet from the nearest office buildings.

As shown in Table 2.4-3, construction noise from general construction equipment was modeled to be above the significance threshold defined in Threshold 1 of 75 dBA L_{EQ} (8-hour) for project elements 2, 5, and 9 along the Airport's northern boundary, and general construction noise impacts for nearby offices would be potentially significant (N-1).

Pavement Crushing

Pavement crushing machinery may emit noise levels up to 95 dBA at 50 feet (Medlin & Associates 2014). Assuming a crusher could be located at the center of the North Apron staging area, a crusher would be approximately 100 feet from the nearest occupied office building. If a crusher were located in the southern staging area, it would be located approximately 400 feet from nearby residences.

Assuming a noise attenuation rate of 6 dBA per doubling of distance, noise levels from the crusher would reduce to 84.0 dBA L_{EQ} at a distance of 60 feet and 71.9 dBA L_{EQ} at a distance of 400 feet. A crusher at the North Apron staging area would be above the limit in Threshold 1 of 75 dBA L_{EQ} for occupied properties, and under the impulsive 85 dBA L_{MAX} for commercial and industrial properties. If on-site rock crushing is required at the North Apron staging area, impacts would be potentially significant for nearby offices. A crusher located in the southern staging area would be below the limits in Threshold 1. As shown in Table 2.4-4 construction noise associated with pavement crushing during project elements 2, 5, 9, 12, 13, and 14 would be *significant* (N-2).

Nighttime Construction

Night work could potentially occur for individual components of the Proposed Project as a safety measure to expedite project completion and in order to minimize disruptions to ongoing airport and aircraft operations. Construction noise at night is addressed in the County's Noise Ordinance, Section 36.410:

> Except for emergency work,
>
> a. It shall be unlawful for any person to operate construction equipment between the hours of 7 p.m. of any day and 7 a.m. of the following day.
>
> b. It shall also be unlawful for any person to operate construction equipment on Sundays, and days appointed by the President, Governor, or the Board of Supervisors for a public fast, Thanksgiving, or holiday, but a person may operate construction equipment on the above specified days between the hours of 10 a.m. and 5 p.m. at his residence or for the purpose of constructing a residence for himself, provided that the average sound level does not exceed 75 decibels during the period of operation and that the operation of construction equipment is not carried out for profit or livelihood.

c. It shall also be unlawful to operate any construction equipment so as to cause at or beyond the property line of any property upon which a legal dwelling unit is located an average sound level greater than 75 decibels between the hours of 7 a.m. and 7 p.m.

Night construction is also addressed in the County Noise Ordinance Section 36.423, which states that the County Noise Officer has the discretion to grant a Noise Variance Permit to allow construction to occur at night in conformance with County regulations. In the event night work is required for any individual components of the Proposed Project, County Airport staff would work with the Noise Officer in obtaining a Noise Variance Permit that demonstrates the Proposed Project would be completed in a manner that minimizes noise impacts to surrounding parcels in conformance to the provisions of the Noise Ordinance. The Noise Control Officer may impose time limitations on the activity and may include noise minimization measures that the applicant is required to adopt.

2.4.2.4 Ground-borne Vibration

Guidelines for the Determination of Significance

A significant construction noise impact would occur if:

- Noise-sensitive land uses and vibration-sensitive land uses would be exposed to excessive ground-borne vibration or noise.

Analysis

An on-site source of vibration during project construction would be a vibratory roller (primarily used to achieve soil compaction as part of the pavement foundation and paving construction), which is expected to be used within 100 feet of the nearest occupied office buildings during project elements 1, 2, and 5 construction. A vibratory roller creates approximately 0.210 in/sec (inches per second) peak particle velocity (PPV) at a distance of 25 feet. Using the Caltrans criterion of 0.4 in/sec PPV at 25 feet, the approximately 0.210 in/sec PPV vibration impact would be less than what is considered a “severe” impact. Although vibration may be perceptible by occupants of nearby buildings (the nearest of which would be 100 feet from the vibratory roller), temporary impacts associated with the vibratory roller (and other potential equipment) would be less than significant.

2.4.3 Cumulative Impact Analysis

Based on the County Guidelines for the Determination of Significance, cumulative noise impacts are most likely to occur in locations where existing noise levels are elevated or approach the applicable criterion of 60 dB CNEL for an exterior noise sensitive land use.

Figures 2.4-3, 2.4-4, and 2.4-5 show that there are no noise-sensitive land uses located within the 60 CNEL contours under Existing Conditions (2016) or Future Conditions (2036) scenarios. A review of the City of Carlsbad’s General Plan determined that there are no changes to the land uses surrounding the Airport, indicating that there are no anticipated major developments

within close proximity (less than 1 mile) to the Airport and that these areas would remain as open space and planned industrial. There are no future projects proposed that would locate noise sensitive land uses within the 60 CNEL noise contour modeled for the Future Conditions (2036), presented on Figures 2.4-4, and 2.4-5. Furthermore, the Noise Impact Technical Report (Appendix D) Figure C1 illustrates the comparison between existing conditions (2016) and full implementation of PAL 2 conditions (2036). This scenario incorporates potential noise impacts of all types of aviation activity at the Airport at the full forecasted operation levels, and incorporates implementation of all Master Plan Update components. Figure C1 supplements the conclusion that there is no cumulative noise impact associated with the Proposed Project. Therefore, the Proposed Project would not result in cumulatively significant noise level increases when combined with foreseeable projects, and cumulative noise impacts would be less than significant.

2.4.4 Significance of Impacts Prior to Mitigation

N-1: General construction noise during project elements 2, 5, and 9 would be significant.

N-2: Construction noise associated with pavement crushing during project elements 2, 5, 9, 12, 13, and 14 would be significant.

2.4.5 Mitigation Measures

The following mitigation measures are recommended to reduce the potentially significant Proposed Project impacts to a less than significant level:

M-N-1: Noise levels from project-related demolition, grading, and construction activities shall not exceed the noise limit specified in San Diego County Code Sections 36.408 and 36.409 of 75 dBA (8-hour average), when measured at the boundary line of the property where the noise is located or any occupied property where noise is being received. A Demolition and Construction Management Plan that describes the measures included on the construction plans to ensure compliance with the noise limit shall be prepared. The following measures may be included to reduce construction/demolition noise:

- Construction equipment to be properly outfitted and maintained with manufacturer-recommended noise-reduction devices.
- Diesel equipment to be operated with closed engine doors and equipped with factory-recommended mufflers.
- Mobile or fixed “package” equipment (e.g., arc-welders and air compressors) to be equipped with shrouds and noise control features that are readily available for that type of equipment.
- Electrically powered equipment to be used instead of pneumatic or internal-combustion powered equipment, where feasible.

- Unnecessary idling of internal combustion engines (e.g., in excess of 5 minutes) to be prohibited.

- Material stockpiles and mobile equipment staging, parking, and maintenance areas to be located as far as practicable from noise sensitive receptors.

- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.

- No project-related public address or music system shall be audible at any adjacent sensitive receptor.

- Temporary sound barriers or sound blankets may be installed between construction operations and adjacent noise-sensitive receptors. A sound wall at least 10 feet in height above grade, located along the northern airport boundary line between the North Apron and neighboring offices would mitigate noise levels to within acceptable levels. To reduce noise levels effectively, the sound barrier should be constructed of a material with a minimum weight of two pounds per square foot with no gaps or perforations and remain in place until the conclusion of demolition, grading, and construction activities.

- The County shall notify businesses within 100 feet of the construction area in writing within one week of any construction activity such as demolition, hard rock handling, concrete sawing, asphalt removal, and/or heavy grading operations. The notification shall describe the activities anticipated, provide dates and hours, and provide contact information with a description of a complaint and response procedure.

- The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process for the affected resident shall be established prior to construction commencement to allow for resolution of noise problems that cannot be immediately solved by the site supervisor.

M-N-2: If an on-site use of a crusher at the north apron staging area is required, it should be located at the furthest safely feasible point from nearby offices and residences, where it will have minimal impact on occupied buildings. A temporary sound barrier shall be placed around the rock crusher to shield receivers to the north. All barriers should stand at least as tall as the highest part of the crusher, with a minimum of 8 feet. In addition to the construction hours mandated by the County Noise Ordinance, pavement crushing shall not occur Monday through Friday after 6 p.m., or on Saturday before 8 a.m. In the event construction is required at night or Sundays, County Airport staff shall consult with the County Noise Officer, who has the discretion to grant a Noise Variance Permit in accordance with the County Noise Ordinance Section 36.423.

2.4.6 Conclusion

Noise impacts associated with future aircraft operations and operation of the Airport would be less than significant. While temporary construction activities could potentially result in a noise impact, implementation of mitigation measures M-N-1 and M-N-2 would reduce impacts associated with construction noise to a level less than significant.

Table 2.4-1. Short-Term Ambient Noise Measurement Results

Measurement Location	Land Use	Noise Levels (dBA)
1	Residential	45.5
2	Residential	66.0
3	Commercial	52.7
4	Commercial	60.6
5	Commercial	64.4
6	Commercial	54.3
7	Residential	59.2
8	Residential	55.2
9	Residential	51.8

Source: C&S Engineers, Inc. (Appendix D)
Note: Daytime measurements were each 15 minutes in duration and were taken on September 21, 2016.

Table 2.4-2. Maximum Sound Levels (Impulsive)

Occupied Property Use	Decibels (dBA) L_{MAX}
Residential, village zoning or civic use	82
Agricultural, commercial or industrial use	85

Source: County Municipal Code Section 36.410

Table 2.4-3. General Construction Noise Impacts

Construction Element	Noise Level at Occupied Property (dBA L_{EQ})	Distance (feet)	Significant Impact?
1	73.4	160	No
2	**75.5**	**160**	**Yes**
3	72.2	500	No
4	65.2	400	No
5	**85.7**	**60**	**Yes**
6	65.1	430	No
7	59.4	830	No
8	71.6	200	No
9	**85.3**	**60**	**Yes**
10[1]	N/A	N/A	No
11	68.1	300	No
12	68.6	470	No
13	70.9	300	No
14	66.1	570	No
15	65.2	400	No
16	63.2	500	No

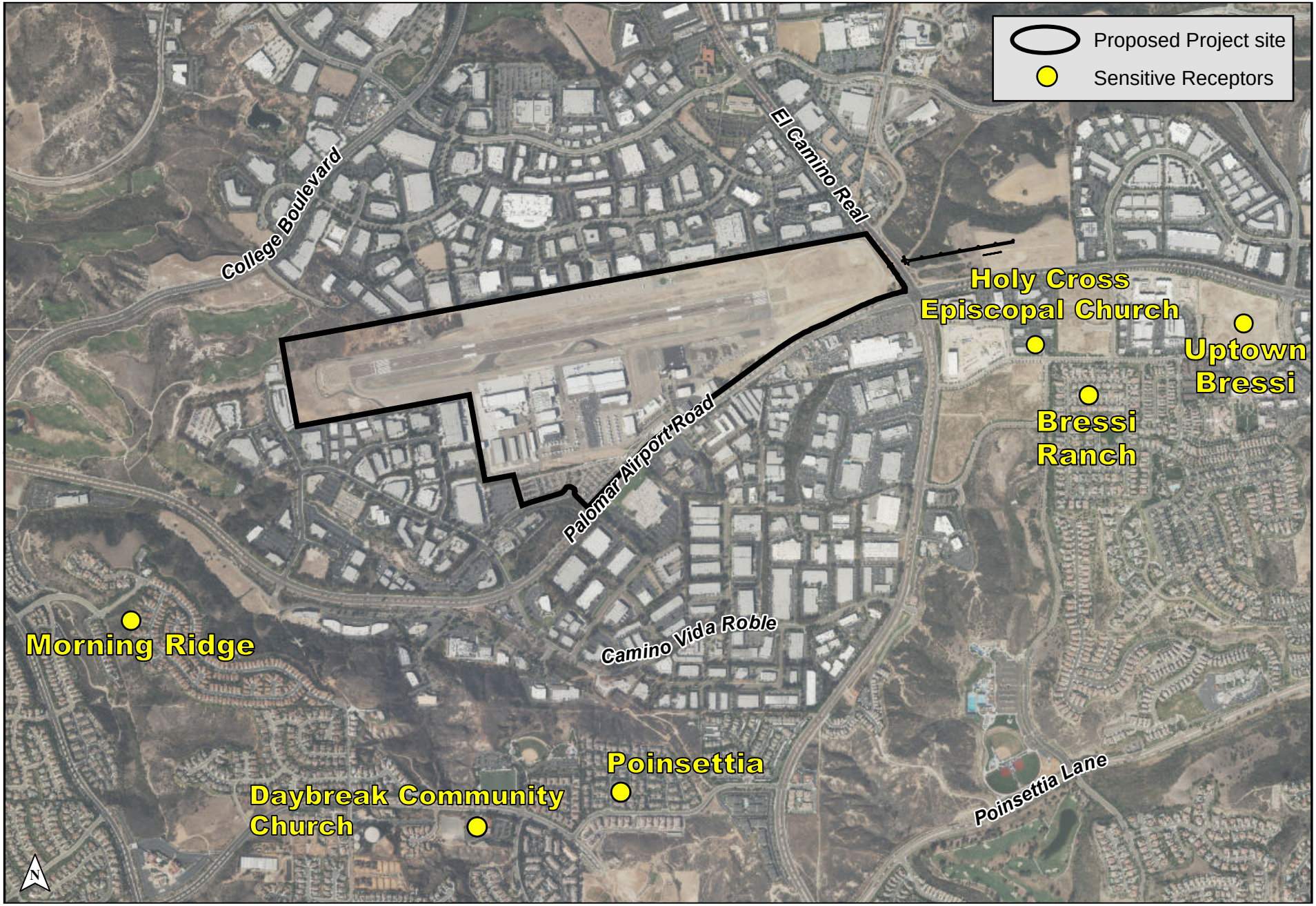
Source: RCNM
Note: Bold rows indicate project element with significant impacts.
[1] Element 10 does not require construction equipment.

Table 2.4-4. Pavement Crusher Noise Impacts

Construction Element	Demolition Requiring Crusher	Significant Impact?
1	No	No
2	**Yes**	**Yes**
3	No	No
4	No	No
5	**Yes**	**Yes**
6	No	No
7	No	No
8	No	No
9	**Yes**	**Yes**
10[1]	No	No
11	No	No
12	**Yes**	**Yes**
13	**Yes**	**Yes**
14	**Yes**	**Yes**
15	No	No
16	No	No

Notes: Bold rows indicate project element with significant impacts.
Crusher location is assumed to be in north apron staging area.
[1] Element 10 does not require construction equipment.

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McClellan-Palomar Airport Master Plan Update
Program EIR

Nearby Sensitive Receptors

Figure 2.4-1

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McClellan-Palomar Airport
Master Plan Update - Program EIR

City of Carlsbad Land Use
- Community Facilities
- General Commercial
- Local Shopping Center
- Office
- Open Space
- Planned Industrial
- Planned Industrial/Office
- Public
- Regional Commercial
- Transportation Corridor
- Village
- Visitor Commercial
- Residential

Existing Noise Contours
- 60 CNEL Contour
- 65 CNEL Contour
- 70 CNEL Contour

1000' 0' 1000' 2000'

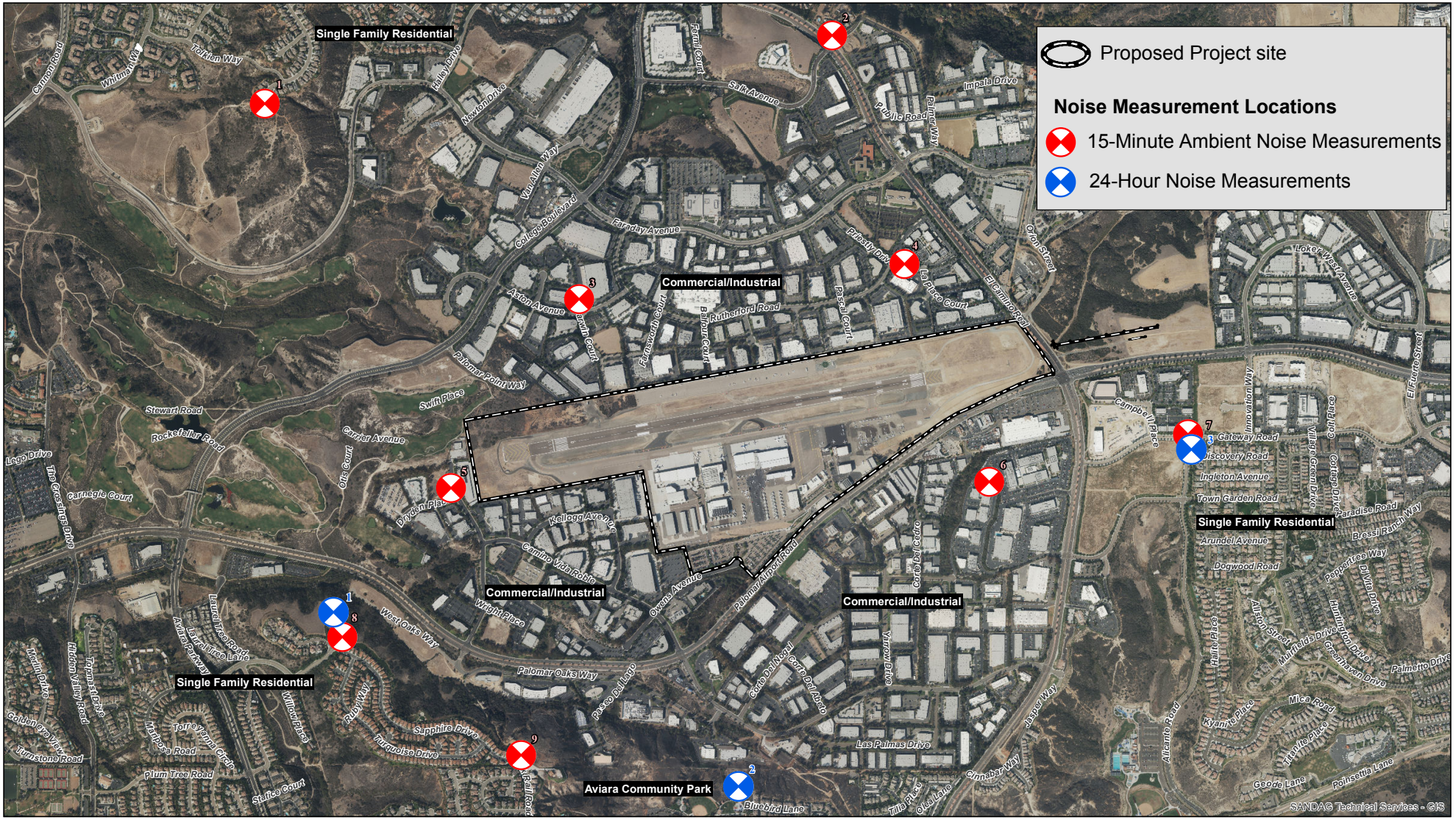
Cannon Rd.
Faraday Ave.
College Blvd.
Faraday Ave.
Carlsbad City Limit
County of San Diego Land Use
60 CNEL
65 CNEL
70 CNEL
McClellan-Palomar Airport
Palomar Airport Rd.
Aviara Pkwy.
El Camino Real
Poinsettia Ln.
Poinsettia Ln.

Source: Land Use from City of Carlsbad and County of San Diego; Parcels from SANGIS

Existing Noise Contours (2016)

Figure 2.4-2

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McClellan-Palomar Airport Master Plan Update
Program EIR

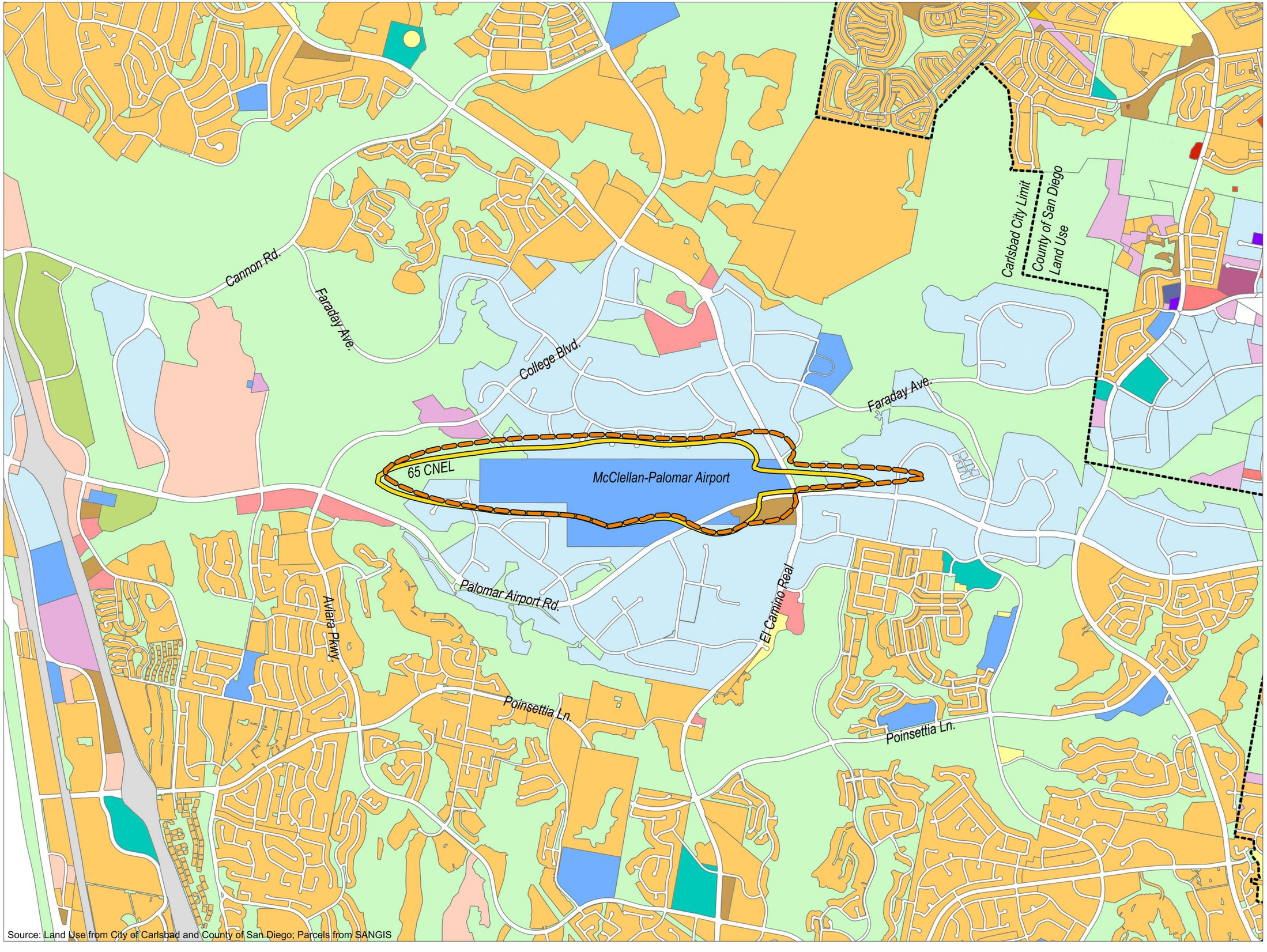
Ambient Noise Measurements

Figure 2.4-3

N

0 1,100 Feet

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McClellan-Palomar Airport
Master Plan Update - Program EIR

City of Carlsbad Land Use
- Community Facilities
- General Commercial
- Local Shopping Center
- Office
- Open Space
- Planned Industrial
- Planned Industrial/Office
- Public
- Regional Commercial
- Transportation Corridor
- Village
- Visitor Commercial
- Residential

County of San Diego Land Use
- Communications/Utilities
- Fire/Police Station
- Hotel/Motel
- Industrial
- Residential
- Open Space
- Healthcare
- Other Public Services
- Recreation
- Retail/Trade
- Warehousing
- School/Religious Facility
- Service Station
- Protected Natural Area
- Undeveloped Land

Future No-Project
- 65 CNEL Contour

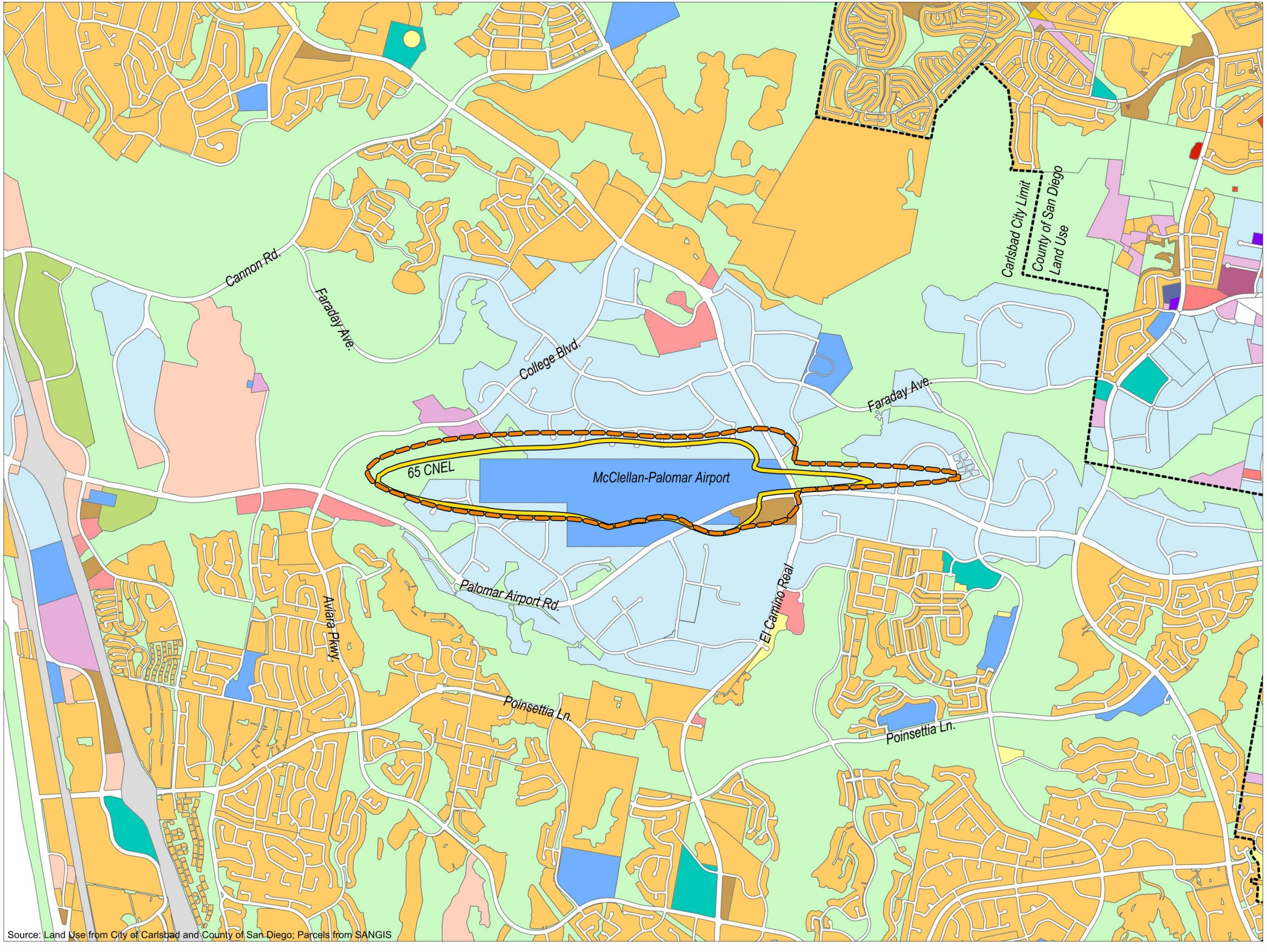
Future With Proposed Project
- 65 CNEL Contour (PAL 1)

1000' 0' 1000' 2000'

Future Noise Contours (2036)
Project vs No-Project (PAL1)

Figure 2.4-4

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McClellan-Palomar Airport
Master Plan Update - Program EIR

City of Carlsbad Land Use
- Community Facilities
- General Commercial
- Local Shopping Center
- Office
- Open Space
- Planned Industrial
- Planned Industrial/Office
- Public
- Regional Commercial
- Transportation Corridor
- Village
- Visitor Commercial
- Residential

County of San Diego Land Use
- Communications/Utilities
- Fire/Police Station
- Hotel/Motel
- Industrial
- Residential
- Open Space
- Healthcare
- Other Public Services
- Recreation
- Retail/Trade
- Warehousing
- School/Religious Facility
- Service Station
- Protected Natural Area
- Undeveloped Land

Future No-Project
- 65 CNEL Contour

Future With Proposed Project
- 65 CNEL Contour (PAL 2)

1000' 0' 1000' 2000'

Future Noise Contours (2036)
Project vs No-Project (PAL2)

Figure 2.4-5

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McClellan-Palomar Airport
Master Plan Update - Program EIR

City of Carlsbad Land Use
- Community Facilities
- General Commercial
- Local Shopping Center
- Office
- Open Space
- Planned Industrial
- Planned Industrial/Office
- Public
- Regional Commercial
- Transportation Corridor
- Village
- Visitor Commercial
- Residential

County of San Diego Land Use
- Communications/Utilities
- Fire/Police Station
- Hotel/Motel
- Industrial
- Residential
- Open Space
- Healthcare
- Other Public Services
- Recreation
- Retail/Trade
- Warehousing
- School/Religious Facility
- Service Station
- Protected Natural Area
- Undeveloped Land

Existing Conditions
- 65 CNEL Contour

Existing Conditions + Proposed Project
- 65 CNEL Contour

1000' 0' 1000' 2000'

Existing Conditions vs. Existing Conditions with Proposed Project (PAL2)

Figure 2.4-6

Source: Land Use from City of Carlsbad and County of San Diego; Parcels from SANGIS

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2.5 Transportation and Traffic

This section addresses potential impacts of the Proposed Project on traffic, transportation, and circulation. A Transportation Impact Analysis Technical Report was prepared for the Proposed Project (LLG 2017). The report is attached as Appendix E to this PEIR.

2.5.1 Existing Conditions

2.5.1.1 Study Area

The following summary is a brief description of the existing roadway system in the Proposed Project study area, including roadway classifications as defined in the City of Carlsbad Mobility Element. Because the City owns and maintains the roadway network surrounding the Airport, the methodology and impacts analyzed in this section of the PEIR rely on the City's criteria. Data regarding the existing traffic conditions on the studied roadways, including 19 intersections and 19 segments are listed in Appendix E and illustrated in Figure 2.5-1.

Palomar Airport Road is classified as an Arterial Street. Palomar Airport Road is currently constructed as a six-lane divided roadway throughout the study area. The posted speed limit eastbound is 35 miles per hour (mph) between the I-5 ramps and Paseo Del Norte and 55 mph between Paseo Del Norte and Melrose Drive. The posted speed limit westbound is 55 mph between Melrose Drive and The Crossings Drive, 45 mph between The Crossings Drive and Paseo del Norte, and 35 mph between Paseo del Norte and the I-5 ramps. Street parking is not permitted along Palomar Airport Road.

El Camino Real is classified as an Arterial Street. El Camino Real is currently constructed as a five-lane divided roadway between Jackspar Drive and College Boulevard and a six-lane divided roadway between College Boulevard and Alga Road. The posted speed limit is 55 mph in both directions throughout the study area. On-street parking is not permitted along El Camino Real.

College Boulevard is classified as an Arterial Street. College Boulevard is currently constructed as four-lane divided roadway throughout the study area. The posted speed limit is 50 mph throughout the study area. Street parking is not permitted along College Boulevard.

Cannon Road is classified as an Arterial Street. Within the study area, Cannon Road is currently constructed as a four-lane divided roadway. The posted speed limit is 50 mph. Curbside parking is not permitted along Cannon Road.

Melrose Drive is classified as an Arterial Street. Melrose Drive is currently constructed as a six-lane divided roadway. The posted speed limit is 55 mph in both directions throughout the study area. On-street parking is not permitted along Melrose Drive.

Faraday Avenue is classified as an Employment/Transit Connector Street. Faraday Avenue is currently constructed as a two-lane roadway that is divided from Cannon Road to a mile southeast of Cannon Road and undivided with a two-way left turn lane from a mile southeast of

Cannon Road to South Melrose Drive. The posted speed limit is 40 mph throughout the study area. On-street parking is not permitted along Faraday Avenue.

Poinsettia Lane is classified as an Employment/Transit Connector Street between Carlsbad Boulevard and College Boulevard, an Arterial Connector Street between College Boulevard and Paseo Escuela, and a School Street between Paseo Escuela and Melrose Drive. Poinsettia Lane is currently constructed as a four-lane divided roadway throughout the study area. The posted speed limit is 50 mph. Street parking is not permitted along Poinsettia Lane.

Camino Vida Roble is classified as an Industrial Street. Camino Vida Roble is currently a two-lane undivided roadway with a two-way left turn lane. The posted speed limit is 40 mph. On-street parking is not permitted along Camino Vida Roble.

Yarrow Drive is classified as an Industrial Street. Yarrow Drive is currently constructed as a four-lane undivided roadway and its northern terminus serves as the main entrance to the airport. The posted speed limit is 40 mph. On-street parking is not permitted along Yarrow Drive.

Town Garden Road is classified as an Industrial Street. Town Garden Road is currently constructed as a four-lane undivided roadway east of El Camino Real and a two-lane undivided roadway west of El Camino Real. The posted speed limit is 40 mph east bound and 10 mph going west bound. On-street parking is not permitted along Town Garden Road.

Paseo Del Norte is classified as a Neighborhood Connector Street. Paseo Del Norte is currently constructed as four-lane divided roadway between Cannon Road and Car Country Drive and a four-lane undivided roadway with left turn pockets intermittently between Car Country Drive and Palomar Airport Road. South of Palomar Airport Road, Paseo Del Norte continues as a four-lane undivided roadway with a two way left turn lane. There is no posted speed limit. On-street parking is not permitted along Paseo Del Norte

Armada Drive is classified as an Industrial Street. Armada Drive is currently constructed as a four-lane divided roadway with a short segment having a two way left turn lane in between Fleet Street. The post speed limit is 40 mph. On-street parking is not permitted along Armada Drive.

Hidden Valley Road is classified as a Local/Neighborhood Street. Hidden Valley Road is currently constructed as a two-lane undivided roadway with a two way left turn lane. The posted speed limit is 40 mph. On-street parking is not permitted along Hidden Valley Road.

Loker Avenue is classified as an Industrial Street. Loker Avenue is currently constructed as a two-lane undivided roadway. The posted speed limit is 35 mph. On-street parking is permitted along Loker Avenue.

El Fuerte Street is classified as an Industrial Street between Faraday Avenue and Palomar Airport Road, a Neighborhood Connect Street between Palomar Airport Road and Bressi Ranch Way, and a School Street between Bressi Ranch Way and Poinsettia Lane. The posted speed limit is 45 mph. On-street parking is not permitted along El Fuerte Street.

Regarding the existing bicycle network, there is currently a Class 2 bike lane provided along each roadway within the study area except for the following:

- Palomar Airport Road, west of Paseo Del Norte
- Faraday Avenue, between El Camino Real & Palmer Way
- Armada Drive, south of Palomar Airport Road
- Hidden Valley Road, north of Palomar Airport Road
- Camino Vida Roble, north of Palomar Airport Road
- Yarrow Drive
- Town Garden Road, west of El Camino Real

Existing transit service in the vicinity of the Proposed Project is provided by the North County Transit District. The following North County Transit District bus routes serve the area with nearby stops along Palomar Airport Road at Camino Vida Roble, Yarrow Drive, and El Camino Real.

- Route 309 – Oceanside to Encinitas via El Camino Real
- Route 444 – Carlsbad Poinsettia COASTER Connection via Faraday Avenue & Rutherford Road
- Route 445 – Carlsbad Poinsettia COASTER Connection to Palomar College

2.5.1.2 Methodology

As discussed above, most analysis in this PEIR refers to the County's CEQA Guidelines for Determining Significance because the Airport is owned and managed by the County. However, because the City of Carlsbad owns and maintains the roadway network surrounding the Airport, this section of the PEIR relies on criteria established by the City.

Level of Service

Vehicles

Vehicle Level of Service (LOS) is a measure of traffic operating conditions whereby a letter grade is assigned from LOS A (no congestion) to F (high levels of congestion). Historically these grades characterize the perspective of drivers only, and they represent an indication of the comfort and convenience associated with driving. Per City of Carlsbad standards, the studied intersections were analyzed under AM and PM peak hour conditions according to the Carlsbad Growth Management Plan using the Intersection Capacity Utilization (ICU) method for existing conditions, and the Highway Capacity Manual method for future conditions. The studied segments were also analyzed on a peak-hour basis by calculating volume to capacity ratio (V/C) for each direction of the street segment.

Multi-Modal

In the City's 2015 General Plan Mobility Element, the LOS metric was revised to incorporate other modes of transportation, including bicycles, pedestrians, and transit. This new approach is referred to as a multimodal (MM) evaluation, which has a respective MMLOS for each mode of

transportation. The City's MMLOS approach identifies attributes of a location and identifies a qualitative LOS grade based on the pedestrian, bicycle, or transit facility. Each attribute contributes to a point system. When the total points for all attributes are added together, this corresponds to a qualitative letter grade. Each mode has separate criteria that evaluate the quality, amenities, and/or safety of its transportation system along with the friendliness of the infrastructure.

The roadway segments to be analyzed under MMLOS are unique for each mode of transportation. Specifically, pedestrian LOS segments are defined from each pedestrian entry point from the project to the nearest intersection in both directions. For bicycle LOS, segments are defined from each bicycle entry point from the project to the nearest intersection in both directions. For transit LOS, segments are defined from each pedestrian entry point from the project to the nearest transit stop for both directions of transit service, up to a quarter-mile. Thus, upon review of these criteria and in consultation with City staff, the applicable MMLOS study segments are as follows for the three modes:

Pedestrian

- Palomar Airport Road from Camino Vida Roble to Yarrow Drive
- Palomar Airport Road from Yarrow Drive to Lowes Shopping Center Driveway (at 2501 Palomar Airport Road)

Bicycle

- Palomar Airport Road from Camino Vida Roble to Yarrow Drive
- Palomar Airport Road from Yarrow Drive to Lowes Shopping Center Driveway (at 2501 Palomar Airport Road)

Transit

- Project frontage (northwest corner of intersection) to westbound transit stop on Yarrow Drive (200 feet south of Palomar Airport Road)
- Project frontage (northwest corner of intersection) to eastbound transit stop on Palomar Airport Road (200 feet east of Yarrow Drive)

2.5.1.3 LOS Thresholds

For intersections analyzed under the ICU methodology that are currently operating worse than LOS D, a project impact will be considered significant if the project causes the ICU value at an intersection to increase by more than 0.02. For street segments which are currently operating worse than LOS D, a project impact will be considered significant if the project causes the V/C at a segment to increase by more than 0.02. For intersections analyzed under the Highway Capacity Manual methodology (for long-term conditions) that are currently operating worse than LOS D, a project impact will be considered significant if the project causes the delay at an intersection to increase more than 2.0 seconds.

2.5.1.4 Vehicle Miles Traveled

In 2013, California Governor Jerry Brown signed into law Senate Bill (SB) 743, which created a new statewide approach to transportation and land use planning. A key aspect of this new approach looks at the relationship between new development and the number of vehicle miles traveled (VMT) generated by a development. Since SB 743 was passed, the State Office of Planning and Research (OPR) has been working to prepare draft revisions to the State's CEQA Guidelines. At the time of this writing, evaluation of transportation impacts using the VMT metric is not required by the State or County CEQA Guidelines, and LOS is the official metric for identifying impacts and mitigation. However, for informational purposes only, this section presents a voluntary evaluation of the potential VMT that could be generated by the Proposed Project.

2.5.1.5 Study Scenarios

Traffic conditions are analyzed in this section for the following study scenarios. In addition, all scenarios "plus project" include two project alternatives with different enplanement projections (i.e., departing passengers).

- Existing Conditions: 2016
- Existing Conditions Plus Project
- Near-Term Conditions (i.e., existing + cumulative): 2020[8]
- Near-Term Conditions Plus Project
- Long-Term Conditions: 2036[9]
- Long-Term Conditions Plus Project

2.5.1.6 Regulatory Setting

Federal

There are no federal transportation or circulation regulations applicable to the Proposed Project; however, the following state and local regulations pertaining to transportation would apply.

State

Assembly Bill 1358 – California Complete Streets Act of 2008

Assembly Bill 1358 (AB) 1358 requires circulation elements as of January 1, 2011, to accommodate the transportation system from a multi-modal perspective, including public transit, walking and biking, which have traditionally been marginalized in comparison to autos in contemporary American urban planning.

[8] Near-Term study years are typically chosen using the closest future 5-year increment when additional project traffic would be generated.

[9] Because 2036 reflects the end of the Master Plan's 20-year planning period, it is considered the long-term condition.

Senate Bill 743

In September 2013, Governor Brown approved Senate Bill SB 743, which created a process to change the way transportation impacts are analyzed under CEQA. Specifically, SB 743 requires the State OPR to amend the CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts. Particularly within areas served by transit, those alternative criteria must "promote the reduction of [GHG] emissions, the development of multimodal transportation networks, and a diversity of land uses" (State of California 2017). Measurements of transportation impacts may include VMT, VMT per capita, automobile trip generation rates, or automobile trips generated. On January 20, 2016, OPR released for public review a revised proposal for changes to the CEQA Guidelines.

Local

City of Carlsbad – General Plan

The City adopted an update to the General Plan in September 2015, which defines the community vision for the future growth and development of the City. The General Plan is organized into elements structured around the core values of the Carlsbad Community Vision, while meeting state law requirements for comprehensiveness. Specifically, the Mobility Element seeks to enhance vehicle, walking, bicycling, and public transportation systems options within the City, and improve mobility through increased connectivity and intelligent transportation management.

Per the City of Carlsbad's Mobility Element, Palomar Airport Road from I-5 to College Boulevard and from El Camino Real to Melrose Drive are exempt from City LOS standards. Therefore, the City plans to implement transportation demand management, transportation system management, and livable streets techniques to better manage the transportation system as a whole.

City of Carlsbad – Bicycle Master Plan

The City adopted a Bicycle Master Plan in 2007, which guides the future development of the city's bicycle facilities and enhancement of the existing bikeway network. The Bicycle Master Plan identifies existing and planned bicycle facilities and addresses gaps, constrained areas, and improvements at intersections. It also complies with the requirements of the Bicycle Transportation Account, which is an annual program providing state funds for bicycle facilities improvements.

City of Carlsbad – Pedestrian Master Plan

The City's Pedestrian Master Plan was completed in August 2008. It is intended to assist the City in implementing and improving their pedestrian facilities into the future.

City of Carlsbad – Americans with Disabilities Act Transition Plan

Carlsbad recently completed an Americans with Disabilities Act (ADA) transition plan, which identifies facilities that require improvements to meet current ADA standards, and a plan for transitioning those facilities to become ADA-compliant into the future.

City of Carlsbad – Growth Management Plan

In 1986, Carlsbad residents voted to pass the Growth Management Plan, which put conditions on how growth could occur throughout the City while maintaining the right mix of commercial, industrial, recreation, open space, and infrastructure. It ensures the City maintains an excellent quality of life with sufficient parks, libraries, roads, open space, and important city infrastructure and services as the city grows. Under the Growth Management Plan, development can only occur when certain quality of life standards are met. Specifically, the Citywide Facilities and Improvement Plan was adopted to establish performance standards for 11 types of public facilities, including transportation. Subsequently, the city was divided into 25 subareas with a unique Local Facilities Management Plan (LFMP) for each subarea. McClellan-Palomar Airport is located within LFMP Zone 5, which was adopted July 1, 1987.

2.5.2 Analysis of Project Effects and Determination of Significance

The following significance criteria for transportation and traffic impacts are based on Appendix G of the CEQA Guidelines, while the specific thresholds are based on City of Carlsbad Growth Management Plan and Mobility Element. A significant impact to transportation and traffic would occur if the Proposed Project would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

- Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

- Result in inadequate emergency access?

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

2.5.2.1 Performance of Circulation System

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Analysis

Trip Generation

In accordance with City guidelines, Traffic Impact Study Guidelines, and the project-specific Transportation Impact Analysis, trip generation rates were used to estimate the number of trips associated with the Proposed Project. As facility manager for this public-use airport, the County does not have discretion over the ongoing aircraft use. However, the County does issue leases for commercial air service facilities and the Airport Master Plan Update identifies two aviation planning scenarios that consider a range of potential commercial air service activity (PAL 1 and PAL 2) that would result in an increase in passenger vehicle trips.

The first scenario (herein after referred to as PAL 1) estimates the number of average daily enplanements will reach 168 in the Year 2020, and 835 by Year 2036. The second scenario (herein after referred to as PAL 2) estimates the number of average daily enplanements will reach 316 by Year 2020, and 1,575 by Year 2036.

Project-generated traffic was distributed and assigned to the street system based on existing and historical traffic counts, the distribution of traffic at the Proposed Project access point, the proximity of the Proposed Project to I-5 and arterials, and locations of residences and places of employment. The trip generation rate for the Proposed Project is based on the rate outlined in the Institute of Transportation Engineers Journal[10], in addition to a review of trip generation methodologies at other similarly sized airports[11], which results in a rate of 2.67 daily trips per enplanement. Refer to Table 2.5-1 for a summary of the trip generation calculations. Refer to Figure 2.5-2 for a depiction of the vehicle trip distribution of the project-generated traffic. Trips were then assigned to the studied intersections based on the characteristics of the streets within the study area, anticipated congestion, and directness of route. The trip generation rate accounts for traffic generated by passengers, employees, and airport operations associated with the increase in enplanements. The Proposed Project will not augment the non-commercial uses

[10] Institute of Transportation Engineers Journal, Airport Trip Generation, May 1998 (2.67–2.74 ADT per enplanement for airports with less than one million passengers).

[11] San Luis Obispo County Regional Airport Master Plan Update, Final EA/EIR, July 2006 (2.67 ADT per enplanement).

at the airport and therefore, non-commercial land uses did not need to be accounted for in the trip generation calculations.

Existing + Project Conditions

Existing traffic conditions were obtained from the City of Carlsbad's 2016 Traffic Monitoring Program. At locations where the City has not collected data, traffic counts were conducted on June 21, 2017. This section summarizes the results of the analysis conducted by adding the Proposed Project's generated traffic to existing conditions (2016).

Intersections

As shown in Table 2.5-2, several intersections are calculated to continue operating at LOS E or F under both PAL 1 and PAL 2 enplanement scenarios. However, based on the City of Carlsbad thresholds, no intersection impacts would occur since the Proposed Project's contribution does not exceed an increase of 0.02 ICU.

Segments

As shown in Table 2.5-3, all studied segments are calculated to continue operating at LOS B or better under both PAL 1 and PAL 2 enplanement scenarios. Therefore, based on the City of Carlsbad thresholds, no street segment impacts would occur as a result of the Proposed Project since all segments would operate at an acceptable LOS.

As demonstrated in the above analysis, the Proposed Project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. Therefore, the Proposed Project would result in less than significant impacts.

Vehicle Miles Traveled

As discussed above, evaluation of transportation impacts using the VMT metric is not required by the State or County CEQA Guidelines, and LOS is the official metric for identifying impacts and mitigation at the time of this writing. However, in an effort to provide an evaluation of VMT, an analysis was conducted to document the Proposed Project's potential VMT and Average Vehicle Trip Length (ATL) per assigned vehicle trip. San Diego Association of Governments' (SANDAG) *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (April 2002) reports an ATL of 12.5 miles for any airport and states "trip lengths are average weighted for all trips to and from the land use site." The SANDAG trip length is for any given airport, which could range from large commercial hub (e.g., international) airports to non-primary reliever or general aviation airports. Due the Airport's size and scale compared to a larger commercial hub airport, and because the Airport would generate most of its trips from cities and communities located in northern San Diego County, an ATL of 6.25 miles was estimated for the Proposed Project. As such, Table 2.5-4 shows the estimated VMT calculations for both Proposed Project alternatives (PAL 1 and PAL 2). Using the estimated ATL, the total daily VMT generated by the Project was calculated by multiplying the Project ATL by the Project trip generation. Due to the absence of significance thresholds and adoption of VMT guidelines, no

impact determination can be made; therefore, the analysis has been included for informational reference only.

2.5.2.2 Congestion Management Program

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Analysis

As discussed above, development within the City is guided by the Growth Management Plan, which ensures that adequate public facilities are provided concurrent with development growth. As discussed above in Section 2.5.2.6, this includes ensuring that proposed development would be consistent with the Citywide Facilities and Improvement Plan and applicable LFMP. Specifically, the roadway "buildout" conditions identified in LFMP for Zone 5 have been mostly implemented. The Master Plan Update does not propose any new development that would conflict or prevent the surrounding roadways from being built-out, nor does the Master Plan Update necessitate the construction of new or improved roadways. Therefore, the Proposed Project would not conflict with an applicable congestion management plan.

2.5.2.3 Air Traffic

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Analysis

The Proposed Project would not change air traffic patterns. As a planning tool to forecast aviation growth at the Airport, the Airport Master Plan Update does project that air traffic levels (i.e., operations, enplanements) would increase over the next 20-year planning period. However, an increase in aviation operations would not result in a change to air traffic patterns and no structures are proposed that would interfere, obstruct, or alter existing flight paths. Flight tracks and airspace navigation are under the jurisdiction of the FAA, and new flight procedures are not proposed by this Master Plan Update. Furthermore, the existing Airport has been in operation since 1959 with one active runway, and the Airport Master Plan Update does not propose changing its general location that would introduce new or increased safety hazards.

2.5.2.4 Hazards Due to Design Feature

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Analysis

The existing Airport has been in operation since 1959, and the proposed Airport Master Plan Update does not include nor recommend a change in land use. All improvements would occur within the County-owned and maintained parcels for operated the Airport and no off-site improvements are proposed. Furthermore, the Airport Master Plan Update improvements are proposed using current FAA airport design standards to maximize safety on the airfield and would not increase hazards due to their design.

2.5.2.5 Emergency Access

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- Result in inadequate emergency access?

Analysis

The Proposed Project does not include expansion of the Airport boundaries, and all planned improvements would occur within the existing County-owned parcels. The Proposed Project does not include or propose activities that would obstruct or degrade emergency access to the existing facilities.

2.5.2.6 Pedestrian, Bicycle, and Transit Facilities

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Analysis

As outlined by the City General Plan Mobility Element, various modes of travel (pedestrian, bicycle, transit) are subject to MMLOS standards. However, depending on the type of roadways within the study area (e.g., arterial, industrial, village, etc.), some modes are not subject to MMLOS standards. For reference, the studied roadways for this PEIR are cited in Section 2.5.1.

Pedestrian Facilities

Upon review of the Mobility Element and in consultation with City staff, the Proposed Project study area for pedestrian facilities included various segments of Palomar Airport Road, which is classified as an arterial street. As identified in the Mobility Element, arterial streets are not subject to MMLOS standards for pedestrian facilities; therefore, no further analysis is provided.

Bicycle Facilities

Upon review of the Mobility Element and in consultation with City staff, the Proposed Project study area for bicycle facilities included various segments of Palomar Airport Road, which is classified as an arterial street. As identified in the Mobility Element, arterial streets are not subject to MMLOS standards for bicycle facilities; therefore, no further analysis is provided.

Transit Facilities

Upon review of the Mobility Element and in consultation with City staff, the Proposed Project study area for transit facilities included various segments of Palomar Airport Road, which is classified as an arterial street, and Yarrow Drive, which is classified as an industrial street. As identified in the Mobility Element, arterial and industrial streets are subject to MMLOS standards for transit facilities.

Table 2.5-5 outlines all criteria by which roadways are reviewed and evaluated in accordance with City thresholds for transit MMLOS standards. As highlighted in the table, the existing transit amenities along Arterial Streets (i.e., Palomar Airport Road) produce a combined point value of 100 (equivalent to LOS A) in five of the six categories. Existing transit amenities along Industrial Streets (i.e., Yarrow Drive) produce a combined point value of 95 (equivalent to LOS A) in five of the six categories. Therefore, these exceed the minimum standard of 60 points.

2.5.3 Cumulative Impact Analysis

2.5.3.1 Near-Term + Project Conditions

This section summarizes the results of the analysis conducted by adding the Proposed Project's generated traffic to near-term conditions (2020) in combination with approved or pending (i.e., cumulative) projects in the surrounding area.

Intersections

As shown in Table 2.5-6, several intersections are calculated to continue operating at LOS E or F under both PAL 1 and PAL 2 enplanement scenarios. However, based on the City of Carlsbad thresholds, no intersection impacts would occur since the Proposed Project's contribution does not exceed an increase of 0.02 ICU.

Segments

As shown in Table 2.5-7, all studied segments are calculated to continue operating at LOS B or better under both PAL 1 and PAL 2 enplanement scenarios. Therefore, based on the City of Carlsbad thresholds, no street segment impacts would occur as a result of the Proposed Project since all segments would operate at an acceptable LOS.

2.5.3.2 Long-term + Project Conditions

This section summarizes the results of the analysis conducted by adding the Proposed Project's generated traffic to long-term conditions (2036). The SANDAG Series 13 Model forecast was used as the source to obtain long-term volumes for the study area locations. Peak hour volumes were estimated based on the model and partially on the existing relationship between Average Daily Trips (ADT) and peak hour volumes. For planning purposes, only the highest enplanement scenario (PAL 2) was analyzed.

Intersections

As shown in Table 2.5-8, several intersections are calculated to continue operating at LOS E or F under the PAL 2 commercial air service enplanement scenario. After adding the Proposed Project's trip contribution to traffic conditions in Year 2036, two of these intersections were found to result in an increased delay of more than 2.0 seconds. Specifically, the Proposed Project would result in an increased delay of 4.8 seconds at the intersection of Palomar Airport Road/Camino Vida Roble during PM peak hour, and would be considered cumulatively significant (TR-1). As identified in the Transportation Impact Analysis Technical Report, the amount of peak hour traffic that would trigger a cumulative impact was correlated to daily enplanements using the trip generation factors. As such, a cumulative impact at the intersection of Palomar Airport Road/Camino Vida Roble is not estimated to occur until the Airport reaches 1,260 daily enplanements. The Proposed Project would also result in an increased delay of 2.7 and 4.7 seconds at the intersection of Palomar Airport Road/El Camino Real during AM and PM peak hours, respectively. Therefore, the Proposed Project's contribution to this intersection is considered cumulatively significant (TR-2). A cumulative impact at the intersection of Palomar Airport Road/El Camino Real is not estimated to occur until the Airport reaches 670 daily enplanements.

Segments

As shown in Table 2.5-9, all studied segments are calculated to continue operating at an acceptable LOS under the PAL 2 commercial air service enplanement scenario. Therefore, based on the City of Carlsbad thresholds, no significant street segment impacts would occur as a result of the Proposed Project.

2.5.4 Significance of Impacts Prior to Mitigation

TR-1: Addition of the Proposed Project traffic combined with cumulative traffic to the intersection of Palomar Airport Road/Camino Vida Roble would increase the delay by 4.8 seconds (PM peak hour). This is greater than the significance threshold of more than 2.0 seconds over existing conditions for LOS E/F, and is therefore considered a significant cumulative impact.

TR-2: Addition of the Proposed Project traffic combined with cumulative traffic to the intersection of Palomar Airport Road/El Camino Real would increase the delay by 2.7 seconds (AM peak hour) and 4.8 seconds (PM peak hour). These are greater than the significance threshold of more than 2.0 seconds over existing conditions for LOS E/F, and is therefore considered a significant cumulative impact.

2.5.5 Mitigation Measures

As identified in the Transportation Impact Analysis Technical Report, mitigation measures for the identified cumulative impacts would not be required to be implemented until the Airport enplanements incrementally produce a cumulative traffic impact. As such, the amount of peak hour traffic that would trigger a cumulative impact was correlated to daily enplanements using the trip generation factors. As a result, a cumulative impact at the intersection of Palomar Airport Road/El Camino Real is not estimated to occur until the Airport reaches 670 daily enplanements, and at the intersection of Palomar Airport Road/Camino Vida Roble once the Airport reached 1,260 daily enplanements.

As such, the following mitigation measures are incorporated into the Proposed Project:

M-TR-1: Cumulative impacts would be mitigated below the level of significance by financially contributing a fair-share payment to the City of Carlsbad towards the installation of signal improvements along Palomar Airport Road, alternative improvements such as adding a southbound right-turn overlap phase, or other Transportation System Management strategy to improve signal operations. Based on the Proposed Project's traffic contribution, this would equate to an estimated fair-share payment of 10.7 percent of the cost to implement signal improvements or other Transportation System Management strategy in consultation with the City.

Mitigation Measure M-TR-1 would not be required to be implemented until the number of Airport enplanements incrementally produce a cumulative traffic impact at the intersection of Palomar Airport Road/Camino Vida Roble.

M-TR-2: Cumulative impacts would be mitigated below the level of significance by financially contributing a fair-share payment to the City of Carlsbad towards the installation of signal improvements along Palomar Airport Road or other Transportation System Management strategy to improve signal operations. Based on the Proposed Project's traffic contribution, this would equate to an estimated fair-share payment of 7.5 percent of the cost to implement signal

improvements or other Transportation System Management strategy in consultation with the City.

Mitigation Measure M-TR-2 would not be required to be implemented until the number of Airport enplanements incrementally produce a cumulative traffic impact at the intersection of Palomar Airport Road/El Camino Real.

2.5.6 Conclusion

Impacts TR-1 and TR-2 are associated with cumulative impacts to two intersections with Palomar Airport Road, including Camino Vida Roble and El Camino Real. Prior to triggering of each respective impact due to the Proposed Project, the County shall implement M-TR-1 and M-TR-2. Therefore, because the aforementioned mitigation measures would fully mitigate for cumulative impacts, the Proposed Project would result in a less than significant impact to traffic and transportation.

Table 2.5-1. Trip Generation

Land Use	Size	Daily Trip Ends (ADT)		AM Peak Hour				PM Peak Hour			
		Rate [a]	Volume	% of ADT [b]	In:Out Split	Volume In	Volume Out	% of ADT [b]	In:Out Split	Volume In	Volume Out
Near-Term Conditions (2020)											
PAL 1	168 ENP	2.67 /ENP	449	5.0%	6:4	14	9	6.0%	5:5	14	13
PAL 2	316 ENP	2.67 /ENP	844	5.0%	6:4	26	17	6.0%	5:5	26	25
Long-Term Conditions (2036)											
PAL 1	835 ENP	2.67 /ENP	2,230	5.0%	6:4	67	45	6.0%	5:5	67	67
PAL 2	1,575 ENP	2.67 /ENP	4,206	5.0%	6:4	127	84	6.0%	5:5	127	126

Note: ENP = enplanements

Source: Transportation Impact Analysis Technical Report (LLG 2017), Appendix E

a. Trip generation rates obtained from "Airport Trip Generation" (ITE Journal, 1998) and San Luis Obispo County Regional Airport Master Plan Update, Final EA/EIR, July 2006.

b. Peak hour percentages obtained from SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (April 2002)*.

Table 2.5-2. Existing + Project Intersection Operations

Intersection	Control Type	Peak Hour	Existing		Existing+ Project (PAL 1)			Existing + Project (PAL 2)		
			ICU[a]	LOS[b]	ICU	LOS	Δ[c]	ICU	LOS	Δ
1. Canon Rd./ Faraday Ave.	Signal	AM	0.47	A	0.47	A	0.00	0.47	A	0.00
		PM	0.51	A	0.51	A	0.00	0.51	A	0.00
2. El Camino Real / College Blvd.	Signal	AM	0.52	A	0.52	A	0.00	0.52	A	0.00
		PM	0.61	B	0.61	B	0.00	0.61	B	0.00
3. College Blvd. / Faraday Ave.	Signal	AM	0.54	A	0.54	A	0.00	0.54	A	0.00
		PM	0.44	A	0.44	A	0.00	0.44	A	0.00
4. El Camino Real / Faraday Ave.	Signal	AM	0.70	B	0.70	B	0.00	0.70	B	0.00
		PM	0.77	C	0.77	C	0.00	0.77	C	0.00
5. I-5 SB Ramps / Palomar Airport Rd.	Signal	AM	0.57	A	0.57	A	0.00	0.57	A	0.00
		PM	0.44	A	0.44	A	0.00	0.44	A	0.00
6. I-5 NB Ramps / Palomar Airport Rd.	Signal	AM	0.68	B	0.68	B	0.00	0.68	B	0.00
		PM	0.63	B	0.64	B	0.01	0.63	B	0.00
7. Palomar Airport Rd./ Paseo Del Norte	Signal	AM	0.65	B	0.65	B	0.00	0.65	B	0.00
		PM	0.69	B	0.69	B	0.00	0.69	B	0.00
8. Palomar Airport Rd./ Armada Dr.	Signal	AM	0.61	B	0.61	B	0.00	0.61	B	0.00
		PM	0.70	B	0.70	B	0.00	0.70	B	0.00
9. Palomar Airport Rd./ Hidden Valley Rd.	Signal	AM	0.62	B	0.62	B	0.00	0.62	B	0.00
		PM	0.75	C	0.75	C	0.00	0.75	C	0.00
10. Palomar Airport Rd./ College Blvd.	Signal	AM	0.59	A	0.59	A	0.00	0.59	A	0.00
		PM	0.72	C	0.72	C	0.00	0.72	C	0.00
11. Palomar Airport Rd./ Camino Vida Roble	Signal	AM	0.59	A	0.59	A	0.00	0.59	A	0.00
		PM	0.77	C	0.77	C	0.00	0.77	C	0.00
12. Palomar Airport Rd./ Yarrow Dr.	Signal	AM	0.49	A	0.50	A	0.01	0.50	A	0.01
		PM	0.67	B	0.67	B	0.00	0.68	B	0.01
13. Palomar Airport Rd./ El Camino Real	Signal	AM	0.64	B	0.64	B	0.00	0.64	B	0.00
		PM	0.82	D	0.82	D	0.00	0.83	D	0.01
14. Palomar Airport Rd./ Loker Ave.	Signal	AM	0.78	C	0.78	C	0.00	0.78	C	0.00
		PM	0.74	C	0.74	C	0.00	0.74	C	0.00
15. Palomar Airport Rd./ El Fuerte St.	Signal	AM	0.69	B	0.69	B	0.00	0.69	B	0.00
		PM	0.84	D	0.84	D	0.00	0.84	D	0.00
16. Palomar Airport Rd./ Melrose Dr.	Signal	AM	0.90	D	0.90	D	0.00	0.90	D	0.00
		PM	0.70	B	0.70	B	0.00	0.70	B	0.00
17. El Camino Real / Town Garden Rd.	Signal	AM	0.51	A	0.51	A	0.00	0.51	A	0.00
		PM	0.64	B	0.65	B	0.01	0.65	B	0.01
18. El Camino Real / Camino Vida Roble	Signal	AM	0.51	A	0.51	A	0.00	0.51	A	0.00
		PM	0.58	A	0.58	A	0.00	0.58	A	0.00
19. El Camino Real / Poinsettia L	Signal	AM	0.44	A	0.44	A	0.00	0.44	A	0.00
		PM	0.50	A	0.50	A	0.00	0.50	A	0.00

Footnotes:

a. Intersection Capacity Utilization
b. Level of Service
c. Δ denotes a Project induced increase in ICU

ICU	LOS
0.0 ≤ 0.55	A
0.56 to 0.64	B
0.65 to 0.73	C
0.74 to 0.82	D
0.83 to 0.91	E
> 0.92	F

Table 2.5-3. Existing + Project Street Segment Operations During Peak Hours

Street Segment	Dir.	Peak Hour	Capacity (LOS E) [a]	Existing			Existing + PAL 1				Existing + PAL 2			
				Vol.	LOS	V/C	Vol.	LOS	V/C	Δ	Vol.	LOS	V/C	Δ
Palomar Airport Rd.														
I-5 Ramps to Paseo Del Norte	EB	AM	5,400	2,689	A	0.498	2,694	A	0.499	0.001	2,697	A	0.499	0.001
		PM	5,400	1,684	A	0.312	1,689	A	0.313	0.001	1,692	A	0.313	0.001
	WB	AM	5,400	1,213	A	0.225	1,217	A	0.225	0.001	1,219	A	0.226	0.001
		PM	5,400	2,488	A	0.461	2,493	A	0.462	0.001	2,496	A	0.462	0.001
Paseo Del Norte to Armada Dr.	EB	AM	5,400	2,619	A	0.485	2,624	A	0.486	0.001	2,627	A	0.486	0.001
		PM	5,400	1,593	A	0.295	1,598	A	0.296	0.001	1,601	A	0.296	0.001
	WB	AM	5,400	1,194	A	0.221	1,198	A	0.222	0.001	1,200	A	0.222	0.001
		PM	5,400	2,634	A	0.488	2,639	A	0.489	0.001	2,642	A	0.489	0.001
Armada Dr. to Hidden Valley Ranch	EB	AM	5,400	2,503	A	0.464	2,508	A	0.464	0.000	2,511	A	0.465	0.001
		PM	5,400	1,729	A	0.320	1,734	A	0.321	0.001	1,737	A	0.322	0.002
	WB	AM	5,400	1,351	A	0.250	1,355	A	0.251	0.001	1,357	A	0.251	0.001
		PM	5,400	2,789	A	0.516	2,794	A	0.517	0.001	2,797	A	0.518	0.002
Hidden Valley Ranch to College Blvd.	EB	AM	5,400	2,455	A	0.455	2,460	A	0.456	0.001	2,463	A	0.456	0.001
		PM	5,400	2,149	A	0.398	2,154	A	0.399	0.001	2,157	A	0.399	0.001
	WB	AM	5,400	1,301	A	0.241	1,305	A	0.242	0.001	1,307	A	0.242	0.001
		PM	5,400	2,294	A	0.425	2,299	A	0.426	0.001	2,302	A	0.426	0.001
College Blvd. to Camino Vida Roble	EB	AM	5,400	1,851	A	0.343	1,856	A	0.344	0.001	1,861	A	0.345	0.002
		PM	5,400	1,406	A	0.260	1,411	A	0.261	0.001	1,416	A	0.262	0.002
	WB	AM	5,400	1,183	A	0.219	1,187	A	0.220	0.001	1,190	A	0.220	0.001
		PM	5,400	1,911	A	0.354	1,916	A	0.355	0.001	1,921	A	0.356	0.002
Camino Vida Roble to Yarrow Dr.	EB	AM	5,400	1,521	A	0.282	1,524	A	0.282	0.000	1,526	A	0.283	0.001
		PM	5,400	2,088	A	0.387	2,091	A	0.387	0.000	2,093	A	0.388	0.001
	WB	AM	5,400	1,347	A	0.249	1,349	A	0.250	0.001	1,351	A	0.250	0.001
		PM	5,400	1,338	A	0.248	1,341	A	0.248	0.000	1,343	A	0.249	0.001
Yarrow Dr. to El Camino Real	EB	AM	5,400	1,153	A	0.214	1,158	A	0.214	0.000	1,162	A	0.215	0.001
		PM	5,400	2,064	A	0.382	2,071	A	0.384	0.002	2,077	A	0.385	0.003
	WB	AM	5,400	1,941	A	0.359	1,949	A	0.361	0.002	1,955	A	0.362	0.003
		PM	5,400	1,333	A	0.247	1,341	A	0.248	0.001	1,347	A	0.249	0.002
El Camino Real to Loker Ave.	EB	AM	5,400	1,640	A	0.304	1,641	A	0.304	0.000	1,643	A	0.304	0.000
		PM	5,400	2,700	A	0.500	2,702	A	0.500	0.000	2,704	A	0.501	0.001
	WB	AM	5,400	2,654	A	0.491	2,656	A	0.492	0.001	2,658	A	0.492	0.001
		PM	5,400	1,927	A	0.357	1,929	A	0.357	0.000	1,931	A	0.358	0.001
Loker Ave. to El Fuerte St.	EB	AM	5,400	1,271	A	0.235	1,272	A	0.236	0.001	1,274	A	0.236	0.001
		PM	5,400	2,635	A	0.488	2,637	A	0.488	0.000	2,639	A	0.489	0.001
	WB	AM	5,400	2,924	A	0.541	2,926	A	0.542	0.001	2,928	A	0.542	0.001
		PM	5,400	1,603	A	0.297	1,605	A	0.297	0.000	1,607	A	0.298	0.001
El Fuerte St. to Melrose Dr.	EB	AM	5,400	1,180	A	0.219	1,181	A	0.219	0.000	1,183	A	0.219	0.000
		PM	5,400	2,846	A	0.527	2,848	A	0.527	0.000	2,850	A	0.528	0.001
	WB	AM	5,400	3,350	B	0.620	3,352	B	0.621	0.001	3,354	B	0.621	0.001
		PM	5,400	1,656	A	0.307	1,658	A	0.307	0.000	1,660	A	0.307	0.000
East of Melrose Dr.	EB	AM	5,400	1,090	A	0.202	1,091	A	0.202	0.000	1,093	A	0.202	0.000
		PM	5,400	2,270	A	0.420	2,272	A	0.421	0.001	2,272	A	0.421	0.001
	WB	AM	5,400	1,761	A	0.326	1,763	A	0.326	0.000	1,763	A	0..326	0.000
		PM	5,400	1,157	A	0.214	1,159	A	0.215	0.001	1,159	A	0.215	0.001
El Camino Real														
North of College Blvd.	EB	AM	3,600	2,479	B	0.689	2,481	B	0.689	0.000	2,483	B	0.690	0.001
		PM	3,600	1,158	A	0.322	1,160	A	0.322	0.000	1,162	A	0.323	0.001
	WB	AM	5,400	671	A	0.124	673	A	0.125	0.001	673	A	0.125	0.001
		PM	5,400	2,522	A	0.467	2,524	A	0.467	0.000	2,526	A	0.468	0.001
College Blvd. to Faraday Ave.	NB	AM	5,400	592	A	0.110	594	A	0.110	0.000	594	A	0.110	0.000
		PM	5,400	1,848	A	0.342	1,850	A	0.343	0.001	1,852	A	0.343	0.001
	SB	AM	5,400	2,034	A	0.377	2,036	A	0.377	0.000	2,038	A	0.377	0.000
		PM	5,400	1,167	A	0.216	1,169	A	0.216	0.000	1,171	A	0.217	0.001

Table 2.5-3. Existing + Project Street Segment Operations During Peak Hours

Street Segment	Dir.	Peak Hour	Capacity (LOS E) [a]	Existing			Existing + PAL 1				Existing + PAL 2			
				Vol.	LOS	V/C	Vol.	LOS	V/C	Δ	Vol.	LOS	V/C	Δ
Faraday Ave. to Palomar Airport Rd.	NB	AM	5,400	1,092	A	0.202	1,094	A	0.203	0.001	1,095	A	0.203	0.001
		PM	5,400	1,642	A	0.304	1,645	A	0.305	0.001	1,647	A	0.305	0.001
	SB	AM	5,400	1,699	A	0.315	1,702	A	0.315	0.000	1,704	A	0.316	0.001
		PM	5,400	1,729	A	0.320	1,732	A	0.321	0.001	1,734	A	0.321	0.001
Palomar Airport Rd.to Town Garden Rd.	NB	AM	5,400	1,160	A	0.215	1,163	A	0.215	0.000	1,165	A	0.216	0.001
		PM	5,400	1,462	A	0.271	1,465	A	0.271	0.000	1,467	A	0.272	0.001
	SB	AM	5,400	1,735	A	0.321	1,737	A	0.322	0.001	1,738	A	0.322	0.001
		PM	5,400	1,507	A	0.279	1,509	A	0.279	0.000	1,511	A	0.280	0.001
Town Garden Rd.to Camino Vida Roble	NB	AM	5,400	1,423	A	0.264	1,426	A	0.264	0.000	1,428	A	0.264	0.001
		PM	5,400	1,523	A	0.282	1,526	A	0.283	0.001	1,528	A	0.283	0.001
	SB	AM	5,400	1,497	A	0.277	1,499	A	0.278	0.001	1,500	A	0.278	0.001
		PM	5,400	1,859	A	0.344	1,861	A	0.345	0.001	1,863	A	0.345	0.001
Camino Vida Roble to Poinsettia Ln.	NB	AM	3,600	1,416	A	0.393	1,420	A	0.394	0.001	1,423	A	0.395	0.002
		PM	3,600	1,334	A	0.371	1,338	A	0.372	0.001	1,341	A	0.373	0.001
	SB	AM	5,400	1,392	A	0.258	1,394	A	0.258	0.000	1,396	A	0.259	0.001
		PM	5,400	2,055	A	0.381	2,058	A	0.381	0.000	2,061	A	0.382	0.001
South of Poinsettia Ln.	NB	AM	5,400	1,510	A	0.280	1,514	A	0.280	0.000	1,517	A	0.281	0.001
		PM	5,400	1,682	A	0.311	1,686	A	0.312	0.001	1,689	A	0.313	0.002
	SB	AM	5,400	1,501	A	0.278	1,503	A	0.278	0.000	1,505	A	0.279	0.001
		PM	5,400	2,067	A	0.383	2,070	A	0.383	0.000	2,073	A	0.384	0.001
College Rd.														
Aston Ave. to Palomar Airport Rd.	NB	AM	3,600	1,117	A	0.310	1,117	A	0.310	0.000	1,117	A	0.310	0.000
		PM	3,600	473	A	0.131	473	A	0.131	0.000	474	A	0.132	0.001
	SB	AM	3,600	388	A	0.108	388	A	0.108	0.000	389	A	0.108	0.000
		PM	3,600	969	A	0.269	969	A	0.269	0.000	970	A	0.269	0.000

Footnotes:

a. Capacities based on 1,800 vehicles per lane per hour
b. LOS = Level of Service
c. V/C = ratio of Volume to Capacity
d. Δ denotes a project-induced increase in the Volume to Capacity Ratio

Table 2.5-4. Project-Generated Vehicle Miles Traveled

Project Scenario	Average Trip Length (miles)*	Average Daily Vehicle Trips	Daily Vehicle Miles Traveled (miles)**
Near-Term Project (PAL 1)	6.25	449	2,807
Near-Term Project (PAL 2)	6.25	844	5,275
Long-Term Project (PAL 1)	6.25	2,230	13,938
Long-Term Project (PAL 2)	6.25	4,206	26,288

* Trip length is the average of all trips generated by the airport, including employees, patrons, deliveries, etc.

** Rounded up to whole number.

Table 2.5-5. Transit and Ridesharing MMLOS Criteria

Typology			"MMLOS = D" Standard Applies			"MMLOS = D" Standard Does Not Apply						
			Arterial Streets	Employment/ Transit Connector Streets	Industrial Streets	Identity Streets	Village Streets	Arterial Connector Streets	Neigh. Connector Streets	Coastal Streets	School Streets	Local/ Neigh. Streets
Criteria		Points										
Existing Transit Route Located within 1/4 Mile Walk from Roadway Section												
Access	No greater than 1/4 mile walk to the nearest transit stop	40	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	No greater than 1/2 mile walk to the nearest transit stop	20	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	No greater than 1 mile bicycle ride to the nearest transit stop	10	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	ADA compliant connections to transit stops	20	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
Connectivity	Multiple transit routes stop on segment	10	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	Route provides a direct link to a COASTER station or mobility hub	30	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	Route provides for a single transfer to reach a COASTER station or mobility hub	15	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
Transit priority	Dedicated right of way	5	◊	◊	◊	*	*	*	*	*	*	*
	Transit priority during peak hours	5	*	*	*	*	*	*	*	*	*	*
Service	Headways of- 15 minutes between 6:30-8:30 am and 4-6 pm on weekdays	20	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	Headways of 30 minutes between 6:30-8:30 am and 4-6 pm on weekdays	10	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	Headways of 1 hour between 6:30-8:30 am and 4-6 pm on weekdays	5	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	No more than 2 hour headways between 6 am and 7 pm on weekdays	5	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	No more than 2 hour headways between 9 am and 5 pm on weekends	5	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊

Table 2.5-5. Transit and Ridesharing MMLOS Criteria

Typology			"MMLOS = D" Standard Applies			"MMLOS = D" Standard Does Not Apply						
			Arterial Streets	Employment/ Transit Connector Streets	Industrial Streets	Identity Streets	Village Streets	Arterial Connector Streets	Neigh. Connector Streets	Coastal Streets	School Streets	Local/ Neigh. Streets
	Criteria	**Points**										
Amenities	Covered bus stops	20	◊	◊	◊	◊	◊	◊	◊	◊	◊	*
	Bench	20	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	Well-lit stop that provides a sense of security	20	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	Trash cans	5	◊	◊	◊	◊	◊	◊	◊	◊	◊	*
	Bus stop located within a block of commercial services	5	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
Bicycle Accom.	Bike parking available at the bus stop	10	◊	◊	◊	◊	◊	◊	◊	◊	◊	*
	Buses that provide on-board bike racks	5	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
No Existing Transit Route Located within 1/4 Mile Walk from Roadway Section (or by approval of the City Traffic Engineer)												
Ridesharing Potential	Documented TDM measures are in place that promote ridesharing	60	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	On demand service is subsidized for trips to transit service	60	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
	Segment within FLEX service area	60	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊

Note: MMLOS scoring criteria provided by the City of Carlsbad.

Table 2.5-6. Near-Term Intersection Operations

Intersection	Control Type	Peak Hour	Existing + Cumulative Projects		Existing + Cumulative Projects + Project (PAL 1)			Existing + Cumulative Projects + Project (PAL 2)		
			ICU	LOS	ICU	LOS	Δ	ICU	LOS	Δ
1. Canon Rd./ Faraday Ave.	Signal	AM	34.5	C	34.5	C	0.0	34.5	C	0.0
		PM	32.7	C	32.7	C	0.0	32.8	C	0.1
2. El Camino Real / College Blvd.	Signal	AM	65.1	E	65.3	E	0.2	65.5	E	0.4
		PM	78.0	E	78.0	E	0.0	78.0	E	0.0
3. College Blvd. / Faraday Ave.	Signal	AM	34.6	C	34.6	C	0.0	34.6	C	0.0
		PM	35.8	D	35.8	D	0.0	35.9	D	0.1
4. El Camino Real / Faraday Ave.	Signal	AM	67.9	E	68.2	E	0.3	68.4	E	0.5
		PM	105.9	F	105.9	F	0.0	106.0	F	0.1
5. I-5 SB Ramps / Palomar Airport Rd.	Signal	AM	11.3	B	11.3	B	0.0	11.3	B	0.0
		PM	8.0	A	8.0	A	0.0	8.0	A	0.0
6. I-5 NB Ramps / Palomar Airport Rd.	Signal	AM	22.8	C	22.9	C	0.1	23.0	C	0.2
		PM	20.0	B	20.1	C	0.1	20.2	C	0.2
7. Palomar Airport Rd./ Paseo Del Norte	Signal	AM	47.8	D	47.9	D	0.1	47.9	D	0.1
		PM	36.3	D	36.3	D	0.0	36.3	D	0.0
8. Palomar Airport Rd./ Armada Dr.	Signal	AM	28.8	C	28.8	C	0.0	28.8	C	0.0
		PM	38.6	D	39.0	D	0.4	39.2	D	0.6
9. Palomar Airport Rd./ Hidden Valley Rd.	Signal	AM	27.9	C	28.3	C	0.4	28.6	C	0.7
		PM	48.0	D	48.1	D	0.1	48.1	D	0.1
10. Palomar Airport Rd./ College Blvd.	Signal	AM	31.8	C	31.9	C	0.1	31.9	C	0.1
		PM	51.5	D	51.7	D	0.2	51.8	D	0.3
11. Palomar Airport Rd./ Camino Vida Roble	Signal	AM	48.5	D	48.5	D	0.0	48.5	D	0.0
		PM	70.1	E	70.1	E	0.0	70.2	E	0.1
12. Palomar Airport Rd./ Yarrow Dr.	Signal	AM	37.7	D	38.0	D	0.3	38.2	D	0.5
		PM	40.2	D	40.4	D	0.2	40.7	D	0.5
13. Palomar Airport Rd./ El Camino Real	Signal	AM	139.3	F	139.6	F	0.3	139.9	F	0.6
		PM	106.1	F	106.3	F	0.2	106.6	F	0.5
14. Palomar Airport Rd./ Loker Ave.	Signal	AM	82.1	F	82.3	F	0.2	82.6	F	0.5
		PM	65.1	E	65.2	E	0.1	65.3	E	0.2
15. Palomar Airport Rd./ El Fuerte St.	Signal	AM	50.8	D	51.0	D	0.2	51.2	D	0.4
		PM	125.2	F	125.4	F	0.2	125.6	F	0.4
16. Palomar Airport Rd./ Melrose Dr.	Signal	AM	91.6	F	91.7	F	0.1	91.9	F	0.3
		PM	63.2	E	63.2	E	0.0	63.4	E	0.2
17. El Camino Real / Town Garden Rd.	Signal	AM	70.8	E	71.2	E	0.4	71.4	E	0.6
		PM	70.2	E	70.6	E	0.4	70.8	E	0.6
18. El Camino Real / Camino Vida Roble	Signal	AM	139.1	F	139.8	F	0.7	140.4	F	1.3
		PM	48.5	D	48.8	D	0.3	49.1	D	0.6
19. El Camino Real / Poinsettia Lane	Signal	AM	39.9	D	39.9	D	0.0	39.9	D	0.0
		PM	41.7	D	41.7	D	0.0	41.7	D	0.0

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. LOS = Level of Service
c. Δ = increase in delay due to Project.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

Table 2.5-7. Near-Term Street Segment Operations During Peak Hours

Street Segment	Dir.	Peak Hour	Capacity (LOS E) [a]	Near-Term without Project			Near-Term + Project (PAL 1)				Near-Term + Project (PAL 2)			
				Vol.	LOS	V/C	Vol.	LOS	V/C	Δ	Vol.	LOS	V/C	Δ
Palomar Airport Rd.														
I-5 Ramps to Paseo Del Norte	EB	AM	5,400	2,830	A	0.524	2,835	A	0.525	0.001	2,838	A	0.526	0.001
		PM	5,400	1,790	A	0.331	1,795	A	0.332	0.001	1,798	A	0.333	0.001
	WB	AM	5,400	1,290	A	0.239	1,294	A	0.240	0.001	1,296	A	0.240	0.001
		PM	5,400	2,630	A	0.487	2,635	A	0.488	0.001	2,638	A	0.489	0.001
Paseo Del Norte to Armada Dr.	EB	AM	5,400	2,770	A	0.513	2,775	A	0.514	0.001	2,778	A	0.514	0.001
		PM	5,400	1,710	A	0.317	1,715	A	0.318	0.001	1,718	A	0.318	0.001
	WB	AM	5,400	1,260	A	0.233	1,264	A	0.234	0.001	1,266	A	0.234	0.001
		PM	5,400	2,790	A	0.517	2,795	A	0.518	0.001	2,798	A	0.518	0.001
Armada Dr. to Hidden Valley Ranch	EB	AM	5,400	2,640	A	0.489	2,645	A	0.490	0.001	2,648	A	0.490	0.001
		PM	5,400	1,850	A	0.343	1,855	A	0.344	0.001	1,858	A	0.344	0.001
	WB	AM	5,400	1,430	A	0.265	1,434	A	0.266	0.001	1,436	A	0.266	0.001
		PM	5,400	2,940	A	0.544	2,945	A	0.545	0.001	2,948	A	0.546	0.001
Hidden Valley Ranch to College Blvd.	EB	AM	5,400	2,600	A	0.481	2,605	A	0.482	0.001	2,608	A	0.483	0.001
		PM	5,400	2,280	A	0.422	2,285	A	0.423	0.001	2,288	A	0.424	0.001
	WB	AM	5,400	1,380	A	0.256	1,384	A	0.256	0.001	1,386	A	0.257	0.001
		PM	5,400	2,430	A	0.450	2,435	A	0.451	0.001	2,438	A	0.451	0.001
College Blvd. to Camino Vida Roble	EB	AM	5,400	1,970	A	0.365	1,975	A	0.366	0.001	1,980	A	0.367	0.002
		PM	5,400	1,520	A	0.281	1,525	A	0.282	0.001	1,530	A	0.283	0.002
	WB	AM	5,400	1,260	A	0.233	1,264	A	0.234	0.001	1,267	A	0.235	0.001
		PM	5,400	2,020	A	0.374	2,025	A	0.375	0.001	2,030	A	0.376	0.002
Camino Vida Roble to Yarrow Dr.	EB	AM	5,400	1,610	A	0.298	1,613	A	0.299	0.001	1,615	A	0.299	0.001
		PM	5,400	2,210	A	0.409	2,213	A	0.410	0.001	2,215	A	0.410	0.001
	WB	AM	5,400	1,490	A	0.276	1,492	A	0.276	0.000	1,494	A	0.277	0.001
		PM	5,400	1,590	A	0.294	1,593	A	0.295	0.001	1,595	A	0.295	0.001
Yarrow Dr. to El Camino Real	EB	AM	5,400	1,400	A	0.259	1,405	A	0.260	0.001	1,409	A	0.261	0.002
		PM	5,400	2,230	A	0.413	2,237	A	0.414	0.001	2,243	A	0.415	0.002
	WB	AM	5,400	2,110	A	0.391	2,118	A	0.392	0.001	2,124	A	0.393	0.003
		PM	5,400	1,600	A	0.296	1,608	A	0.298	0.001	1,614	A	0.299	0.003
El Camino Real to Loker Ave.	EB	AM	5,400	1,930	A	0.357	1,931	A	0.358	0.000	1,933	A	0.358	0.001
		PM	5,400	2,970	A	0.550	2,972	A	0.550	0.000	2,974	A	0.551	0.001
	WB	AM	5,400	2,850	A	0.528	2,852	A	0.528	0.000	2,854	A	0.529	0.001
		PM	5,400	2,130	A	0.394	2,132	A	0.395	0.000	2,134	A	0.395	0.001
Loker Ave. to El Fuerte St.	EB	AM	5,400	1,370	A	0.254	1,371	A	0.254	0.000	1,373	A	0.254	0.001
		PM	5,400	2,830	A	0.524	2,832	A	0.524	0.000	2,834	A	0.525	0.001
	WB	AM	5,400	3,090	A	0.572	3,092	A	0.573	0.000	3,094	A	0.573	0.001
		PM	5,400	1,700	A	0.315	1,702	A	0.315	0.000	1,704	A	0.316	0.001
El Fuerte St. to Melrose Dr.	EB	AM	5,400	1,340	A	0.248	1,341	A	0.248	0.000	1,343	A	0.249	0.001
		PM	5,400	3,170	A	0.587	3,172	A	0.587	0.000	3,174	A	0.588	0.001
	WB	AM	5,400	3,610	B	0.669	3,612	B	0.669	0.000	3,614	B	0.669	0.001
		PM	5,400	2,140	A	0.396	2,142	A	0.397	0.000	2,144	A	0.397	0.001
East of Melrose Dr.	EB	AM	5,400	1,160	A	0.215	1,161	A	0.215	0.000	1,163	A	0.215	0.001
		PM	5,400	2,400	A	0.444	2,402	A	0.445	0.000	2,402	A	0.445	0.000
	WB	AM	5,400	1,860	A	0.344	1,862	A	0.345	0.001	1,862	A	0.345	0.001
		PM	5,400	1,370	A	0.254	1,372	A	0.254	0.000	1,372	A	0.254	0.000
El Camino Real														
North of College Blvd.	EB	AM	3,600	2,640	C	0.733	2,642	C	0.734	0.001	2,644	C	0.734	0.001
		PM	3,600	1,280	A	0.356	1,282	A	0.356	0.001	1,284	A	0.357	0.001
	WB	AM	5,400	760	A	0.141	762	A	0.141	0.000	762	A	0.141	0.000
		PM	5,400	2,720	A	0.504	2,722	A	0.504	0.000	2,724	A	0.504	0.001
College Blvd. to Faraday Ave.	NB	AM	5,400	930	A	0.172	932	A	0.173	0.000	932	A	0.173	0.000
		PM	5,400	2,070	A	0.383	2,072	A	0.384	0.000	2,074	A	0.384	0.001
	SB	AM	5,400	2,220	A	0.411	2,222	A	0.411	0.000	2,224	A	0.412	0.001
		PM	5,400	1,240	A	0.230	1,242	A	0.230	0.000	1,244	A	0.230	0.001

Table 2.5-7. Near-Term Street Segment Operations During Peak Hours

Street Segment	Dir.	Peak Hour	Capacity (LOS E) [a]	Near-Term without Project			Near-Term + Project (PAL 1)				Near-Term + Project (PAL 2)			
				Vol.	LOS	V/C	Vol.	LOS	V/C	Δ	Vol.	LOS	V/C	Δ
Faraday Ave. to Palomar Airport Rd.	NB	AM	5,400	1,550	A	0.287	1,552	A	0.287	0.000	1,553	A	0.288	0.001
		PM	5,400	1,760	A	0.326	1,763	A	0.326	0.001	1,765	A	0.327	0.001
	SB	AM	5,400	1,790	A	0.331	1,793	A	0.332	0.001	1,795	A	0.332	0.001
		PM	5,400	2,070	A	0.383	2,073	A	0.384	0.001	2,075	A	0.384	0.001
Palomar Airport Rd.to Town Garden Rd.	NB	AM	5,400	1,490	A	0.276	1,493	A	0.276	0.001	1,495	A	0.277	0.001
		PM	5,400	1,660	A	0.307	1,663	A	0.308	0.001	1,665	A	0.308	0.001
	SB	AM	5,400	2,090	A	0.387	2,092	A	0.387	0.000	2,093	A	0.388	0.001
		PM	5,400	1,690	A	0.313	1,692	A	0.313	0.000	1,694	A	0.314	0.001
Town Garden Rd.to Camino Vida Roble	NB	AM	5,400	1,510	A	0.280	1,513	A	0.280	0.001	1,515	A	0.281	0.001
		PM	5,400	1,610	A	0.298	1,613	A	0.299	0.001	1,615	A	0.299	0.001
	SB	AM	5,400	1,620	A	0.300	1,622	A	0.300	0.000	1,623	A	0.301	0.001
		PM	5,400	1,980	A	0.367	1,982	A	0.367	0.000	1,984	A	0.367	0.001
Camino Vida Roble to Poinsettia Lane	NB	AM	3,600	1,500	A	0.417	1,504	A	0.418	0.001	1,507	A	0.419	0.002
		PM	3,600	1,410	A	0.392	1,414	A	0.393	0.001	1,417	A	0.394	0.002
	SB	AM	5,400	1,480	A	0.274	1,482	A	0.274	0.000	1,484	A	0.275	0.001
		PM	5,400	2,180	A	0.404	2,183	A	0.404	0.001	2,186	A	0.405	0.001
South of Poinsettia Ln.	NB	AM	5,400	1,600	A	0.296	1,604	A	0.297	0.001	1,607	A	0.298	0.001
		PM	5,400	1,790	A	0.331	1,794	A	0.332	0.001	1,797	A	0.333	0.001
	SB	AM	5,400	1,590	A	0.294	1,592	A	0.295	0.000	1,594	A	0.295	0.001
		PM	5,400	2,190	A	0.406	2,193	A	0.406	0.001	2,196	A	0.407	0.001
College Rd.														
Aston Ave. to Palomar Airport Rd.	NB	AM	3,600	1,190	A	0.331	1,190	A	0.331	0.000	1,190	A	0.331	0.000
		PM	3,600	520	A	0.144	520	A	0.144	0.000	521	A	0.145	0.000
	SB	AM	3,600	420	A	0.117	420	A	0.117	0.000	421	A	0.117	0.000
		PM	3,600	1,030	A	0.286	1,030	A	0.286	0.000	1,031	A	0.286	0.000

Footnotes:

a. Capacities based on 1,800 vehicles per lane per hour
b. LOS = Level of Service
c. V/C = ratio of Volume to Capacity
d. Δ = project-induced increase in the Volume to Capacity Ratio

Table 2.5-8. Long-Term Intersection Operations

Intersection	Peak Hour	Long-Term without Project		Long-Term + Project (PAL 1)				Long-Term + Project (PAL 2)			
		Delay	LOS	Delay	LOS	Increase	Sig?	Delay	LOS	Increase	Sig?
1. Canon Rd./	AM	43.1	D	43.2	D	0.1	No	43.3	D	0.2	No
Faraday Ave.	PM	63.1	E	63.5	E	0.4	No	63.5	E	0.4	No
2. El Camino Real/	AM	255.2	F	255.6	F	0.4	No	255.9	F	0.7	No
College Blvd.	PM	457.2	F	457.3	F	0.1	No	457.3	F	0.1	No
3. College Blvd. /	AM	65.7	E	66.0	E	0.3	No	66.2	E	0.5	No
Faraday Ave.	PM	77.2	E	77.6	E	0.4	No	77.7	E	0.5	No
4. El Camino Real/	AM	108.6	F	108.8	F	0.2	No	109.4	F	0.8	No
Faraday Ave.	PM	116.0	F	116.0	F	0.0	No	116.0	F	0.0	No
5. I-5 SB Ramps /	AM	15.5	B	15.7	B	0.2	No	15.9	B	0.4	No
Palomar Airport Rd.	PM	8.7	A	8.8	A	0.1	No	8.8	A	0.1	No
6. I-5 NB Ramps /	AM	43.4	D	45.3	D	1.9	No	46.2	D	2.8	No
Palomar Airport Rd.	PM	29.5	C	30.8	C	1.3	No	32.0	C	2.5	No
7. Palomar Airport Rd./	AM	63.4	E	64.2	E	0.8	No	64.8	E	1.4	No
Paseo Del Norte	PM	40.5	D	40.6	D	0.1	No	40.6	D	0.1	No
8. Palomar Airport Rd./	AM	32.6	C	32.9	C	0.3	No	32.9	C	0.3	No
Armada Dr.	PM	72.5	E	72.7	E	0.2	No	74.3	E	1.8	No
9. Palomar Airport Rd./	AM	62.0	E	62.1	E	0.1	No	62.6	E	0.6	No
Hidden Valley Rd.	PM	69.8	E	70.0	E	0.2	No	71.3	E	1.5	No
10. Palomar Airport Rd./	AM	37.2	D	38.0	D	0.8	No	38.8	D	1.6	No
College Blvd.	PM	74.0	E	74.0	E	0.0	No	75.5	E	1.5	No
11. Palomar Airport Rd./	AM	53.9	D	54.0	D	0.1	No	54.2	D	0.3	No
Camino Vida Roble	PM	**92.9**	**F**	94.2	F	1.3	No	**95.4**	**F**	**2.5**	**Impact**
12. Palomar Airport Rd./	AM	38.8	D	40.3	D	1.5	No	42.1	D	3.3	No
Yarrow Dr.	PM	41.7	D	43.0	D	1.3	No	46.0	D	4.3	No
13. Palomar Airport Rd./	AM	**168.4**	**F**	169.8	F	1.4	No	**171.1**	**F**	**2.7**	**Impact**
El Camino Real	PM	**126.2**	**F**	127.9	F	1.7	No	**130.9**	**F**	**4.7**	**Impact**
14. Palomar Airport Rd./	AM	114.9	F	115.9	F	1.0	No	116.8	F	1.9	No
Loker Ave.	PM	91.7	F	92.7	F	1.0	No	93.3	F	1.6	No
15. Palomar Airport Rd./	AM	85.6	F	86.4	F	0.8	No	87.3	F	1.7	No
El Fuerte St.	PM	138.1	F	138.8	F	0.7	No	139.7	F	1.6	No
16. Palomar Airport Rd./	AM	118.5	F	118.7	F	0.2	No	118.8	F	0.3	No
Melrose Dr.	PM	82.3	F	82.6	F	0.3	No	82.7	F	0.4	No
17. El Camino Real /	AM	112.2	F	112.8	F	0.6	No	113.4	F	1.2	No
Town Garden Rd.	PM	88.0	F	88.5	F	0.5	No	88.9	F	0.9	No
18. El Camino Real /	AM	173.5	F	174.0	F	0.5	No	174.1	F	0.6	No
Camino Vida Roble	PM	59.6	E	60.0	E	0.4	No	60.9	E	1.3	No
19. El Camino Real /	AM	44.5	D	44.7	D	0.2	No	44.9	D	0.4	No
Poinsettia Lane	PM	51.4	D	52.4	D	1.0	No	53.2	D	1.8	No

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. LOS = Level of Service
c. Δ = increase in delay due to Project.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

Table 2.5-9. Long-Term Street Segment Operations During Peak Hours

Street Segment	Dir.	Peak Hour	Capacity (LOS E) [a]	Long-Term without Project			Long-Term + Project (PAL 1)				Long-Term + Project (PAL 2)			
				Vol.	LOS	V/C	Vol.	LOS	V/C	Δ	Vol.	LOS	V/C	Δ
Palomar Airport Rd.														
I-5 Ramps to Paseo Del Norte	EB	AM	5,400	3,160	A	0.585	3,181	A	0.589	0.004	3,200	A	0.593	0.008
		PM	5,400	2,020	A	0.374	2,041	A	0.378	0.004	2,060	A	0.381	0.007
	WB	AM	5,400	1,460	A	0.270	1,474	A	0.273	0.003	1,487	A	0.275	0.005
		PM	5,400	2,910	A	0.539	2,931	A	0.543	0.004	2,950	A	0.546	0.007
Paseo Del Norte to Armada Dr.	EB	AM	5,400	3,080	A	0.570	3,103	A	0.575	0.005	3,122	A	0.578	0.008
		PM	5,400	1,890	A	0.350	1,913	A	0.354	0.004	1,932	A	0.358	0.008
	WB	AM	5,400	1,430	A	0.265	1,445	A	0.268	0.003	1,459	A	0.270	0.005
		PM	5,400	3,110	A	0.576	3,133	A	0.580	0.004	3,152	A	0.584	0.008
Armada Dr. to Hidden Valley Ranch	EB	AM	5,400	2,940	A	0.544	2,964	A	0.549	0.005	2,983	A	0.552	0.008
		PM	5,400	2,080	A	0.385	2,104	A	0.390	0.005	2,123	A	0.393	0.008
	WB	AM	5,400	1,620	A	0.300	1,635	A	0.303	0.003	1,649	A	0.305	0.005
		PM	5,400	3,250	B	0.602	3,274	B	0.606	0.004	3,293	B	0.610	0.008
Hidden Valley Ranch to College Blvd.	EB	AM	5,400	2,890	A	0.535	2,914	A	0.540	0.005	2,934	A	0.543	0.008
		PM	5,400	2,510	A	0.465	2,534	A	0.469	0.004	2,554	A	0.473	0.008
	WB	AM	5,400	1,580	A	0.293	1,595	A	0.295	0.002	1,609	A	0.298	0.005
		PM	5,400	2,720	A	0.504	2,744	A	0.508	0.004	2,764	A	0.512	0.008
College Blvd. to Camino Vida Roble	EB	AM	5,400	2,210	A	0.409	2,237	A	0.414	0.005	2,260	A	0.419	0.010
		PM	5,400	1,710	A	0.317	1,737	A	0.322	0.005	1,760	A	0.326	0.009
	WB	AM	5,400	1,400	A	0.259	1,417	A	0.262	0.003	1,433	A	0.265	0.006
		PM	5,400	2,230	A	0.413	2,257	A	0.418	0.005	2,279	A	0.422	0.009
Camino Vida Roble to Yarrow Dr.	EB	AM	5,400	1,780	A	0.330	1,794	A	0.332	0.002	1,806	A	0.334	0.004
		PM	5,400	2,440	A	0.452	2,454	A	0.454	0.002	2,466	A	0.456	0.004
	WB	AM	5,400	1,660	A	0.307	1,668	A	0.309	0.002	1,677	A	0.311	0.004
		PM	5,400	1,750	A	0.324	1,764	A	0.327	0.003	1,775	A	0.329	0.005
Yarrow Dr. to El Camino Real	EB	AM	5,400	1,490	A	0.276	1,514	A	0.280	0.004	1,534	A	0.284	0.008
		PM	5,400	2,450	A	0.454	2,485	A	0.460	0.006	2,517	A	0.466	0.012
	WB	AM	5,400	2,440	A	0.452	2,475	A	0.458	0.006	2,507	A	0.464	0.012
		PM	5,400	1,780	A	0.330	1,815	A	0.336	0.006	1,847	A	0.342	0.012
El Camino Real to Loker Ave.	EB	AM	5,400	2,030	A	0.376	2,038	A	0.377	0.001	2,044	A	0.379	0.003
		PM	5,400	3,200	A	0.593	3,211	A	0.595	0.002	3,221	A	0.596	0.003
	WB	AM	5,400	3,180	A	0.589	3,191	A	0.591	0.003	3,201	A	0.593	0.004
		PM	5,400	2,430	A	0.450	2,441	A	0.452	0.002	2,451	A	0.454	0.004
Loker Ave. to El Fuerte St.	EB	AM	5,400	1,580	A	0.293	1,588	A	0.294	0.001	1,593	A	0.295	0.002
		PM	5,400	3,240	B	0.600	3,250	B	0.602	0.002	3,260	B	0.604	0.004
	WB	AM	5,400	3,470	B	0.643	3,480	B	0.644	0.001	3,490	B	0.646	0.003
		PM	5,400	1,940	A	0.359	1,950	A	0.361	0.002	1,960	A	0.363	0.004
El Fuerte St. to Melrose Dr.	EB	AM	5,400	1,470	A	0.272	1,476	A	0.273	0.001	1,481	A	0.274	0.002
		PM	5,400	3,330	B	0.617	3,338	B	0.618	0.001	3,348	B	0.620	0.003
	WB	AM	5,400	3,890	C	0.720	3,898	C	0.722	0.002	3,908	C	0.724	0.004
		PM	5,400	2,120	A	0.393	2,128	A	0.394	0.001	2,138	A	0.396	0.003
East of Melrose Dr.	EB	AM	5,400	1,290	A	0.239	1,294	A	0.240	0.001	1,297	A	0.240	0.001
		PM	5,400	2,650	A	0.491	2,656	A	0.492	0.001	2,662	A	0.493	0.002
	WB	AM	5,400	2,090	A	0.387	2,096	A	0.388	0.001	2,102	A	0.389	0.002
		PM	5,400	1,400	A	0.259	1,406	A	0.260	0.001	1,412	A	0.261	0.002
El Camino Real														
North of College Blvd.	EB	AM	3,600	3,150	D	0.875	3,159	D	0.878	0.003	3,168	D	0.880	0.005
		PM	3,600	1,830	A	0.508	1,839	A	0.511	0.003	1,848	A	0.513	0.005
	WB	AM	5,400	1,180	A	0.219	1,186	A	0.220	0.001	1,192	A	0.221	0.002
		PM	5,400	3,430	B	0.635	3,439	B	0.637	0.002	3,448	B	0.639	0.004
College Blvd. to Faraday Ave.	NB	AM	5,400	970	A	0.180	976	A	0.181	0.001	982	D	0.182	0.002
		PM	5,400	2,510	A	0.465	2,519	A	0.466	0.002	2,528	A	0.468	0.003
	SB	AM	5,400	2,520	A	0.467	2,529	A	0.468	0.002	2,538	A	0.470	0.003
		PM	5,400	1,480	A	0.274	1,489	A	0.276	0.002	1,498	B	0.277	0.003

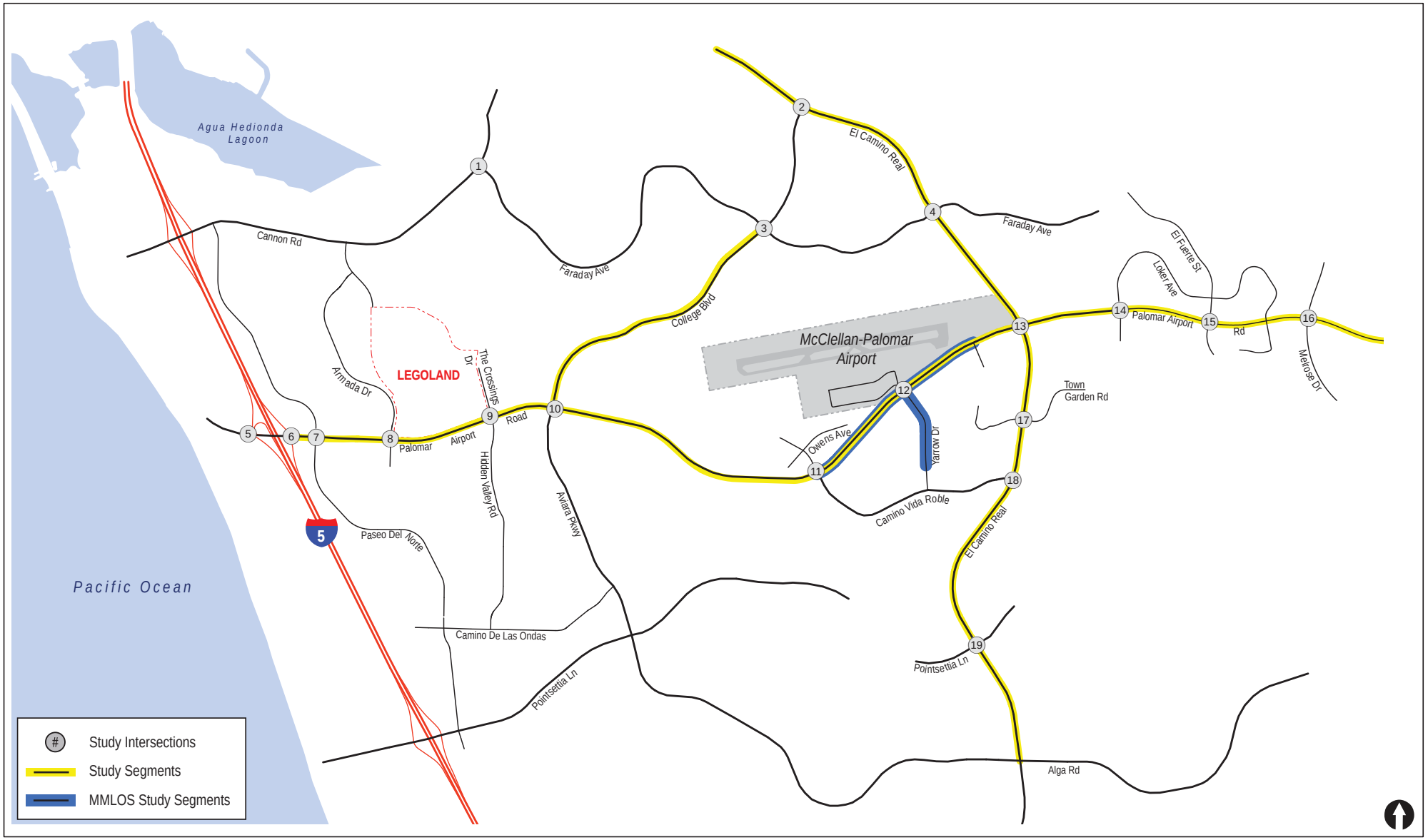
Table 2.5-9. Long-Term Street Segment Operations During Peak Hours

Street Segment	Dir.	Peak Hour	Capacity (LOS E) [a]	Long-Term without Project			Long-Term + Project (PAL 1)				Long-Term + Project (PAL 2)			
				Vol.	LOS	V/C	Vol.	LOS	V/C	Δ	Vol.	LOS	V/C	Δ
Faraday Ave. to Palomar Airport Rd.	NB	AM	5,400	1,660	A	0.307	1,668	A	0.309	0.002	1,675	A	0.310	0.003
		PM	5,400	2,080	A	0.385	2,092	A	0.387	0.002	2,103	A	0.389	0.004
	SB	AM	5,400	2,180	A	0.404	2,192	A	0.406	0.002	2,203	A	0.408	0.004
		PM	5,400	2,240	A	0.415	2,252	A	0.417	0.002	2,263	A	0.419	0.004
Palomar Airport Rd.to Town Garden Rd.	NB	AM	5,400	1,800	A	0.333	1,812	A	0.336	0.003	1,823	A	0.338	0.005
		PM	5,400	1,800	A	0.333	1,812	A	0.336	0.003	1,823	A	0.338	0.005
	SB	AM	5,400	2,290	A	0.424	2,298	A	0.426	0.002	2,305	A	0.427	0.003
		PM	5,400	1,880	A	0.348	1,892	A	0.350	0.002	1,903	A	0.352	0.004
Town Garden Rd.to Camino Vida Roble	NB	AM	5,400	1,680	A	0.311	1,692	A	0.313	0.002	1,702	A	0.315	0.004
		PM	5,400	1,790	A	0.331	1,802	A	0.334	0.003	1,812	A	0.336	0.005
	SB	AM	5,400	1,790	A	0.331	1,798	A	0.333	0.002	1,804	A	0.334	0.003
		PM	5,400	2,260	A	0.419	2,272	A	0.421	0.002	2,282	A	0.423	0.004
Camino Vida Roble to Poinsettia Lane	NB	AM	3,600	1,760	A	0.489	1,777	A	0.494	0.005	1,792	A	0.498	0.009
		PM	3,600	1,640	A	0.456	1,657	A	0.460	0.004	1,672	A	0.464	0.008
	SB	AM	5,400	1,640	A	0.304	1,652	A	0.306	0.002	1,661	A	0.308	0.004
		PM	5,400	2,420	A	0.448	2,437	A	0.451	0.003	2,452	A	0.454	0.006
South of Poinsettia Lane	NB	AM	5,400	1,870	A	0.346	1,886	A	0.349	0.003	1,901	A	0.352	0.006
		PM	5,400	2,060	A	0.381	2,076	A	0.384	0.003	2,091	A	0.387	0.006
	SB	AM	5,400	1,830	A	0.339	1,841	A	0.341	0.002	1,850	A	0.343	0.004
		PM	5,400	2,520	A	0.467	2,536	A	0.470	0.003	2,551	A	0.472	0.005
College Rd.														
Aston Ave. to Palomar Airport Rd.	NB	AM	3,600	1,350	A	0.375	1,351	A	0.375	0.000	1,352	A	0.376	0.001
		PM	3,600	600	A	0.167	602	A	0.167	0.000	602	A	0.167	0.000
	SB	AM	3,600	490	A	0.136	492	A	0.137	0.001	493	A	0.137	0.001
		PM	3,600	1,180	A	0.328	1,182	A	0.328	0.000	1,183	A	0.329	0.001

Footnotes:

a. Capacities based on 1,800 vehicles per lane per hour
b. LOS = Level of Service
c. V/C = ratio of Volume to Capacity
d. Δ = project-induced increase in the Volume to Capacity Ratio

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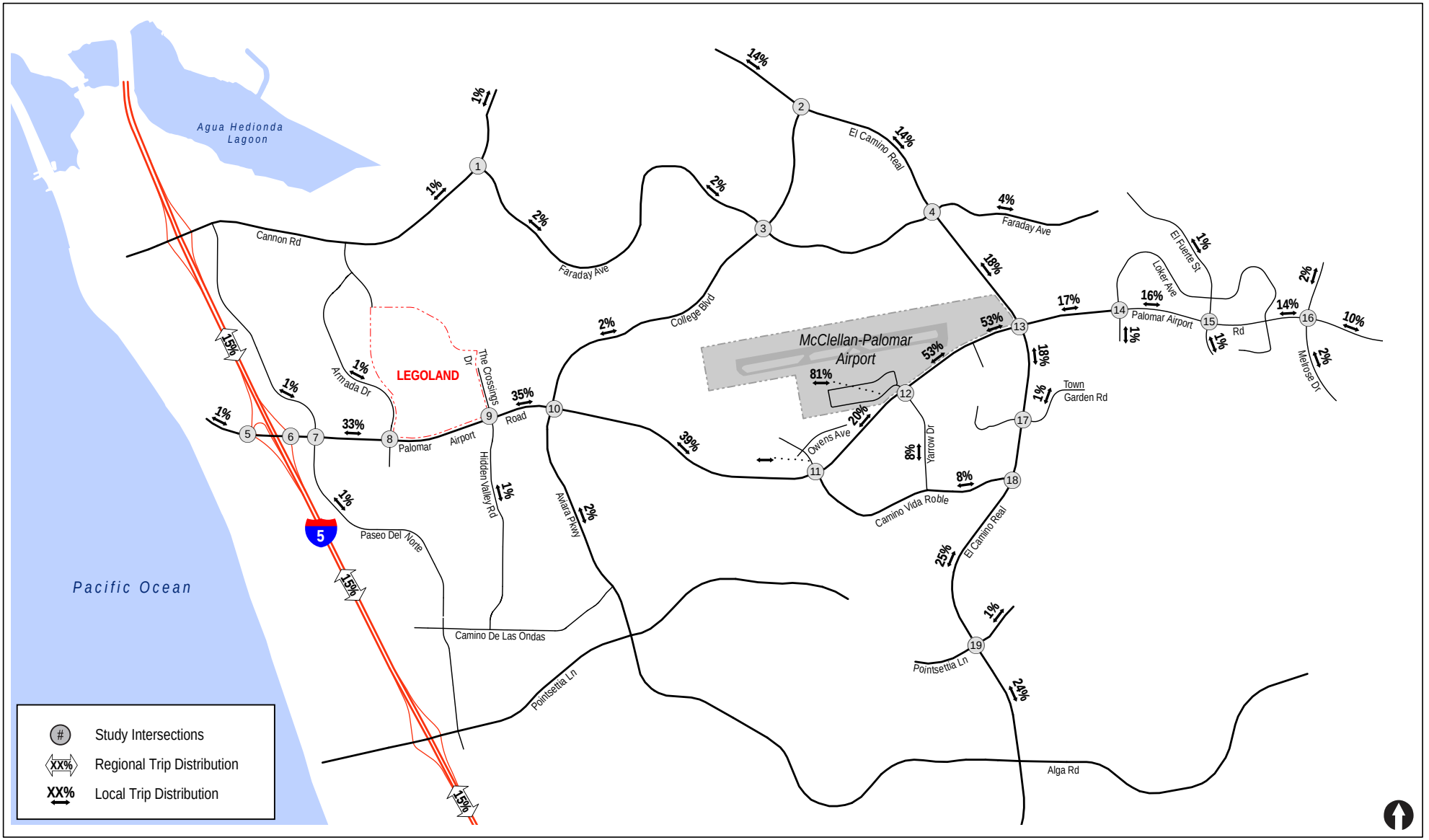


Source: LLG 2017

McClellan-Palomar Airport Master Plan Update
Program EIR

Traffic Study Area
Figure 2.5-1

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Source: LLG 2017

McClellan-Palomar Airport Master Plan Update
Program EIR

Project Traffic Distribution

Figure 2.5-2

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CHAPTER 3 ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT

3.1 Effects Found Not Significant as Part of the EIR Process

3.1.1 Agricultural and Forestry Resources

This section provides an analysis of the potential significant impacts to agricultural resources that may result from implementation of the Proposed Project. As discussed in Chapter 1.2 of this PEIR, the 17-acre landside improvements as proposed in the Initial Study and NOP (February 29, 2016) have been removed from the Proposed Project, and are no longer proposed. Therefore, this PEIR only focuses on the Airport Master Plan Update improvements on the active airfield and associated shift in the MALSR navigational lighting system on the Eastern Parcel, and the PEIR does not analyze effects associated with the currently vacant 17-acre site located at the northeast corner of Palomar Airport Road and El Camino Real.

3.1.1.1 Existing Conditions

Prime Farmland and Soil Suitability

Based on U.S. Department of Agriculture, Natural Resources Conservation Service's Web Soil Survey map, most of the Airport is comprised of the following soils: HrD2, Huerhuero loam, 9 to 15 percent slopes; HuC, Huerhuero-Urban land complex, 2 to 9 percent slopes; and LvF3, Loamy alluvial land-Huerhuero complex, 9 to 50 percent slopes (County of San Diego 2016). The northern and eastern property boundaries of the Airport (i.e., active airfield) do contain approximately 2.18 acres of soils that meet the soil quality criteria for Statewide Significant Soils (Figure 3.1.1-1); however, these areas are heavily developed and disturbed. Land located on the Eastern Parcel within the MALSR relocation site meets the soil quality criteria for Prime Farmland and Statewide Significant Soils.

The California Department of Conservation, Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to provide consistent, timely, and accurate data for identifying California's agricultural land resources. According to the FMMP, the Airport (i.e., active airfield) is mapped as Urban Built-up Land. Land located on the Eastern Parcel within the MALSR relocation site are classified as Farmland of Local Importance, Prime Farmland, and Unique Farmland (Figure 3.1.1-2).

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965, also known as the Williamson Act, gave authority to local governments to sign contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive lower property tax assessments because they are based upon farming and open space uses as opposed to full market value. Based on a review of Williamson Act data, there are no Williamson Act contract lands located within the project site.

Off-site Agriculture Uses

According to the City of Carlsbad General Plan Land Use map, no agricultural uses are located within one-half mile of the Airport. Land uses surrounding the Airport include Planned Industrial, General Commercial, and Open Space.

Forestry Resources

The Proposed Project study area does not contain forestlands or timberland as defined in the California Public Resources Code (CPRC) Section 12220(g). There are no Timberland Production Zones in San Diego County. In addition, the Proposed Project is consistent with existing zoning and a rezone of the property is not proposed. Therefore, implementation of the Proposed Project would not conflict with existing zoning for, or cause rezoning of, forestland, timberland or timberland production zones. In addition, project implementation would not result in the loss or conversion of forest land to a non-forest use.

3.1.1.2 Analysis of Project Effects and Determination as to Significance

The significance thresholds for direct agricultural impacts are based on criteria provided in Appendix G of the State CEQA Guidelines, the County's Guidelines for Determining Significance – Agricultural Resources (2015), and the County's Local Agricultural Resource Assessment (LARA) Model. These thresholds are intended to ensure conformance with existing regulatory standards, as well as to provide both adequate evaluation of potential impacts to agricultural resources, and protection of such resources where appropriate.

A significant impact to agricultural resources would result if any of the following are met:

1. The project site has important agricultural resources as defined by the LARA Model; and the project would result in the conversion of agricultural resources that meet the soil quality criteria for Prime Farmland or Farmland of Statewide Importance, as defined by the FMMP; and as a result, the project would substantially impair the ongoing viability of the site for agricultural use.

2. The project proposes a non-agricultural land use within one-quarter mile of an active agricultural operation or land under a Williamson Act Contract (Contract) and as a result of the project, land use conflicts between the agricultural operation or Contract land and the proposed project would likely occur and could result in conversion of agricultural resources to a non-agricultural use.

3. The project proposes a school, church, day care or other use that involves a concentration of people at certain times within one mile of an agricultural operation or land under Contract and as a result of the project, land use conflicts between the agricultural operation or Contract land and the proposed project would likely occur and could result in conversion of agricultural resources to a non-agricultural use.

4. The project would involve other changes to the existing environment, which due to their location or nature, could result in the conversion of offsite agricultural resources to a non-agricultural use or could adversely impact the viability of agriculture on land under a

Williamson Act Contract.

5. The project conflicts with a Williamson Act Contract (Contract) or the provisions of the California Land Conservation Act of 1965 (Williamson Act).

3.1.1.2.1 Direct Conversion of Prime, Unique, or Important Farmlands

Guideline for the Determination of Significance

A significant direct impact to agricultural resources would occur if:

- The project site has important agricultural resources as defined by the LARA Model; and the project would result in the conversion of agricultural resources that meet the soil quality criteria for Prime Farmland or Farmland of Statewide Importance, as defined by the FMMP; and as a result, the project would substantially impair the ongoing viability of the site for agricultural use.

Analysis

The Airport (i.e., active airfield) contains approximately 2.18 acres of land that meets the soil quality criteria for Statewide Significant Soils. As shown in Figure 3.1.1-1 these areas are located along the northern and eastern property boundaries of the Airport. However, these areas are heavily disturbed within the active airfield as well as the adjacent commercial and roadway development. Due to ongoing airport operations, no agricultural uses currently exist within or adjacent to the active airfield, nor is the active airfield viable to support agricultural uses. Also, the City of Carlsbad General Plan Zoning Map does not identify the Proposed Project or adjacent sites as planned to support agricultural uses in the future (City of Carlsbad 2017b).

Land located on the Eastern Parcel within the MALSR relocation site meet the soil quality criteria for Prime Farmland and Statewide Significant Soils (Figure 3.1.1-1) and are classified by the FMMP as Farmland of Local Importance, Prime Farmland, and Unique Farmland (Figure 3.1.1-2). However, the existing MALSR footprint and associated access road are anticipated to be restored, thereby resulting in no net loss of agricultural soils. Furthermore, the footprint of the proposed MALSR relocation and surrounding areas within the Eastern Parcel are currently fallow and are not planned to support agricultural uses in the future in the City of Carlsbad General Plan Zoning Map (City of Carlsbad 2017b). Nonetheless, as the existing MALSR is located within similar conditions, the proposed relocation would not preclude future use of the site for agricultural purposes. Therefore, the Proposed Project would result in a *less than significant impact* to on-site agricultural resources.

3.1.1.2.2 Indirect Impacts to Agricultural Resources

Guidelines for the Determination of Significance

The project would have a significant indirect impact on agricultural resources if:

- The project proposes a non-agricultural land use within one-quarter mile of an active

agricultural operation or land under a Williamson Act Contract (Contract) and as a result of the project, land use conflicts between the agricultural operation or Contract land and the proposed project would likely occur and could result in conversion of agricultural resources to a non-agricultural use.

- The project proposes a school, church, day care or other use that involves a concentration of people at certain times within one mile of an agricultural operation or land under Contract and as a result of the project, land use conflicts between the agricultural operation or Contract land and the proposed project would likely occur and could result in conversion of agricultural resources to a non-agricultural use.

- The project would involve other changes to the existing environment, which due to their location or nature, could result in the conversion of offsite agricultural resources to a non-agricultural use or could adversely impact the viability of agriculture on land under a Williamson Act Contract.

Analysis

For Criterion (a), no active agricultural operations or land under a Williamson Act Contract are located within one-quarter-mile of the Proposed Project site. Therefore, the Proposed Project would not result in land use conflicts concerning the conversion of agricultural resources to a non-agricultural use.

For Criterion (b), the San Diego County Guidelines for Determining Significance of Impacts to Agricultural Resources (2015) states, "[p]rojects that would have sensitive receptors (i.e. children, elderly, etc.) located near an agricultural operation or Williamson Act Contract land require additional scrutiny to ensure the uses will be compatible." No new sensitive receptors such as a school, church, or daycare would be developed within one mile of an agricultural operation or land under a Williamson Act Contract. Nor would the Proposed Project result in conversion of agricultural resources to a non-agricultural use that would result in land use conflicts. The Airport is an existing small/non-hub commercial airport, which has been in operation since 1959. Under the Proposed Project, the Airport will continue to operate as a publicly-owned facility that accommodates general aviation, corporate aircraft activity, and scheduled commercial service. Therefore, no new concentrations of people would be added to the project site that would indirectly result in the conversion of agricultural resources.

For Criterion (c), McClellan-Palomar Airport has been owned and managed by the County since 1959, and under the Proposed Project it would remain an active airfield with supported landside facilities. The overall purpose of an Airport Master Plan Update is to provide the framework to guide future airport development that will meet existing and future aviation demand in a safe and cost-effective manner. The proposed Airport Master Plan Update would not involve changes to the existing environment that could result in the conversion of offsite agricultural resources to a non-agricultural use or could adversely impact the viability of agriculture on land under a Williamson Act Contract.

For the reasons stated above, the Proposed Project would have a *less than significant* indirect impact on agriculture.

3.1.1.2.3 Conflict with Agricultural Zoning and Williamson Act Contracts

Guideline for the Determination of Significance

A significant direct impact to agricultural resources would occur if:

- The project conflicts with a Williamson Act Contract (Contract) or the provisions of the California Land Conservation Act of 1965 (Williamson Act).

Analysis

The Proposed Project study area does not contain lands identified in a Williamson Act Contract. Therefore, the project would have *no impact* with respect to a Contract or the provisions of the Williamson Act.

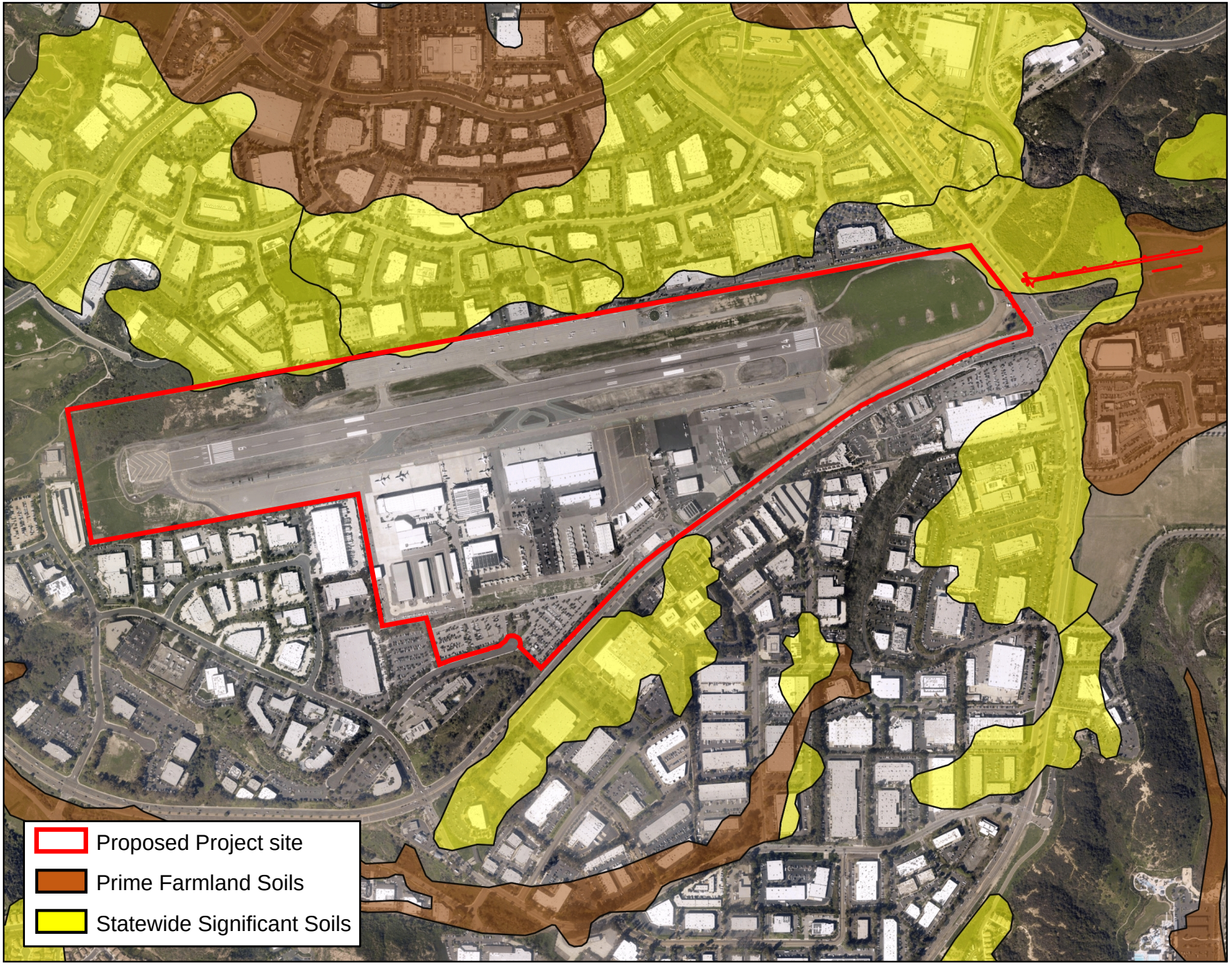
3.1.1.3 Cumulative Impact Analysis

The Proposed Project would not result in significant impacts to important agricultural lands; therefore, it would not contribute to the cumulative loss of important farmlands. Although soils of Statewide Importance are located along the Airport's northern and eastern property boundaries, these lands are heavily disturbed within the active airfield and adjacent to commercial and roadway development. Therefore, it is concluded that cumulative impacts are *less than significant*.

3.1.1.4 Conclusion

No agricultural uses currently exist within or adjacent to the Proposed Project site, nor is the Proposed Project site viable to support agricultural uses. The Proposed Project would not result in conversion of agricultural resources to a non-agricultural use that would result in land use conflicts. Therefore, the Proposed Project would result in *less than significant impacts* to agricultural and forestry resources.

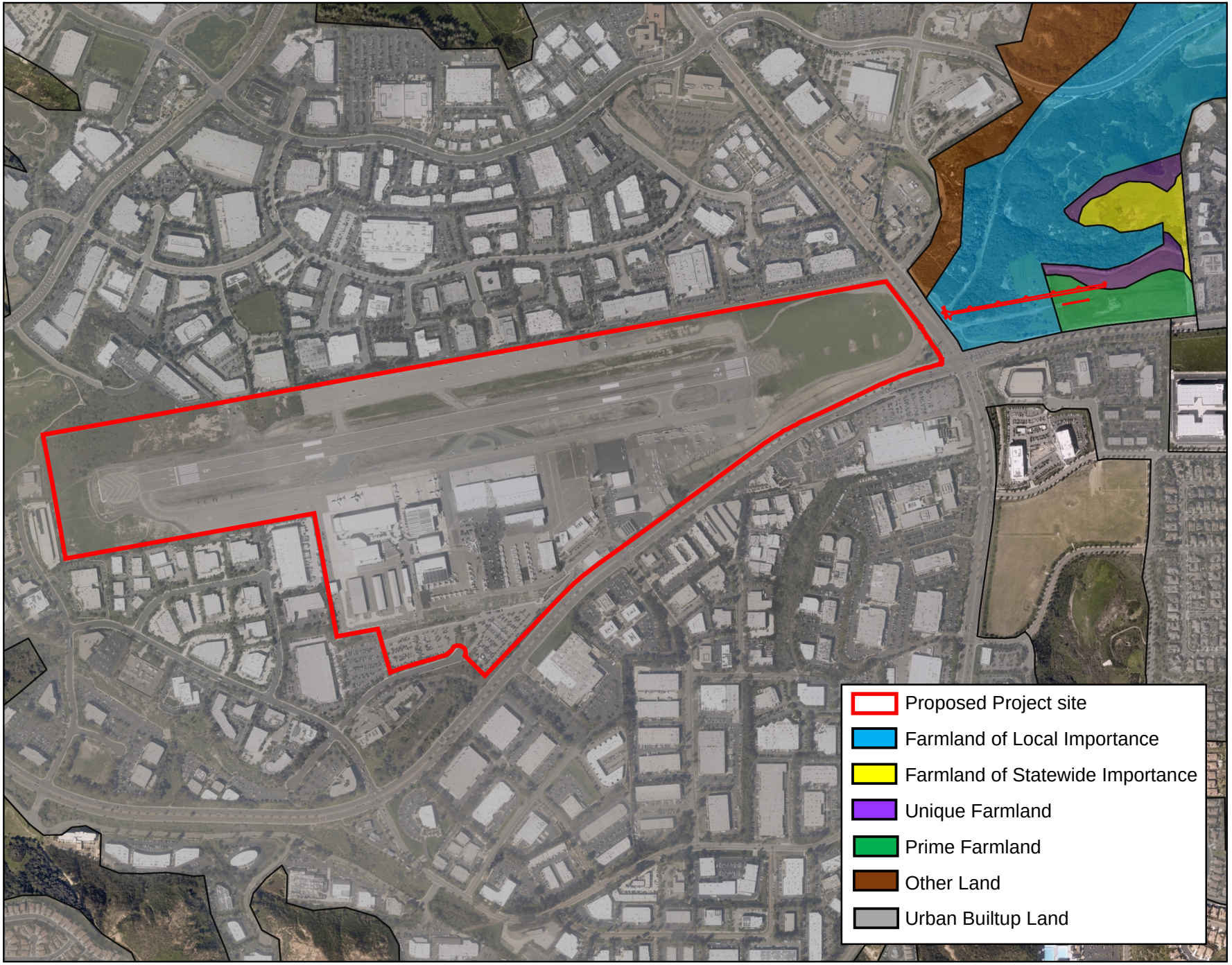
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McClellan-Palomar Airport Master Plan Update
Program EIR

Farmland Soils
Figure 3.1.1-1

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McClellan-Palomar Airport Master Plan Update
Program EIR

Farmland Mapping and Monitoring Program
3.1.1-2

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3.1.2 Air Quality

The information in this section considers potential impacts to air quality. The information and analysis in this section have been compiled based on the Air Quality Impact Technical Report prepared for the project by C&S Engineers, Inc. (Appendix F).

3.1.2.1 Existing Conditions

Climate and Meteorology

The climate in San Diego County is dominated by the Pacific high-pressure system that results in mild, dry summers and mild, wet winters. The climate of the City of Carlsbad, located on the southern coast of California, is considered to be a semi-arid Mediterranean climate, with an average of 263 sunny days per year. Average monthly lows reach 45 degrees Fahrenheit (°F) in the winter months and 71 °F in the summer months. Similarly, San Diego County is classified as an arid climate, with average temperatures ranging from 57 °F in the winter and 72°F in the summer months.

The Pacific high-pressure system drives the prevailing winds in the San Diego Air Basin (SDAB). Wind patterns surrounding the Airport are predominantly westerly. Seasonal weather patterns include the Santa Ana winds, which occur 10 days out of the year between September and February. The Santa Ana winds flow from east to west from the desert and bring sometimes hot, but always dry conditions to the area. Another noteworthy seasonal weather pattern is the prominence of cloudy, foggy conditions during May and June caused by a warm air mass that descends over the cool, moist marine air.

Existing Air Quality Setting

The airport is located within the SDAB, which lies in the southwest corner of California and comprises the entire San Diego region, covering 4,260 square miles. The SDAB is under the jurisdiction of the San Diego County Air Pollution Control District (SDAPCD), which is responsible for administrating federal and state air quality regulations, permitting stationary sources of air emissions, and monitoring air quality conditions in the air basin. Table 3.1.2-1 shows the existing air quality conditions of the Airport. The SDAB is currently designated as a non-attainment area only for the federal eight-hour ozone (O_3) standard. Under state designations, the SDAB is currently designated as non-attainment for the one-hour and eight-hour ozone standards, non-attainment for the annual and 24-hour average standards for PM less than 10 microns (PM_{10}), and the annual average standard for PM less than 2.5 microns ($PM_{2.5}$).

The SDAPCD operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether ambient air quality meets the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The nearest ambient monitoring stations are located at the following locations:

- Del Mar – This Station is located approximately 12 miles south of the Airport. This station sits in a residential area and monitors ozone and wind. The station's primary purpose is to measure offshore transport of ozone impacting the coastal areas of San Diego County.

- Camp Pendleton – This Station is located approximately 13 miles north of the Airport. This location is the SDAPCD's northernmost station and is located within the Camp Pendleton Marine Corps Base. The monitor sits atop a bluff overlooking the Pacific Ocean and I-5 and measures wind, ozone, nitrogen oxides (NO_X), NO_2 and $PM_{2.5}$.

- McClellan-Palomar Airport – This Station is located at the Airport and is currently operated by the SDAPCD solely for the purpose of monitoring lead and does not measure other pollutants or weather conditions. The monitor was initially stationed at the Airport in 2012 by the USEPA as part of a lead monitoring study. However, due to concerns over the USEPA's methodology and testing protocol, the SDAPCD conducted their own independent lead study that found USEPA's monitoring station was unsuitable to accurately document lead exposure levels at the Airport. Instead, SDAPCD conducted monitoring at numerous locations where pilots, passengers, airport personnel, and the public have access. The results from SDAPCD were published in the Lead Gradient Study at McClellan-Palomar Airport (County 2013b). The report concluded that the location with the highest lead concentrations would not exceed NAAQS thresholds. See Appendix F for further discussion. Furthermore, according to the latest lead emissions data from USEPA's air quality system, this Station most recently reported a 3-month rolling average of 0.02 micrograms per cubic meter (which is well below the federal NAAQS standard of 0.15) (USEPA 2018).

3.1.2.1.1 Regulatory Setting

Federal Regulations and Standards

Federal Clean Air Act

Under Section 176(c)(1) (Conformity regulations) of the federal Clean Air Act (CAA), actions subject to federal funding or approval require a demonstration of conformity to the State Implementation Plan (SIP) for a proposed action when the project is located in areas designated as nonattainment or maintenance by the USEPA. The USEPA promulgated the initial conformity regulations in 1993 to assist federal agencies in complying with the SIP by specifying rules for two categories of federal actions; transportation actions and general actions. The two rules have separate and distinct applicability and evaluation requirements. Transportation conformity applies to highway and transit projects, and General Conformity regulations apply to all other federal actions that are not transportation projects. Airport development projects typically fall under the General Conformity Rule unless the action includes proposed improvements to adjacent public roadways. The General Conformity Rule, published under 40 CFR Part 93, applies only to an action that is federally funded or federally approved.

Both Transportation and General Conformity apply in areas that either do not meet or previously have not met NAAQS. The NAAQS have been promulgated for six criteria air pollutants by the

USEPA for public health and environmental welfare against poor air quality. The six criteria air pollutants include: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone, particulate matter (PM) for both particulate matter less than 10 microns (PM_{10}) and particulate matter less than 2.5 microns ($PM_{2.5}$), and sulfur dioxide (SO_2) (see Table 3.1.2-2).

Pursuant to the 1990 federal CAA Amendments, the USEPA classifies air basins (or portions thereof) as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether the national standards had been achieved. For ozone, CO, and PM, the nonattainment designations are further classified by the severity, or degree, of the violation of the NAAQS. For example, in the case of ozone, classifications range from "moderate" to "extreme."

Attainment Status

The USEPA has designated the SDAB as nonattainment with respect to the federal 2008 eight-hour ozone standard.

State Implementation Plan

According to provisions of the CAA, each state must provide the USEPA with a SIP that includes actions intended to improve the air quality in areas that do not meet the NAAQS. The CAA directs that the SIP include a comprehensive inventory of existing sources of air pollution within the state, along with projected emissions inventories that show planned progress toward reducing emissions. Whenever the compliance status of an area is modified by the USEPA, revisions to the SIP may be required.

Ozone. On March 12, 2009, CARB proposed nonattainment boundaries pursuant to the establishment of the 2008 eight-hour ozone standard. These boundaries identified San Diego County as a marginal nonattainment area. The designation of "marginal nonattainment" meant that the SDAPCD was not required to develop a new SIP, instead the SDAPCD was only required to adhere to the requirements of the December 5, 2012, maintenance plan for the 1997 eight-hour standard covering the County[12]. However, the County has since been redesignated by the USEPA as moderate (USEPA, 2013) nonattainment for the 2008 ozone standard. As such, the SDAPCD is now preparing revisions to the local ozone SIP to satisfy the CAA, §172(c)(3) and §182(a)(1), which includes emissions inventory reporting requirements for the San Diego nonattainment area under the 2008 eight-hour ozone standard.

Carbon Monoxide. In 1991, the USEPA designated the SDAB as nonattainment of the federal eight-hour CO standard. In 1996, CARB adopted and submitted a CO Maintenance Plan requesting that non-attainment areas in the state be redesignated to attainment for the federal eight-hour CO standard. The USEPA approved the 1996 CO Maintenance Plan as part of the California SIP and redesignated the nonattainment areas effective June 1, 1998. In addition, the CAA required the initial maintenance plan to cover at least a 10-year period, with a second SIP revision due within eight years of redesignation to demonstrate that the area will maintain the standard for another 10 years. In 2004, revisions to the California SIP for CO were submitted

[12] The 8-hour Ozone (1997) standard was revoked on April 6, 2015 and the 1-hour Ozone (1979) standard was revoked on June 15, 2005.

and approved. As of January 2018, the SDAB achieved full attainment status for the federal eight-hour CO standard.

State Regulations and Standards

California Clean Air Act

CARB is the state agency responsible for coordinating state and local air programs in order to comply with the NAAQS set by the USEPA. CARB manages air quality by regulating mobile emissions sources, and overseeing the activities of air pollution control districts and regional air quality management districts. It also regulates local air quality indirectly by establishing state ambient air quality standards and vehicle emissions standards, and by conducting research, planning, and coordinating activities.

California has adopted air quality standards that are more stringent than the federal standards for criteria air pollutants. CARB established such standards, or criteria, for the same six pollutants as the NAAQS. These standards, commonly referred to as CAAQS, are shown in Table 3.1.2-2.

Attainment Status

Under the California CAA (CCAA), signed into law in 1988, areas have been designated as attainment or nonattainment with respect to the state standards. The SDAB is currently designated as non-attainment for the following state standards:

- eight-hour and one-hour ozone
- PM_{10} annual average and 24-hour average
- $PM_{2.5}$ annual average

Local Regulations and Standards

Regional Air Quality Plans

The CCAA requires areas that are designated nonattainment under the CAAQS for ozone, CO, SO_2, or NO_2 to prepare and implement plans to attain the standards by the earliest practicable date. Each of these standards has been attained in the SDAB except the state ozone standard. The San Diego County Regional Air Quality Strategy (RAQS) was adopted in 1991 with the intent to outline plans and control measures to attain the state air quality standards for ozone. Specifically, the two pollutants addressed in the RAQS are VOCs and NO_X, which are precursors to the formation of ozone. The RAQS are periodically updated, with the most recent final revision issued in December 2016.

The RAQS control measures focus on emission sources under the SDAPCD's authority, specifically stationary emission sources and some area-wide sources. However, the emission inventories and emission projections in the RAQS reflect the impact of all emission sources and all control measures, including those under the jurisdiction of the CARB (e.g., on-road motor vehicles, off-road vehicles and equipment, and consumer products) and the USEPA (e.g., ships, trains, and pre-empted off-road equipment). Thus, while legal authority to control various

pollution sources is divided among agencies, the SDAPCD is responsible for reflecting federal, state, and local measures in a single plan to achieve state ozone standards in San Diego County.

There are no air quality control measures outlined in the RAQS that specifically addresses control of emissions. The following 2009 RAQS measures have been identified as applicable to the Proposed Project and airport operations.

1. Enhanced Vapor Recovery Program (Rule 61.3.1) – controls emissions during gasoline dispensing into vehicle fuel tanks by requiring all vapor recovery systems to comply with specified performance standards and to be certified by CARB.
2. Control of Architectural Coatings (Rule 67.0.1) – adopted CARB suggested control measure to limit VOC emissions from architectural coatings. [From Section 4.1.1. of AQR]

SDAPCD Rules and Regulations

As noted, the SDAPCD is the air pollution control agency for all of San Diego County including the Airport. The SDAPCD has two roles under CEQA. First, if acting as a lead agency, the district can be responsible for preparing environmental analysis in the EIR. Secondly, and most commonly, SDAPCD will review and comment on air quality analysis prepared by other public agencies.

For CEQA purposes, the screening level thresholds (SLTs) are used to demonstrate that a project's total emissions would not result in a significant impact to air quality. The daily SLTs are most appropriately used for the standard construction and operational emissions. When project emissions have the potential to approach or exceed the SLTs, additional air quality modeling may need to be prepared to demonstrate that ground level concentrations resulting from project emissions (with background levels) will be below the NAAQS and CAAQS.

If project emissions exceed the SLTs, specific modeling will be required for NO_2, sulfur dioxide (SO_2), CO, and lead to demonstrate that the project's ground-level concentrations do not exceed the NAAQS and CAAQS. For ozone precursors, PM_{10} and $PM_{2.5}$, exceedances of the SLTs would result in a significant impact. The reason for this is that the SDAB is currently not in attainment for these specific criteria pollutants. Design considerations or mitigation measures would need to be evaluated and recommended (if the SLTs were exceeded) to reduce the daily emissions to below the applicable screening levels.

At present, no particulate matter attainment plan is required under the CCAA. However, the SDAPCD reviewed potential measures to reduce particulate matter in the County to address SB 656. In 2009, the SDAPCD published the Fugitive Dust Control (Rule 55), which states that no person shall engage in construction or demolition activities in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than three minutes in any 60-minute period. [From Section 4.1.1. of AQR]

3.1.2.2 Analysis of Project Effects and Determination as to Significance

The significance thresholds for air quality are based on criteria provided in the County's Guidelines for Determining Significance for Air Quality (County of San Diego 2007d) as developed by SDAPCD, which were adapted from Appendix G of the CEQA Guidelines and developed using best available information, with input from experts and the public. However, it should be noted that neither the County nor SDAPCD provide thresholds for determining the significance of airport-related impacts. Therefore, for the purpose of analyzing construction emissions, the County's Guidelines were applied, but in the absence of locally-adopted thresholds for operations of airport-related projects, this section also incorporates FAA's approach to air quality impact analysis in accordance with FAA Order 1050.1F and Environmental Desk Reference for Airport Actions.

A significant impact to air quality would result if any of the following would occur:

1. The project will conflict with or obstruct the implementation of the San Diego RAQS and/or applicable portions of the SIP.

2. The project will result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation.

    a. The project will result in emissions that exceed 250 pounds per day of NO_X, or 75 pounds per day of VOCs.

    b. The project will result in emissions of CO that when totaled with the ambient concentrations will exceed a one-hour concentration of 20 parts per million (ppm) or an eight-hour average of 9 ppm [or 550 pounds per day].

    c. The project will result in emissions of $PM_{2.5}$ that exceed 55 pounds per day.

    d. The project will result in emissions of PM_{10} that exceed 100 pounds per day and increase the ambient PM_{10} concentration by 5 micrograms per cubic meter (5.0 $\mu g/m^3$) or greater at the maximum exposed individual.

3. The project will result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is nonattainment under an applicable federal or state Ambient Air Quality Standard.

    a. Construction Phase: A project that has a significant direct impact on air quality with regard to emissions of PM_{10}, $PM_{2.5}$, NO_x and/or VOCs, would also have a significant cumulatively considerable net increase.

    b. Construction Phase: In the event direct impacts from the proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the

pollutants of concern, are in excess of the guidelines identified in Section 4.2 of The *County of San Diego Guidelines for Determining Significance* and Report Format and Content Requirements.

c. Operational Phase: A project that does not conform to the RAQS and/or has a significant direct impact on air quality with regard to operational emissions of PM_{10}, $PM_{2.5}$, NO_x and/or VOCs, would also have a significant cumulatively considerable net increase.

d. Operational Phase: Projects that cause road intersections to operate at or below a LOS E (analysis only required when the addition of peak-hour trips from the proposed project and the surrounding projects exceeds 2,000) and create a CO "hotspot" create a cumulatively considerable net increase of CO.

4. The project will expose sensitive receptors to substantial pollutant concentrations.

   a. The project places sensitive receptors near CO "hotspots" or creates CO "hotspots" near sensitive receptors.

   b. Project implementation will result in exposure to TACs resulting in a maximum incremental cancer risk greater than one in one million without application of Toxics-Best Available Control Technology or a health hazard index greater than one would be deemed as having a potentially significant impact.

5. The project which is not an agricultural, commercial or an industrial activity subject to SDAPCD standards, as a result of implementation will either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which will affect a considerable number of persons or the public.

3.1.2.2.1 Conformance to the Regional Air Quality Strategy

Guideline for the Determination of Significance

A significant impact would occur if the project would:

- Conflict with or obstruct the implementation of the San Diego RAQS and/or applicable portions of the SIP.

Analysis

The RAQS rely on information from CARB and the SANDAG for source emissions that include projected growth in the county, mobile growth, growth within the surrounding area, and growth in all other sources in order to project future emissions and to determine the strategies necessary for the reduction of emissions. The CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the cities and by the County. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS and SIP.

Table 3.1.2-3 shows how the Proposed Project would be consistent with applicable policies of the RAQS and SDAPCD Rule 55. Navigational, airside, and landside improvements associated with the Proposed Project would be consistent with current and future land uses at the Airport and surrounding community and would not result in a permanent increase in operational emissions beyond what has been forecasted to occur. Construction emissions associated with future improvements would be short-term and temporary in-nature. Adherence to SDAPCD Rule 55, FAA AC 150/5370-10G (*Standards for Specifying Construction of Airports*), and appropriate project design features commonly employed as part of airport development projects would ensure that impacts associated with construction would be less than significant.

3.1.2.2.2 Conformance to Federal and State Ambient Air Quality Standards

Guidelines for the Determination of Significance

A significant impact would occur if the Proposed Project would:

- Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation.
    - The project will result in emissions that exceed 250 pounds per day of NO_X, or 75 pounds per day of VOCs.
    - The project will result in emissions of CO that when totaled with the ambient concentrations will exceed a one-hour concentration of 20 ppm or an eight-hour average of 9 ppm [or 550 pounds per day].
    - The project will result in emissions of $PM_{2.5}$ that exceed 55 pounds per day.
    - The project will result in emissions of PM_{10} that exceed 100 pounds per day and increase the ambient PM_{10} concentration by 5 micrograms per cubic meter (5.0 $\mu g/m^3$) or greater at the maximum exposed individual.

As noted in the beginning of this section, neither the County nor SDAPCD provide applicable thresholds for determining the significance of airport-related impacts. Therefore, in the absence of locally-adopted thresholds for airport projects, the FAA's approach using federal de minimis threshold levels were used in the analysis to evaluate if the Proposed Project's total operational emissions would result in a significant impact to air quality. This approach is consistent with the FAA's methodology for analyzing airport projects and associated air quality emissions.

Analysis

Construction

Construction emissions from the Proposed Project were estimated using the California Emissions Estimator Model® (CalEEMod) emissions inventory model, which calculates construction emissions for all construction phases. If all sixteen improvements proposed under the Proposed Project were constructed separately with no overlap in construction, there would be no exceedances of the SDACP SLTs. However, emissions generated from projects identified under the near-term, intermediate-term and long-term scenarios were combined for comparative purposes to determine if they exceeded the SLTs since some of these projects may overlap in

sequencing. Table 3.1.2-4 shows that the total estimated pollutant concentrations that would be generated for each of these scenarios would not exceed the SLTs (pounds per day) as identified in the County Guidelines for Air Quality. Additionally, Table 3.1.2-5 shows that the total estimated pollutant concentrations that would be generated for each of these scenarios would not exceed the SLTs and federal de minimis threshold levels (tons per year) (40 CFR 93.153 [b][1]&[2]). Construction emissions could be further reduced by adherence to proper and standard construction practices will be used as outlined under FAA AC 150/5370-10G, *Standards for Specifying Construction of Airports*. These include periodic watering of dusty on-site travel routes during dry conditions, utilization of a designated entrance that will minimize soil being carried onto adjacent roads by construction vehicles leaving the site, and cessation of earthwork activities during particularly dry and high wind conditions if the generation of such dust could potentially impact adjacent properties.

It is mandatory for all construction projects in San Diego County to comply with SDAPCD Rule 55 which addresses fugitive dust control. The rule states that no person shall engage in construction or demolition activities in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than three minutes in any 60-minute period. Therefore, construction emissions would not exceed Federal and State Ambient Air Quality Standards, and impacts would be less than significant.

Operation

As a public-use airport, ongoing aircraft operations are under the jurisdiction and regulatory authority of the FAA. The County cannot discriminate or restrict users of the airfield. The Proposed Project involves capital improvements to improve safety of the facility for current and future users through the planning period. It also evaluates the continuation of commercial air service and a range of forecasts associated with increased commercial use. As the most applicable approach to assessing aviation sources of air quality emissions, this analysis incorporates the FAA approach as discussed in FAA Order 1050.1F and the Environmental Desk Reference for Airport Actions. Additionally, a comparison between existing conditions and the full range of commercial air service operations is assessed.

Emissions from the forecasted increase in aircraft operations over the 20-year planning period were calculated using AEDT. Criteria pollutant emissions inventories are designated as including aircraft emissions related to ground-based taxiing and the entire landing and takeoff (LTO) cycle which is comprised of approach, takeoff, and climb out. Emissions above the mixing height (3,000 ft. above ground level) would not be expected to impact regional air quality and thus, emissions for the flight operations above the mixing height are not calculated within AEDT. In order to calculate aircraft emissions, the average numbers of LTO cycles by specific aircraft types were prepared for input into AEDT.

Stationary source emissions associated with the Proposed Project would result from the potential increase in square footage and associated boiler usage necessary to meet the heating demand of the potential improvements to the terminal facility. Emissions associated with on-airport fuel storage were also quantified as part of the evaluation of stationary sources. Under the future conditions (2036) with Proposed Project commercial air service enplanement scenarios (PAL 1 and PAL 2), the removal of a 12,000-gallon aboveground aircraft fuel storage

tank will be completed in concert with the north apron demolition. The north apron storage tank was primarily constructed for safety purposes to eliminate aircraft from taxiing from the north apron across the airfield to refuel. According to the County, there is existing fuel storage capacity at the Airport FBOs to continue to meet the anticipated demand for the 20-year planning period. Additionally, emissions associated with the increase in on-road vehicles trips to and from the Airport were calculated for the future conditions (2036) with Proposed Project scenarios.

Operational emissions from the Proposed Project were estimated based on the sources described above. In accordance with FAA guidelines, the results of the emission inventory prepared for the future conditions (2036) were compared to the results with and without the Proposed Project. As shown in Table 3.1.2-6, the net increase in operational emissions associated with the Proposed Project would not exceed any of the federal de minimis SLTs in which the SDAB is in maintenance or non-attainment. While CO has the potential to exceed the federal de minimis threshold, CO is currently in attainment with both federal and state standards. As such, the federal de minimis threshold level for CO is not applicable to projects located in the SDAB. Therefore, operational emissions would not exceed Federal and State Ambient Air Quality Standards, and impacts would be less than significant.

The analysis above includes FAA's guidance comparing future conditions with and without the Proposed Project. In addition, Table 3.1.2-7 was also prepared illustrating that the Proposed Project's standalone air quality emissions (i.e., not including for natural growth) would not exceed the federal de minimis thresholds. Therefore, similar to the above analysis operational emissions would not exceed applicable air quality standards, and impacts would be less than significant.

3.1.2.2.3 Cumulatively Considerable Net Increase of Criteria Pollutants

Guideline for the Determination of Significance

A significant impact would occur if the project would:

- Result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is nonattainment under an applicable federal or state Ambient Air Quality Standard.

    - Construction Phase: A project that has a significant direct impact on air quality with regard to emissions of PM_{10}, $PM_{2.5}$, NO_x and/or VOCs, would also have a significant cumulatively considerable net increase.

    - Construction Phase: In the event direct impacts from the proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, are in excess of the guidelines identified in Section 4.2 of

The *County of San Diego Guidelines for Determining Significance* and Report Format and Content Requirements.

- Operational Phase: A project that does not conform to the RAQS and/or has a significant direct impact on air quality with regard to operational emissions of PM_{10}, $PM_{2.5}$, NO_x and/or VOCs, would also have a significant cumulatively considerable net increase.

- Operational Phase: Projects that cause road intersections to operate at or below an LOS E (analysis only required when the addition of peak-hour trips from the proposed project and the surrounding projects exceeds 2,000) and create a CO "hotspot" create a cumulatively considerable net increase of CO.

Analysis

Construction

The Air Quality Impact Technical Report identified nine other projects that could potentially result in cumulative increases in criteria pollutants in conjunction with the Proposed Project. Only two of these projects were located within less than one mile of the project and could therefore contribute to cumulative construction emissions due to the localized nature of construction emissions. Both of these are minor improvement projects that are not anticipated to significantly increase emissions. Furthermore, the proposed El Camino Real widening project is anticipated to provide an emissions benefit by eliminating vehicle idling associated with road congestion. As shown in Tables 3.1.2-3 and 3.1.2-4, project construction would not exceed screening thresholds for a direct air quality impact. Therefore, in consideration of surrounding cumulative conditions, project construction would not result in a cumulative contribution to net criteria pollutants, and impacts would be less than significant.

Operation

Emissions associated with the Proposed Project are shown in Tables 3.1.2-5 and 3.1.2-6 and demonstrate that ongoing operations at the Airport in comparison to screening thresholds, including PM_{10}, $PM_{2.5}$, NO_x, or VOCs, would not cause a significant air quality impact. Projected growth in aircraft operations at McClellan-Palomar Airport were accounted for in the development of the RAQs emissions budget. Specifically, the 2011 Regional Aviation Strategic Plan (RASP) included a forecasted growth in aviation activity throughout the region, including McClellan-Palomar Airport. This forecast data was then incorporated into SANDAG's Regional Transportation Plan (RTP), and it was integrated into the foundation for development of the RAQs. A review of the RASP forecast shows aircraft activity levels at the Airport reaching 289,600 annual operations by 2035. The forecast that was developed as part of the Airport Master Plan Update only includes 195,050 (PAL 1) and 208,004 (PAL 2) annual operations in 2036. This is 94,550 and 81,596 less, respectively, than those forecasted in the RASP and accounted for in the development of the RAQs emissions budget. Therefore, the proposed project would not contribute to a significant RAQs impact.

Emissions associated with the projected increase in on-road vehicle traffic to and from the Airport were accounted for under the RTP, which outlined a strategy to meet required emission reduction targets. As part of the RTP, an inventory of future emissions were calculated and used as the basis to help determine emission reduction strategies. Emissions calculations related to vehicular traffic patterns at airports located in the County were derived from the Airport Multimodal Accessibility Plan (AMAP) and the RASP, prepared by the SDCRAA. Specific to the Airport, the Airport Master Plan Update selected Scenario 1C of the RASP to determine the future increase in vehicular traffic coming to and from the Airport. Scenario 1C included 641,355 forecasted passenger enplanements at the Airport by the year 2030. When compared to the passenger enplanements forecasted in the Master Plan Update (575,000) for 2036 under the high range forecast, the RASP's projection is more than 10 percent above the County's forecast, and was the basis of emissions calculations in the region. Therefore, because the RASP overestimated commercial passenger use and the associated vehicular trips to the airport, emissions associated with the increase in aircraft operations forecasted in the Airport Master Plan Update are less than those forecasted in the RTP/RASP and accounted for in the development of the RAQS.

3.1.2.2.4 Impacts to Sensitive Receptors

Guideline for the Determination of Significance

A significant impact would occur if the project would:

- Expose sensitive receptors to substantial pollutant concentrations.
    - The project places sensitive receptors near CO "hotspots" or creates CO "hotspots" near sensitive receptors.
    - Project implementation will result in exposure to TACs resulting in a maximum incremental cancer risk greater than one in one million without application of Toxics-Best Available Control Technology or a health hazard index greater than one would be deemed as having a potentially significant impact.

Analysis

Exhaust emissions from motor vehicles can potentially cause a direct, localized CO "hotspot" impact at or near proposed development or sensitive receptors. According to County guidance, CO "hotspots" or pockets where CO concentrations exceed the NAAQS and/or CAAQS, have been found to occur only at signalized intersections that operate at or below LOS E with peak-hour trips for that intersection exceeding 3,000 trips. Therefore, if the Proposed Project would place receptors within 500 ft. of a signalized intersection operating at or below LOS E (peak-hour trips exceeding 3,000 trips) a "hotspot" analysis would be required.

The closest signalized intersections to the Proposed Project are located at Palomar Airport Road/Yarrow Drive, Palomar Airport Road/Camino Vida Roble, and Palomar Airport Road/El Camino Real. According to the Traffic Impact Analysis (Appendix E) that was prepared in support of the Airport Master Plan Update, intersections located at Palomar Airport

Road/Camino Vida Roble and Palomar Airport Road/El Camino Real would continue to have an LOS F and experience an increase in delay from the Proposed Project.

Therefore, consistent with the County Guidelines, these findings indicate that further screening is required. Although the SDAPCD does not require additional screening, various air quality agencies in California have developed additional conservative screening methods. The screening methods of the Sacramento Metropolitan Air Quality Management District (SMAQMD) are used for the Proposed Project because ambient CO concentrations within the SMAQMD jurisdiction are higher than for the project area, as measured by CARB, resulting in a more conservative analysis. The SMAQMD states that a project would not result in a significant impact to local CO concentrations if it meets all of the below criteria:

- The affected intersection carries less than 31,600 vehicles per hour;
- The project does not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, below-grade roadway, or other location where horizontal or vertical mixing of air would be substantially limited; and
- The affected intersection, which includes a mix of vehicle types, is not anticipated to be substantially different from the County average, as identified by Emissions Factor model version 2014 (EMFAC2014) or CalEEMod models (SMAQMD 2009).

The highest traffic volume at the aforementioned intersections is estimated to be 3,201 vehicle trips at the intersection of Palomar Airport Road/El Camino Real during the AM peak hour (LLG 2017). The intersection is not located in a tunnel, urban canyon, or similar area that would limit the mixing of air, nor is the vehicle mix anticipated to be substantially different than the County average. There would be no potential for a CO hotspot or exceedance of state or federal CO ambient air quality standard because the maximum traffic volume (3,201) would be substantially less than the 31,600 vehicles per hour screening level; because the congested intersection is located where mixing of air would not be limited; and because the vehicle mix would not be uncommon. Therefore, this would result in a less than significant impact, and no mitigation is required.

The Proposed Project does not include the major expansion or construction of new stationary sources that could potentially emit TACs and increase long-term public health risks, nor does it involve placing sensitive receptors closer to the Airport. Therefore, a Health Risk Assessment (HRA) was not required for the Proposed Project.

Diesel PM (DPM), a TAC, would be emitted during construction activities due to the operation of heavy equipment at the site. Because diesel PM is considered carcinogenic, long-term exposure to diesel exhaust emissions have the potential to result in adverse health impacts. All improvements would be completed entirely within the environs of the airport property where public access is controlled. The closest sensitive receptors will be located over a quarter-mile from where the nearest proposed improvement would take place. Estimated PM_{10} levels, which includes DPM, would be well below the SLTs. The proposed removal of north apron, which is anticipated to have largest temporary construction contribution of PM_{10} emissions is located approximately 0.8 miles from the nearest sensitive receptor. Given the results of the emission

inventory and the location of the nearest sensitive receptors an evaluation of impacts of DPM related to the Proposed Project was not prepared for the Proposed Project. Therefore, the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant.

3.1.2.2.5 Odor Impacts

Guideline for the Determination of Significance

A significant impact would occur if the project (which is not an agricultural, commercial or an industrial activity subject to SDAPCD standards) will:

- Either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which will affect a considerable number of persons or the public.

Analysis

The Proposed Project would not alter existing land uses and the Airport would continue to conduct operations similar to existing conditions. The Proposed Project does not include the introduction of new elements that would generate objectionable odors, nor would it attract persons to areas where there would be a potential for exposure to objectionable odors. Therefore, the project would not generate objectionable odors or place sensitive receptors next to existing objectionable odors, and impacts would be less than significant.

3.1.2.3 Cumulative Impact Analysis

As described in Section 3.1.2.3.3 above, the Proposed Project would not result in any cumulative impacts related to air quality during construction or operation.

3.1.2.4 Conclusion

Implementation of the Proposed Project would not result in significant impacts to air quality. The Proposed Project conforms to the RAQS, and therefore would not conflict with applicable air quality improvement plans of the County or State, and would have a less than significant impact. Construction and operational emissions air would not exceed the applicable significance criteria, and would have a less than significant impact. In addition, the Proposed Project would not result in a cumulatively considerable increase in criteria pollutants, nor would the Proposed Project expose sensitive receptors to substantial pollutant concentrations or result in impacts associated with odors. Therefore, potential air quality and odor impacts from the Proposed Project would be *less than significant*.

Table 3.1.2-1. Existing Conditions (2016) Air Quality Emissions

Emission Source	Annual Emissions (tpy)						
	CO	VOC	NO_X	SO_X	$PM_{2.5}$	PM_{10}	Pb
Aircraft[a]	1,108.84	48.69	22.61	4.43	1.07	1.07	0.86
GSE	2.62	0.16	0.40	0.29	0.02	0.02	N/A
Motor Vehicles[b]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Stationary Sources	0.08	0.16	0.14	0.00	0.01	0.01	N/A
Total[c]	**1,111.54**	**49.01**	**23.15**	**4.72**	**1.10**	**1.10**	**0.86**

[a] Includes auxiliary power usage. Assumes taxi in time of 7 minutes, taxi out time of 19 minutes.
[b] Motor vehicle emissions were not calculated for existing conditions (2016). Increases in emissions under the future scenarios that included increases in commercial aircraft operations were calculated based on the net increase when compared to a baseline of no emissions.
[c] Values were rounded to the nearest hundredth for legibility within the table. Therefore, a sum of the values shown in the table may not precisely equate the values in this row

Source: AEDT version 2d, C&S Engineers, Inc. 2018

Table 3.1.2-2. State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS[a]	NAAQS[b]
Ozone (O_3)	1 hour	0.09 ppm	-
	8 hour	0.07 ppm	0.07 ppm
Carbon Monoxide (CO)	1 hour	20.0 ppm	35 ppm
	8 hour	9.0 ppm	9 ppm
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	100 ppb
	Annual	0.03 ppm	0.053 ppm
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	75 ppb
	24 hour	0.04 ppm	0.14 ppm
	Annual	-	0.03 ppm
Particulate Matter (PM_{10})	24 hour	50 µg/m^3	150 µg/m^3
	Annual	20 µg/m^3	-
Particulate Matter ($PM_{2.5}$)	24 hour	-	35 µg/m^3
	Annual	12 µg/m^3	12 µg/m^3
Lead[c,e]	30 day	15 µg/m^3	-
	Quarter	-	1.5 µg/m^3
	Rolling 3 month average	-	0.15 µg/m^3
Visibility-Reducing Particles	8 hour	See note e	No National Standards
Sulfates	24 hour	25 µg/m^3	
Hydrogen Sulfide	1 hour	0.03 ppm	
Vinyl Chloride[e]	24 hour	0.01 ppm	

NS = no standard; ppm = parts per million; µg/m^3 = micrograms per cubic meter.

[a] CAAQS for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 hour and 24 hour), NO_2, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All other state standards shown are values not to be equaled or exceeded.

[b] National standards (other than ozone, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

[c] The national standard for lead was revised on October 15, 2008, to a rolling three-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[d] In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

[e] The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: CARB, 2017, and USEPA, 2017 https://www.epa.gov/criteria-air-pollutants/naaqs-table.

Table 3.1.2-3. Consistency with RAQS

RAQS Measure	Issue	Consistency Analysis/Mitigation
Rule 61.3.1	Fueling	The Proposed Project would have no impact to aircraft refueling operations at the Airport. Although the Proposed Project would remove the north apron fuel storage tank, there are no plans to replace it.
Rule 67.0.1	VOCs	Require use of super-compliant VOC coatings for all proposed architectural applications. Many manufacturers have already reformulated coatings to levels well below CARB defined limits. These are referred to as "Super-Compliant" and contain less than 10 grams of VOC per liter.
Rule 55 (APCD Rules & Regulations)	Fugitive Dust	Fugitive dust control measures are required of construction projects.

Table 3.1.2-4. Project Construction Maximum Daily Emissions (lbs. per day)

	PM_{10}	$PM_{2.5}$	NO_X	SO_X	CO	VOCs
SDAPCD Screening Level Threshold	*100*	*55*	*250*	*250*	*550*	*75*
Total Near-term Project Emissions	33.31	14.04	149.65	0.41	165.19	19.79
Total Intermediate-term Project Emissions	79.47	18.28	157.07	0.52	229.14	19.39
Total Long-term Project Emissions	54.07	22.60	86.57	0.28	115.00	62.90

Source: CalEEMod, C&S Engineers, Inc. 2018 and Helix 2018

Table 3.1.2-5. Project Construction Maximum Annual Emissions (tons/year)

	PM_{10}	$PM_{2.5}$	NO_X	SO_X	CO	VOCs
Federal De Minimis Threshold Levels[a]	*N/A*	*N/A*	*100*	*N/A*	*NA*	*100*
SDAPCD SLT Threshold	*15*	*10*	*40*	*40*	*100*	*13.7*
Total Near-Term Project Emissions	1.28	0.64	8.04	0.23	8.33	0.88
Total Intermediate-Term Project Emissions	0.78	0.18	1.55	0.01	2.22	0.19
Total Long-Term Project Emissions	1.74	0.49	4.50	0.01	4.91	0.49

Notes:
(a) Federal de minimis threshold levels are only applicable to the criteria pollutants in which San Diego County is designated as non-attainment or maintenance.
Source: CalEEMod, C&S Engineers, Inc. 2017 and Helix 2018

Table 3.1.2-6. Future (2036) Project Emissions from Operational Activities

Scenario	Total Emissions (tons per year)						
	CO	VOC	NO_X	SO_X	$PM_{2.5}$	PM_{10}	Pb
Future Conditions (2036) No Project vs. With-Project (PAL 1)[a]	75.68	3.85	26.57	4.36	1.45	4.09	0.01
Future Conditions (2036) No Project vs. With-Project (PAL 2)[a]	121.19	5.58	48.61	7.75	2.69	7.67	0.01
Federal De Minimis Threshold Level[b]	NA	100	100	NA	NA	NA	NA
Impact [c]	No[d]	No	No	No	No	No	No

Notes:

(a) Includes on-road vehicle sources.

(b) Federal de minimis thresholds are used in the absence of locally-adopted thresholds for airport operations. Furthermore, for pollutants in which the SDAB is located in an attainment area, no de minimis threshold level would apply.

(c) The pollutants CO, SO_x, $PM_{2.5}$, PM_{10}, and Pb are in attainment for the SDAB. Furthermore, their emissions are considered negligible and therefore cumulatively insignificant.

(d) Although CO may exceed the federal de minimis threshold level, the SDAB is currently in attainment under federal standards. As such, the federal de minimis threshold level for CO is not applicable to projects located in the SDAB.

Source: AEDT version 2d, C&S Engineers, Inc. 2018
CalEEMod and EMFAC2014, HELIX Environmental Planning, Inc. 2018

Table 3.1.2-7. Project-related Emissions from Operational Activities

Scenario	Total Emissions (tons per year)						
	CO	VOC	NO_X	SO_X	$PM_{2.5}$	PM_{10}	Pb
Proposed Project	97.42	3.87	47.13	7.29	2.65	7.63	0
Federal De Minimis Threshold Level [a]	NA	100	100	NA	NA	NA	NA
Impact [b]	No [c]	No	No	No	No	No	No

Notes:

For the purposes of this table, "Proposed Project" is defined as only aircraft operations associated with commercial activity from PAL 2 (since County has discretion over approval of commercial air service leases). It does not include construction of infrastructure capital improvements nor natural aviation growth. Calculations for the Proposed Project were deduced from Tables 9 and 11 in the project Air Quality Technical Report.

(a) Federal de minimis thresholds are used in the absence of locally-adopted thresholds for airport operations. Furthermore, for pollutants in which the SDAB is located in an attainment area, no de minimis threshold level would apply.

(b) The pollutants CO, SO_x, $PM_{2.5}$, PM_{10}, and Pb are in attainment for the SDAB. Furthermore, their emissions are considered negligible and therefore cumulatively insignificant.

(c) Although CO may exceed the federal de minimis threshold level, the SDAB is currently in attainment under federal standard. As such, the federal de minimis threshold level for CO is not applicable to projects located in the SDAB.

Source: AEDT version 2d, C&S Engineers, Inc. 2018

3.1.3 Cultural Resources

The information in this section considers potential impacts to cultural resources. The information and analysis in this section have been compiled based on the Cultural Resources Study prepared for the project by RECON Environmental, Inc. (RECON 2016). The Cultural Resources Study is provided as Appendix D of this PEIR. Cultural resources are defined as prehistoric and historic sites, districts, or any other physical evidence of human activity considered significant to a culture, subculture, or a community for scientific, traditional, religious, or other reasons. Factors determining a resource's significance are its integrity, design, associations with important events or persons, and age.

3.1.3.1 Existing Conditions

Regulatory Environment

The regulatory framework and methods for determining impacts to cultural resources associated with the Proposed Project include compliance with the requirements of CEQA as defined in Section 15064.5 of the CEQA Guidelines and with County Guidelines for Determining Significance to Cultural Resources: Archaeological and Historic Resources (County of San Diego 2007b). Both sets of guidelines require the identification of cultural resources that could be affected by the Proposed Project, the evaluation of the significance of such resources, an assessment of the Proposed Project impacts on significant resources, and development of a research design and data recovery program to avoid or address adverse effects to significant resources. Significant resources, also called historical resources, are those cultural resources (whether prehistoric or historic) that have been evaluated and determined to be eligible for listing in the California Register of Historical Resources.

Assembly Bill 52

AB 52 was approved by Governor Brown on September 25, 2014. AB 52 requires a lead agency to consult with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the Proposed Project. AB 52 consultation is applicable to projects that have published a Notice of Intent (associated with a Negative Declaration) or NOP (associated with an EIR) after July 1, 2015. The intent of AB 52 is to ensure that local and tribal governments, public agencies, and project proponents have information available early in the environmental review process to identify and address potential adverse impacts to tribal cultural resources.

Background

Records Search

RECON conducted a record search at the California Historical Resources Information System, South Coastal Information Center (SCIC) at San Diego State University (Appendix D, Confidential Attachment 1). Based on record search data, 15 past investigations have occurred in portions of the Proposed Project area. There are 74 cultural resources recorded within the one-mile buffer. Included are 65 prehistoric sites (shell scatters, lithic scatters, ceramic scatters,

hearths/roasting pits, bedrock milling features, ground stone artifacts), 3 prehistoric isolated artifacts, 3 historic buildings, 1 multi-component site (prehistoric and historic), and 2 unknown site types. Of these, only one cultural resource (CA-SDI-6835) is located partially within the boundary of the Proposed Project site. CA-SDI-6835 was first recorded in 1978 as a lithic and shell scatter (Franklin 1978). The site was determined not significant in 1982 during a survey. In 1989, an assessment of the site was completed at the site for the Palomar Airport Center Project. During the survey, the site was not relocated and was presumed to have been destroyed by placement of fill soils in the area. The site was found not significant under CEQA criteria (Pigniolo 1989). Because it was not significant under CEQA criteria, the site would also not be eligible for listing on the National Register of Historic Places. Currently the area where the site is mapped is overlain by an industrial building and parking lot.

Native American Consultation

The NOP and Initial Study for the Proposed Project were published for public review on February 29, 2016. In accordance with AB 52, on March 9, 2016, County staff notified ten Native American tribes whose territories encompass the Proposed Project site.

On March 16, 2016, the Pala Band of Mission Indians provided a response letter requesting consultation. In response, a County letter was sent on April 14, 2016, confirming the Proposed Project would be discussed at the next recurring County/Pala meeting on May 11, 2016. On April 8, 2016, the Rincon Band of Luiseño Indians provided a response letter requesting consultation. In response, a County letter was sent on April 28, 2016 confirming the Proposed Project would be discussed at the next recurring County/Rincon meeting on June 20, 2016. Lastly, on April 4, 2016, the Soboba Band of Luiseño Indians provided a response letter requesting consultation. However, they requested to defer all correspondence to the local San Luis Rey Band of Mission Indians. In response, a County letter was sent on April 28, 2016 confirming the Proposed Project would be discussed at the next recurring County/San Luis Rey meeting on April 21, 2016.

At each meeting described above, County staff stated that due to the long-range and phased implementation schedule of the proposed Airport Master Plan Update, much of the design and construction details of individual projects had not been identified. County Staff further explained that when FAA funding is identified in order to move forward with project design and construction, individual projects will be reviewed for potential environmental impacts under CEQA and NEPA, including cultural resources, and applicable mitigation would be implemented, if required. Native American consultation letters are provided as part of Appendix D to this PEIR.

3.1.3.2 Analysis of Project Effects and Determination as to Significance

The significance thresholds for cultural resources are based specifically on criteria provided in the County's Guidelines for Determining Significance for Cultural Resources (County of San Diego 2007b), which were adapted from Appendix G of the CEQA Guidelines and developed using best available information, with input from experts and the public.

A significant impact to cultural resources would result if any of the following would occur:

1. The project causes a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines. This shall include the destruction, disturbance or any alteration of characteristics or elements of a resource that cause it to be significant in a manner not consistent with the Secretary of Interior's Standards.
2. The project causes a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines. This shall include the destruction or disturbance of an important archaeological site or any portion of an important archaeological site that contains or has the potential to contain information important to history or prehistory.
3. The project disturbs any human remains, including those interred outside of formal cemeteries.
4. The project proposes activities or uses damaging to significant cultural resources as defined by the County Resource Protection Ordinance (RPO) and fails to preserve those resources.

3.1.3.2.1 Historical Resources

Guideline for the Determination of Significance

A significant impact would occur if the project would:

- Cause a substantial adverse change in the significance of a historical resource, as defined in Section 15064.5 of the CEQA Guidelines. This shall include the destruction, disturbance, or any alteration of characteristics or elements of a resource that causes it to be significant in a manner not consistent with the Secretary of Interior's Standards.

Analysis

A records search was conducted at the SCIC at San Diego State University. No previously recorded historic resources were found within the site. In addition, no resources with the potential for meeting the criteria of eligibility for listing in the California Register of Historical Resources (CRPC Section 5024) are present within the Proposed Project site. Therefore, due to the fact that no historical resources are known to exist onsite, there would be *no impact* to historical resources.

3.1.3.2.2 Archaeological Resources

Guidelines for the Determination of Significance

A significant impact would occur if the Proposed Project would:

- Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5 of the State CEQA Guidelines. This shall include the destruction or disturbance of an important archaeological site or any portion of an important archaeological site that contains or has the potential to contain information important to history or prehistory.

Analysis

As discussed in Section 3.1.3.1, only one cultural resource (CA-SDI-6835) was found to be partially located within the boundary of the Proposed Project site. CA-SDI-6835 was first recorded in 1978 as a lithic and shell scatter (Franklin 1978). The site was determined not significant in 1982 during a survey. In 1989, an assessment of the site was completed at the site for the Palomar Airport Center Project. During that survey, the site was not relocated and was presumed to have been destroyed by placement of fill soils in the area. The site was found not significant under CEQA criteria (Pigniolo 1989).

Also, because the majority of the Proposed Project site has been developed, and portions are underlain by three inactive landfill cells dating from the 1970s, the potential of discovery of unidentified buried significant cultural resources is low. Therefore, the Proposed Project was determined to have *no impact* to archaeological resources.

3.1.3.2.3 Disturbance to Human Remains

Guideline for the Determination of Significance

A significant impact would occur if the project would:

- Disturb any human remains, including those interred outside of formal cemeteries.

Analysis

As stated in the Cultural Resources Study, the likelihood of inadvertent discovery of human remains is considered low given the lack of cultural resources found within the Proposed Project site. Should human remains be discovered, work shall halt in that area and the procedures set forth in the CPRC (Section 5097.98) and California H&SC (Section 7050.5) will be followed. Therefore, the Proposed Project was determined to have *no impact* to human remains.

3.1.3.2.4 Resource Protection Ordinance

Guideline for the Determination of Significance

A significant impact would occur if the project would:

- Propose activities or uses damaging to significant cultural resources as defined by the County RPO and fails to preserve those resources.

Analysis

As discussed above, one archaeological site was recorded within the Proposed Project site and previously determined not to be significant. Therefore, it would not qualify as a significant cultural resource as defined by the County RPO, and the Proposed Project would have *no impact* on RPO-defined significant cultural resources.

3.1.3.3 Cumulative Impact Analysis

No significant historic or cultural resources were found to be potentially impacted within the Proposed Project site. No resources with the potential for meeting the criteria of eligibility for listing in the National Register of Historic Places (36 CFR §60) or the California Register of Historical Resources (CPRC Section 5024.1) are present within the Proposed Project site. All cumulative projects listed in Table 1-4 would be subject to state and local regulations regarding the preservation of significant cultural and historic resources. Therefore, a significant cumulative impact to cultural resources would not occur in the cumulative study area. As such, the project is not considered to contribute to a cumulatively considerable impact to historical/cultural resources.

3.1.3.4 Conclusion

Records search results determined that no significant historical/cultural resources exist onsite that could be impacted, and the potential of discovery of unidentified buried significant cultural resources is low. Therefore, the Proposed Project would not impact historical/cultural resources.

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3.1.4 Geology and Soils

The purpose of this section is to determine whether implementation of the Proposed Project would result in significant environmental impacts related to geology and soils.

3.1.4.1 Existing Conditions

Geologic Conditions

General Geologic Setting

The City of Carlsbad and the Airport are within the coastal province of the Peninsular Range in San Diego County, which is primarily made up of surficial materials (i.e., alluvium, colluvium, and topsoil) as shown in Figure 3.1.4-1 (City of Carlsbad, 2015a). The Peninsular Range consists of steep-sloping hills and mountains, usually separated by alluvial valleys. Erosion and uplift have created canyon and mesa topography that is now found in the western portion of San Diego County. The Airport sits atop a mesa that is about 66 feet above the surrounding ground.

Faults and Seismicity

San Diego County has relatively high seismicity; however, the City of Carlsbad does not contain any fault lines (see Figure 3.1.4-2). Additionally, the City of Carlsbad is not on the California Geological Survey (CGS) list of cities affected by the Alquist-Priolo Earthquake Fault Zone (USGS 2016). There are no known active faults crossing the Airport and the Airport is not located in a State of California Earthquake Fault Zone. The closest active fault, the Newport-Inglewood Rose Canyon fault zone, is more than four miles west of the Airport in the Pacific Ocean. The effect of an earthquake originating on any given fault would depend on the earthquake magnitude and the distance of the Airport from the earthquake source. In general, the more distant the source fault is from a location and the smaller the magnitude of the potential earthquake, the smaller the expected groundshaking effect.

Soils

The Airport is comprised of soil known as the Santiago Formation, a middle Eocene marine and non-marine siltstone and sandstone (Prothero 2001). According to the NRCS Web Soil Survey, the Airport is made up of ten different soil types with varying percent slopes. According to the NRCS, these soils have a moderate to high erodibility rating and therefore, could be subject to erosion (NRCS 2016).

Dynamic Compaction of Dry Soils

Relatively dry soils (e.g., soils above the groundwater table) with low density or softer consistency tend to undergo a degree of compaction during a seismic event. Earthquake shaking often induces significant cyclic shear strain in a soil mass, which responds to the vibration by undergoing volumetric changes. Volumetric changes in dry soils take place primarily through changes in the void ratio (usually contraction in loose or normally consolidated soft soils, and dilation in dense or over consolidated stiff soils) and secondarily through particle reorientation. Such volumetric changes are generally non-recoverable. Potential settlement

induced by dynamic compaction of relatively dry soil is low at the Airport since soils at the Airport have been classified as damp and/or moist (Ninyo & Moore 2016).

Landslides

Landslides, slope failures, and mudflows of earth materials generally occur where slopes are steep and/or earth materials are too weak to support themselves. Earthquake-induced landslides may occur due to seismic groundshaking. The Airport is relatively flat and sits atop a mesa that is approximately 66 feet above the surrounding ground level. The Airport is covered primarily with pavement, hardscape, and structures. According to the California Geological Survey, the Airport is in a low landslide incidence area despite sitting atop a mesa (see Figure 3.1.4-3) (USGS 2016). Therefore, the potential for landslide at the Airport is considered to be low.

Expansive Soils

Expansive soils include clay minerals that are characterized by their ability to undergo significant volume change (shrink or swell) due to variations in moisture content. Sandy soils are generally less expansive. Changes in soil moisture can result from rainfall, irrigation, pipeline leakage, surface drainage, perched groundwater, drought, or other factors. Volumetric change of expansive soils may cause excessive cracking and heaving of structures with shallow foundations, concrete slabs-on-grade, or pavements supported on these materials. The Airport is not in an area known for potentially expansive soils (see Figure 3.1.4-4) (County of San Diego 2011b) and because soils at the Airport generally consist of sandy and/or loamy materials, which have a low expansion potential, impacts from expansive soils would be low.

Corrosive Soils

The Airport is located in a geologic environment that could potentially contain soil conditions that are corrosive to concrete and metals. The criteria for non-corrosive soils is soils having a chloride concentration of 500 parts per million (ppm) or less, a soluble sulfate content of approximately 0.20 percent (2,000 ppm) or less, and a pH value of 5.5 or higher. If corrosive soil conditions exist, they may exacerbate the corrosion hazard to buried conduits, foundations, and other buried concrete or metal improvements. Corrosive soils could cause premature deterioration of these underground structures or foundations. The Airport's soil is considered corrosive due to its low pH value (Ninyo & Moore 2009, 2012).

Collapsible Soils

Collapsible soils are generally comprised of soils that undergo consolidation when exposed to new loading, such as fill or foundation loads. Soil collapse is a phenomenon where the soils undergo a significant decrease in volume upon increase in moisture content, with or without an increase in external loads. The Airport is generally underlain by soils mapped as Santiago Formation (Ninyo & Moore 2009, 2012). The Santiago Formation soils underlying the Airport are generally strongly cemented, silty sandstone and sandy siltstone. However, the eastern portion of the Airport was built upon a municipal solid waste landfill that was filled (see Figure 2.3-1).

The landfill was capped, filled, and installed with CH_4 extraction facilities, as well as monitoring wells.

Subsidence

Subsidence is characterized as a sinking of the ground surface relative to surrounding areas, and can generally occur where deep soil deposits are present. Subsidence in areas of deep soil deposits is typically associated with regional groundwater withdrawal, landfill decay and gas extraction, or other fluid withdrawal from the ground such as oil and natural gas. Subsidence can result in the development of ground cracks and damage to subsurface vaults, pipelines and other improvements. As discussed in the Phase I ESA attachments as well as CalRecycle records, the LEA has noted minor resettlement of landfill units 1 and 2, and corrective actions needed (when applicable) in consultation with LEA.

Liquefaction

Liquefaction is the phenomenon in which loosely deposited granular soils located below the water table undergo rapid loss of shear strength due to excess pore pressure generation when subjected to strong earthquake-induced groundshaking. Groundshaking of sufficient duration results in the loss of grain-to-grain contact due to a rapid rise in pore water pressure causing the soil to behave as a fluid for a short period of time. Liquefaction is known generally to occur in saturated or near saturated cohesion-less soils at depths shallower than 50 feet. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of groundshaking. The Airport is not located in a known liquefaction area as shown in Figure 3.1.4-5.

Regulatory Setting

Federal

Earthquake Hazards Reduction Act

The U.S. Congress passed the Earthquake Hazards Reduction Act of 1977 (USC Section 7701 et seq., Amended 2004) in an effort to minimize the risk to life and property from earthquakes. To accomplish this goal, the act established the National Earthquake Hazards Reduction Program; in 1990, this program was substantially amended by the National Earthquake Hazards Reduction Program Act of 1990 (USC Section 7704), which refined the description of agency responsibilities and program goals and objectives.

U.S. Geological Survey Landslide Hazard Program

The USGS provides information to the public that helps to reduce the loss from landslides through the Landslide Hazard Program. The USGS conducts landslide assessments, provides strategies and mitigation measures to prevent landslides, as well as technical assistance when responding to a landslide incident. Although this program is funded at the federal level, the

governing body is at the local level. The Unified Disaster Council is that local governing body in San Diego County.

State

Alquist-Priolo Earthquake Fault Zoning Act of 1972

The State of California passed the Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act; CPRC Section 2621) in 1972 as a direct result of the 1971 San Fernando Earthquake, which caused extensive surface rupture and widespread damage. The Alquist-Priolo Act prohibits the location of structures designed for human occupancy across the traces of active faults (lines of surface rupture), thereby reducing the potential for loss of life and property from an earthquake.

California Code of Regulations, California Building Code

The California Building Code (CBC; CCR Title 24, Part 2, 1989) of the CCR was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all building and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The CBC is based on the UBC with necessary California amendments to accommodate the increased risk from seismic hazards. The UBC, enacted in 1927 by the International Conference of Building Officials, is the industry standard for building codes ensuring consistent requirements for construction and safety across the country.

Seismic Hazards Mapping Act of 1990

The California legislature enacted the Seismic Hazards Mapping Act following the Bay Area's Loma Prieta Earthquake to reduce threats to public health and safety and to minimize property damage caused by earthquakes. This act directs the Department of Conservation to identify and map areas prone to the earthquake hazards of strong groundshaking, liquefaction, and seismically induced landslides. The state regulates proposed development in these high-risk areas, known as Seismic Hazard Zones, through the permit review process. The Seismic Hazards Mapping Act prohibits development in identified hazard zones until project proponents have carried out appropriate geotechnical investigations and incorporated risk-reduction measures into development plans (CPRC Sections 2690–2699.6).

California State Water Code

The location, sizing, spacing, construction, and maintenance of water disposal systems are regulated by Section 13282 of the California State Water Code (Division 7 Water Quality, Section 13282, 1943). If water disposal systems are not sized, spaced, or designed adequately, the local public agency must notify the water quality control board. The County Regional Water Quality Control Board is responsible for ensuring that all disposal systems are regulated

adequately and authorizes the County DEH as the local public agency and to issue certain wastewater treatment permits.

Local

San Diego County General Plan

The County General Plan includes goals and polices related to geologic hazards generated by land uses and development with the County. The Conservation and Open Space Element (County of San Diego 2011a) contains goals to minimize impacts to unique geologic resources, while the Safety Element (County of San Diego 2011d) contains goals to minimize impacts from geologic and seismic hazards.

City of Carlsbad General Plan

The City of Carlsbad General Plan includes goals and policies related to geologic hazards generated by land uses and development within the City. The Public Safety Element section contains goals directly correlated to the Open Space, Conservation, and Recreation Element section, as well as the Land Use and Community Design Element section to reduce impacts from geologic and seismic hazards (City of Carlsbad 2015b).

3.1.4.2 Analysis of Project Effects and Determination as to Significance

The following significance guidelines are based on the County Guidelines for Determining Significance, Geologic Hazards and Unique Geology. A significant impact to geology and soils would occur if the Project would:

- Propose any building or structure to be used for human occupancy over or within 50 feet of the trace of an Alquist-Priolo fault or County Special Study Zone fault.

- Propose the following uses within an Alquist-Priolo Zone, which are prohibited by the County:

    - Uses containing structures with a capacity of 300 people or more. Any use having the capacity to serve, house, entertain, or otherwise accommodate 300 or more persons at any one time.

    - Uses with the potential to severely damage the environment or cause major loss of life. Any use having the potential to severely damage the environment or cause major loss of life if destroyed, such as dams, reservoirs, petroleum storage facilities, and electrical power plants powered by nuclear reactors.

    - Specific civic uses. Police and fire stations, schools, hospitals, rest homes, nursing homes, and emergency communication facilities.

- Be located within a County Near-Source Shaking Zone or within Seismic Zone 4 and the Project does not conform to the UBC.

- Has the potential to expose people or structures to substantial adverse effects because:
    - the Project site has potentially liquefiable soils; and
    - the potentially liquefiable soils are saturated or have the potential to become saturated; and
    - in-situ soil densities are not sufficiently high to preclude liquefaction.
- Expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving landslides.
- Be located on a geologic unit or soil that is unstable, or would become unstable as a result of the project, potentially resulting in an on- or off-site landslide.
- Be located directly below or on a known area subject to rock fall that could result in collapse of structures.
- Be located on expansive soil, as defined in Table 18-1-B of the UBC (1994), and does not conform with the UBC.

The following evaluation of potential impacts is based on published reports and topographic images from the CGS, the USGS, the County General Plan, and the City of Carlsbad General Plan. These agencies offer information that is used to determine the existence of known geologic formations and historical conditions. Relevant information was also taken from the Ninyo & Moore, Geotechnical Evaluation County Stairs Project, McClellan-Palomar Airport, Carlsbad, California, May 1, 2009, and the Ninyo & Moore, Geotechnical Evaluation, Taxiways A3, A4, and A5 Rehabilitation Project, McClellan-Palomar Airport, Carlsbad, California, April 5, 2012. In addition, this analysis relies on the findings of the Kimley-Horn and Associates, Inc., Feasibility Study for Potential Improvements to McClellan-Palomar Airport Runway, Final Report, August 1, 2013 prepared for San Diego County (County 2013a). After reports and technical information were reviewed, site conditions were compared by evaluating the potential for the Proposed Project to impact geologic conditions while also being compared against CEQA thresholds. Impacts related to geology and soils were also evaluated based on the San Diego County Guidelines for Determining Significance.

3.1.4.2.1 Fault Rupture

Guidelines for Determination of Significance

The project would have a significant effect to the public and environment if the project:

- Proposes any building or structure to be used for human occupancy over or within 50 feet of the trace of an Alquist-Priolo fault or County Special Study Zone fault.

- Proposes the following uses within an Alquist-Priolo Zone, which are prohibited by the County:
    - Uses containing structures with a capacity of 300 people or more. Any use having the capacity to serve, house, entertain, or otherwise accommodate 300 or more persons at any one time.
    - Uses with the potential to severely damage the environment or cause major loss of life. Any use having the potential to severely damage the environment or cause major loss of life if destroyed, such as dams, reservoirs, petroleum storage facilities, and electrical power plants powered by nuclear reactors.
    - Specific civic uses. Police and fire stations, schools, hospitals, rest homes, nursing homes, and emergency communication facilities.

Analysis

The Proposed Project site is not located in the Alquist-Priolo Zone and there are no known active faults near the Proposed Project site. All future structures developed under the Proposed Project would be designed and built in accordance with current seismic design provision of the 2013 CBC or the County Building Code in effect when final design plans are submitted for seismic resistance, site stability, and grading. Therefore, construction and operational impacts associated with the fault rupture would be less than significant.

3.1.4.2.2 Ground Shaking

Guidelines for Determination of Significance

The Proposed Project would have a significant effect to the public and environment if the project would:

- Be located within a County Near-Source Shaking Zone or within Seismic Zone 4 and the project does not conform to the UBC.

Analysis

The closest active fault to the Proposed Project site is the Newport-Inglewood Rose Canyon Fault, located more than four miles west of the Airport and is believed capable of generating a magnitude 7.2 earthquake with relatively strong groundshaking (Ninyo & Moore 2009). The effect of seismic shaking due to an earthquake on this fault would depend on the earthquake magnitude and the Airport's distance from the earthquake epicenter. In general, groundshaking would be less damaging the farther the fault is from the Airport and the lower the earthquake magnitude. The CBC, which is based on the UBC with necessary California amendments to accommodate the increased risk from seismic hazards, regulates designs standards in areas of high seismic activity to reduce the potential effects from groundshaking. All future structures developed under the Proposed Project will be required to adhere to the CBC design standards.

Therefore, construction and operational impacts associated with groundshaking would be less than significant.

3.1.4.2.3 Liquefaction

Guidelines for Determination of Significance

The project would have a significant effect to the public and environment if the project:

- Has the potential to expose people or structures to substantial adverse effects because:
  - The project site has potentially liquefiable soils; and
  - The potentially liquefiable soils are saturated or have the potential to become saturated; and
  - In-situ soil densities are not sufficiently high to preclude liquefaction.

Analysis

The Proposed Project site is not located in a known liquefaction area as shown in Figure 3.1.4-5 (City of Carlsbad 2015b). Liquefaction typically occurs in areas where groundwater is encountered at a depth of less than 50 feet. Previous subsurface borings for a landside project and an airfield project encountered groundwater at depths of eight-feet and zero-feet respectively. The dense nature of the Airport soils reduces the occurrence of liquefaction, however, soil over the three landfill areas of the Airport could potentially present liquefaction conditions due to the relatively saturated nature. The County would conduct a geotechnical report for the soil over the landfill areas prior to construction activities to determine the level of liquefaction risk. The CBC requires that elements of the Proposed Project, both airfield and landside improvements, comply with the building permit or with the Building Code in effect when final design plans are submitted. The CBC regulates the excavation of foundations by requiring preparation of a preliminary soil report, engineering geologic report, geotechnical report, and supplemental ground-response report. Conducting a geotechnical report specifically for the landfill areas prior to construction, and compliance with state and local regulations, including the CBC, would reduce the potential effects related to liquefaction during grading and excavation. Additionally, compliance with the CBC will ensure that implementation of the Proposed Project will maximize structural stability. Therefore, impacts associated with liquefaction or liquefaction-related seismic hazards would be less than significant.

3.1.4.2.4 Landslides

Guidelines for Determination of Significance

The project would have a significant effect to the public and environment if the project would:

- Expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving landslides.

- Be located on a geologic unit or soil that is unstable, or would become unstable as a result of the project, potentially resulting in an on- or off-site landslide.

- Be located directly below or on a known area subject to rock fall that could result in collapse of structures.

Analysis

The Proposed Project site does not lie within a landslide susceptibility zone (County of San Diego 2011b). The previous subsurface exploration, up to 30 feet below the surface for the stairs project, indicates that the landside portion of the Airport is underlain by relatively dense, silty sand, and stiff soils, and groundwater was encountered at a depth of eight feet (Ninyo & Moore 2009). The previous subsurface exploration, up to 20 feet below the surface for the taxiways project, indicates that the airfield portion of the Airport is underlain by relatively dense, gravel, silty sand, and clayey soils, and no groundwater was encountered (Ninyo & Moore 2012). The soil in the airfield and the landside of the Airport ranged from strongly indurated to strongly cemented (Ninyo & Moore 2009, 2012). The Proposed Project includes Taxiway A extension, runway extension, and EMAS in the eastern portion of the Airport that would occur on soils of an inactive landfill. These landfill materials are considered subject to settlement. Due to the presence of potentially collapsible soils, there is a potential risk from differential settlement. The Proposed Project is required by San Diego County to incorporate structural design recommendations from a detailed subsurface geotechnical evaluation report that would assess the potential for collapsible soils. Additionally, the Airport would prepare a SWPPP and implement pre- and post-construction BMPs, as required by the San Diego County Regional Water Quality Control Board, which would minimize the potential for unstable soils. Further, the Proposed Project would not be located directly below or on a known area subject to rock fall that could result in collapse of structures. As a result, there is little potential for landslides to affect the Airport during construction and operation of the Proposed Project. Compliance with state and local regulations, including the CBC, would reduce potential effects related to unstable soils encountered during grading and excavation, and implementation of the Proposed Project. Therefore, construction and operational impacts related to landslide conditions would be less than significant.

3.1.4.2.5 Expansive Soils

Guidelines for Determination of Significance

The project would have a significant effect to the public and environment if the project:

- Is located on expansive soil, as defined in Table 18-1-B of the UBC (1194), and does not conform with the UBC.

Analysis

Review of the County General Plan EIR determined that the Proposed Project site is not located in an area known for potentially expansive soils (County of San Diego 2011b). However, previous subsurface explorations for landside and airfield projects showed expansive soil classifications of low to medium-high, respectively. Previous subsurface explorations occurring

for both landside and airside projects did identify corrosive soils at the Airport. These corrosive soils have the potential to cause premature deterioration of underground structures and foundations. Portions of the proposed runway extension and future EMAS system on the east side of the Airport would be built over the inactive landfill which would require stabilization. In order to accommodate the runway extension, EMAS, and taxiway extension, drilled displacement column piles would be considered to install in sections of the ground to support concrete slabs. The piles would extend through the landfill materials to bear on competent formational materials. Corrosive soils could be treated with lime and/or cement as a soil stabilization method (Ninyo & Moore 2012). These methods are commonly used in San Diego County due to its large presence of clayey soils.

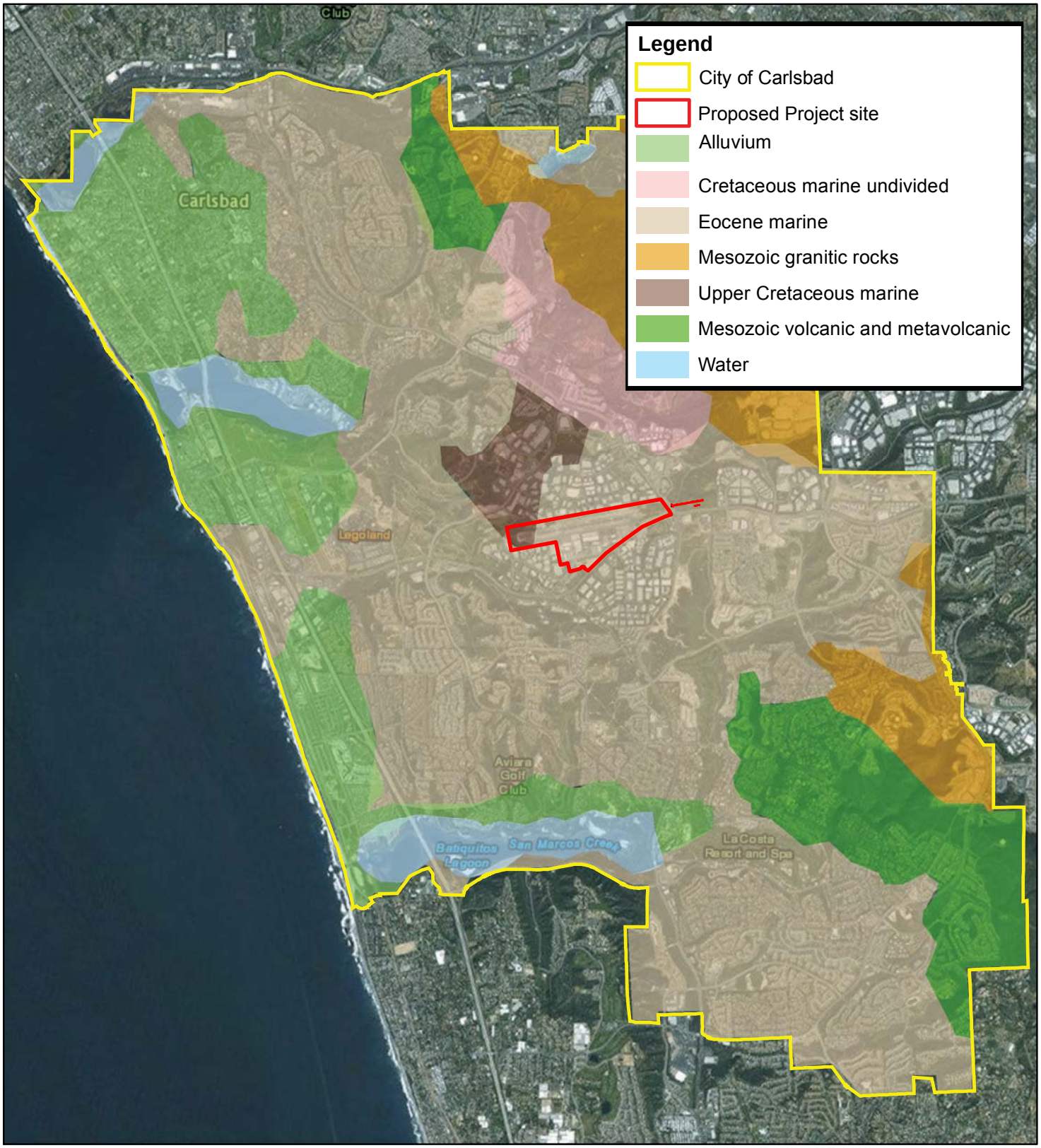
The CBC requires that the Proposed Project, both airfield and landside improvements, comply with the building permit or with the Building Code in effect when final design plans are submitted. The CBC regulates the excavation of foundations and retaining walls by requiring preparation of a preliminary soil report, engineering geologic report, geotechnical report, and supplemental ground-response report. The CBC also regulates the analysis of expansive soils and establishes guidelines for determining depth to the groundwater table. Compliance with state and local regulations, including the CBC, would reduce the potential effects related to corrosive soils in the event such soils are encountered during grading and excavation. Therefore, impacts related to expansive or corrosive soils would be less than significant.

3.1.4.3 Cumulative Impact Analysis

The projects in the vicinity of the Airport are presented in Table 1-4. Construction and operation of the projects listed in Table 1-4 are located within the City of Carlsbad. The City of Carlsbad is not located within the Alquist-Priolo Zone. Additionally, the City of Carlsbad is not location in a landslide hazard area or expansive soil area. The City of Carlsbad does contain some liquefaction hazard areas. Three projects, the El Camino Real Widening project, the Rancho Milagro project, and the Robertson Ranch project, are proposed either in or very close to a liquefaction hazard area. However, those projects would be required to be designed in such a way to mitigate the liquefaction hazard, such as reinforced foundation and slope stabilization. Further, a geological study of each cumulative project would be required by the regulating municipality prior to issuance of a development permit. Each of the projects that propose structures must be designed and built in accordance with the current seismic design provision of the 2013 CBC or by using the County Building Code in effect when final design plans are submitted for seismic resistance, site stability, and grading. Therefore, cumulative impacts related to geologic and seismic hazards would be less than significant.

3.1.4.4 Conclusion

As noted in Section 2.3 (Hazards and Hazardous Materials), the Proposed Project will comply with all federal, state, and local regulations and policies, BMPs, and the CBC. Compliance with these regulations would reduce potential impacts to below a level of significance. Additionally the Proposed Project would not contribute to potentially significant cumulative significant impacts. Therefore, the Proposed Project's potential impacts from geology and soils would be less than significant.



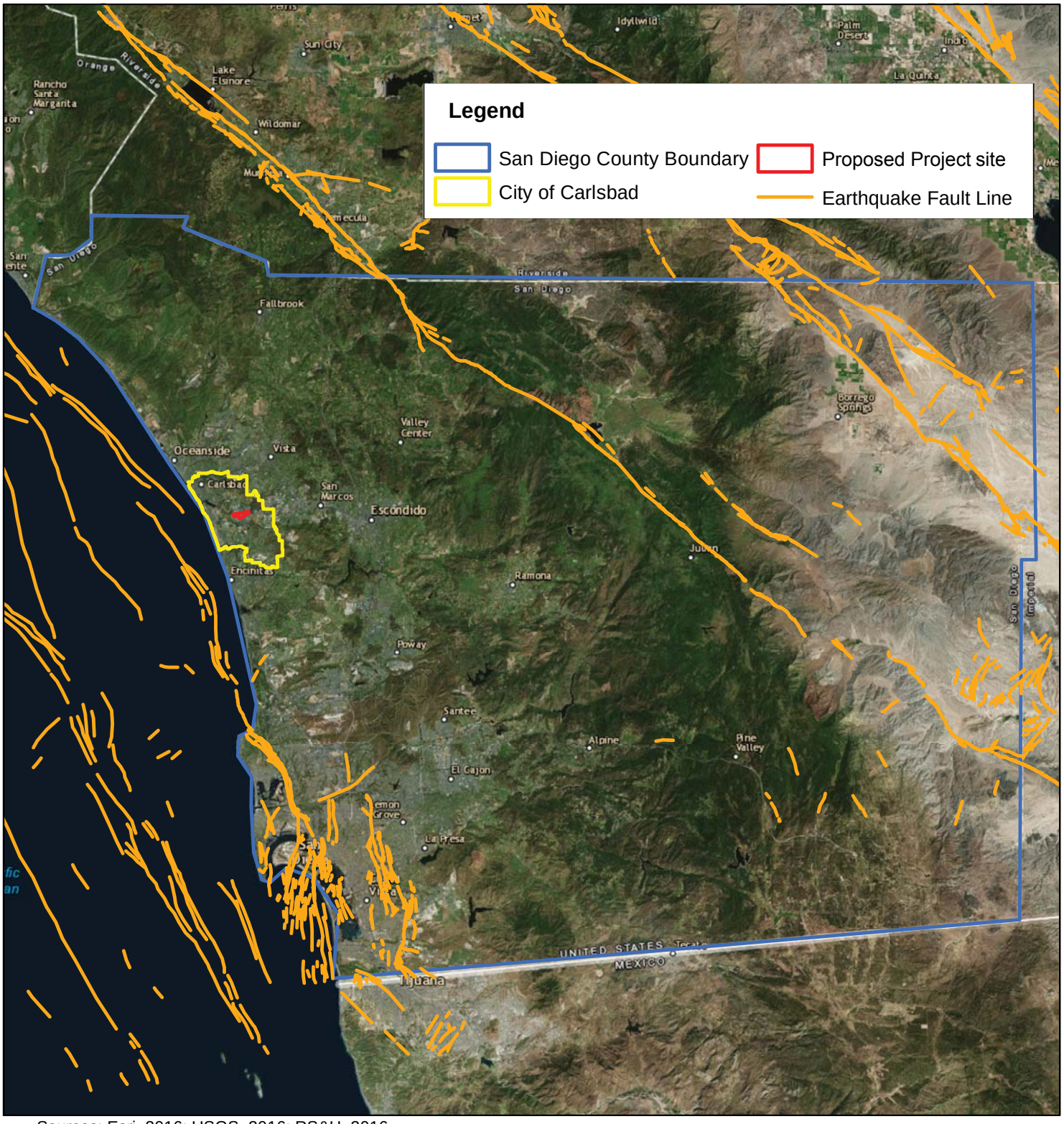
Sources: Esri, 2016; City of Carlsbad, 2015; RS&H, 2016

McClellan-Palomar Airport Master Plan Update
Program EIR

Geology

Figure 3.1.4-1

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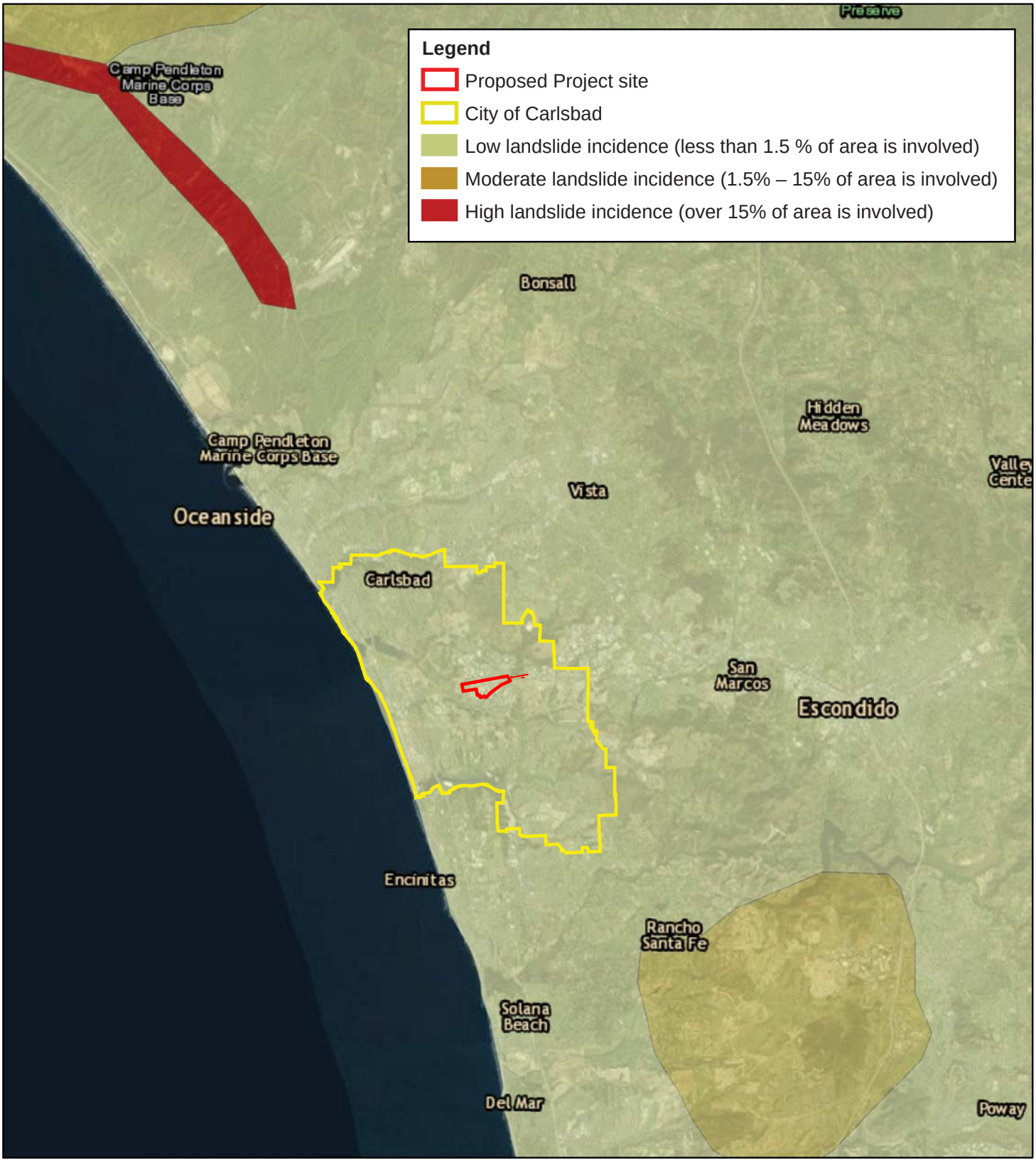
Sources: Esri, 2016; USGS, 2016; RS&H, 2016

McClellan-Palomar Airport Master Plan Update
Program EIR

Fault Lines

Figure 3.1.4-2

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Esri, 2016; USGS, 2016; RS&H, 2016

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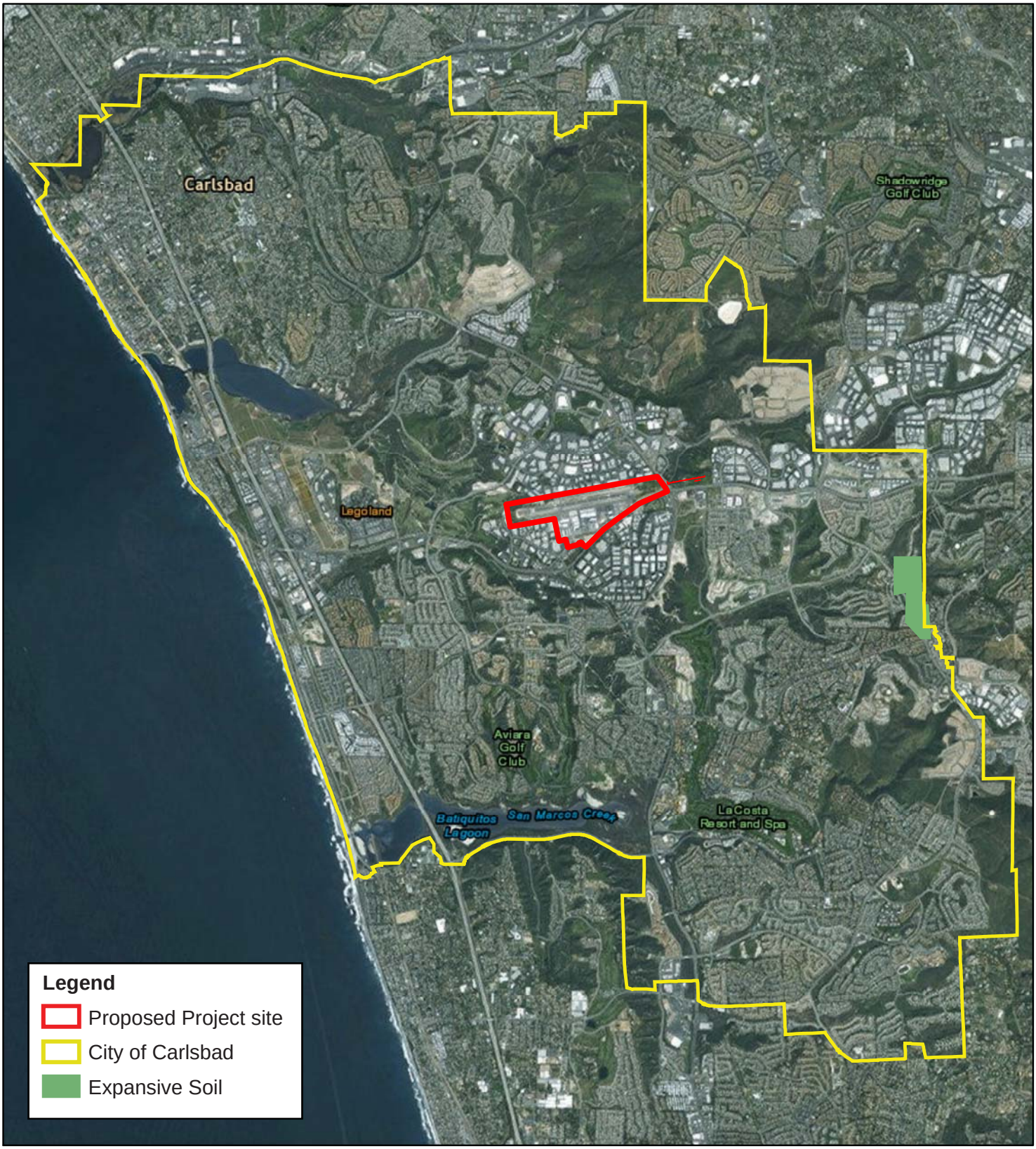
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McClellan-Palomar Airport Master Plan Update Program EIR

Landslide

Figure 3.1.4-3

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Sources: Esri, 2016; County of San Diego, 2011; RS&H, 2016

0 1 2 Miles

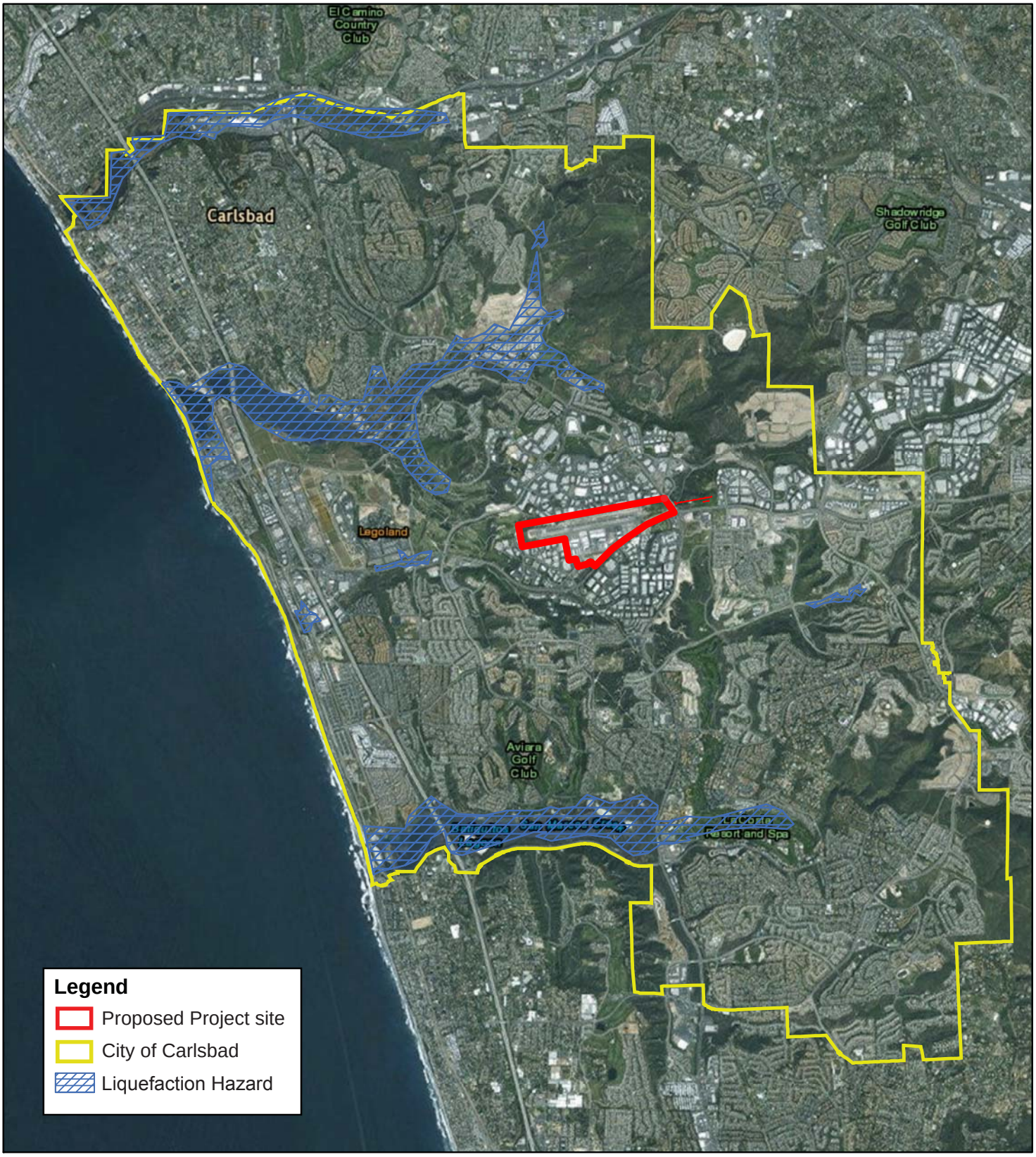
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McClellan-Palomar Airport Master Plan Update
Program EIR

Expansive Soils

Figure 3.1.4-4

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Sources: Esri, 2016; City of Carlsbad, 2015; RS&H, 2016

0 1 2 Miles

N W E S

McClellan-Palomar Airport Master Plan Update
Program EIR

Liquefaction

Figure 3.1.4-5

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3.1.5 Greenhouse Gas Emissions

The information in this section considers potential impacts as a result of GHG emissions due to the Proposed Project. The information and analysis in this section have been compiled based on the Proposed Project's Climate Change Technical Study and Greenhouse Gas Analysis Memorandum (Appendix H).

3.1.5.1 Existing Conditions

The climate of the City of Carlsbad, located on the southern coast of California, is considered a semi-arid Mediterranean climate, with an average of 263 sunny days per year. Average monthly lows reach 45 °F in the winter months and 71 °F in the summer months. Similarly, the county of San Diego is classified as an arid climate, with average temperatures ranging from 57 °F in the winter to 72 °F in the summer months. Average precipitation for the City of Carlsbad is 11.84 inches, ranging from 0.30 inches in the summer to 6.66 inches during the winter. The county of San Diego has an average rainfall of 12 inches.

Wind patterns surrounding the Airport are predominantly westerly. Seasonal weather patterns include the Santa Ana winds, which occur 10 days out of the year between September and February. Santa Ana winds are warm winds that flow from east to west from the desert that bring sometimes hot but always dry conditions to the area. Another noteworthy seasonal weather pattern is the prominence of cloudy, foggy conditions during May and June caused by a warm air mass that descends over the cool, moist marine air.

In order to establish the baseline conditions, this PEIR identifies the existing Airport-related uses that generate GHG emissions and their associated GHG emissions. Table 3.1.5-1 identifies the emissions that were calculated for 2016 utilizing methods outlined in the Airport Cooperative Research Program (ACRP) Report 11 described further below. Specifically, the Airport currently generates GHG pollutants including carbon dioxide (CO_2), CH_4, nitrous oxides (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6). Notably, CO_2, CH_4, and N_2O are the predominant GHG pollutants associated with airport operations. The other GHG pollutants occur at a far lesser extent. In order to measure and compare GHG pollutants, emissions are calculated in terms of CO_2 equivalents, which is the universal unit of measurement used to indicate the global warming potential for different GHG pollutants. Represented as CO_2 equivalent (CO_2e), these values range from "1" for CO_2 to "25" for CH_4 to "298" for N_2O.

The ACRP Report 11, *Guidebook on Preparing Airport Greenhouse Gas Emissions Inventories* defines airport GHG emissions in terms of scope. Based on this guidance, the boundaries of the GHG emissions inventory are based upon the emission sources as described in the following scopes:

- Scope 1 (Direct) – GHG emissions from sources that are owned and controlled by the airport operator (e.g., the County) such as stationary sources and County-owned fleet motor vehicles.

- Scope 2 (Indirect) – GHG emissions associated with the generation of electricity purchased/consumed by the airport operator (County).

- Scope 3 (Indirect and Optional) – GHG emissions that are associated with the activities of the airport operator (County), but are primarily associated with sources that are owned and controlled by others. These include aircraft-related emissions, emissions from airport tenant activities, electrical consumption by tenants (if the electricity is not purchased by the County), as well as ground transportation to and from the Airport.

  Specifically, Scope 3 emission sources are not primarily under the County's ownership or direct control. In particular, the County has no authority over the quantity, type, or flight track of aircraft (LTO) or their emissions, which are under the jurisdiction of the FAA. Aviation-related emissions standards are a relatively new concept within climate change analysis; with limited standard practices for evaluating, monitoring, and mitigating its effects. The County has no authority to regulate aircraft or their emissions; and there is no applicable methodology or threshold with which to evaluate the significance as stated in the AB 32 Climate Change Scoping Plan.

As shown in Table 3.1.5-2, the primary sources of GHG emissions include aircraft; Ground Support Equipment (GSE; considered aviation-source emissions by FAA in the AEDT2b); a small assortment of stationary sources; and motor vehicles operating on the internal and off-airport roadways, and parking facilities. In general, these sources are typical of most airports of CRQ's size and function. Emissions associated with the consumption of electricity at the Airport (but generated elsewhere by burning coal, oil, and natural gas) are also included.

The emissions generated from these sources primarily arise from the combustion of fossil fuels (i.e., jet fuel, Aviation, diesel, gasoline, natural gas, etc.) and are by-products contained in the engine exhausts. These emission sources constitute the majority of the baseline (2016) emissions inventory for the Airport.

Construction activities also represent sources of air emissions at the Airport, but they are short-term and intermittent. Nevertheless, construction emissions are also addressed in this section.

Regulatory Environment

Federal

FAA Order 1050.1F

FAA Order 1050.1F outlines the policy and procedures for compliance with NEPA and the implementation of regulations issued by the Council on Environmental Quality (CEQ). In reference to climate, the order states that aviation sources were estimated by the Intergovernmental Panel on Climate Change to account for 4.1 percent of global transportation GHG emissions and commercially, 6.6 percent of total CO_2 emissions in the United States as estimated by the USEPA for the year 2013. FAA Order 1050.1F maintains that scientific research into understanding the relationship between aviation and climate change is ongoing and that despite the obstacles that uncertainty presents minimizing and identifying GHG

emissions and their potential future impacts to climate change are important for a sustainable national airspace system.

FAA Order 5190.6B

The County, as the owner of the Airport, currently accepts federal grant funding from the AIP. The County is therefore required to comply with a list of Airport Sponsor Assurances provided by the FAA. FAA Order 5190.6B: FAA Airport Compliance Manual, Grant Assurance 22a states that the County:

> "Will make [the] airport available as an airport for public use on reasonable terms, and without unjust discrimination, to all types, kinds, and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport."

Therefore, the County has no authority over the quantity, type, or flight track of an aircraft arriving or departing from the airport, which are under the jurisdiction of the FAA. Because the County has no authority to regulate aircraft or their emissions at CRQ, there is no applicable methodology or threshold with which to evaluate their significance. In addition, the AB 32 Climate Change Scoping Plan states, "the State does not have regulatory authority over aviation" and "ARB has not identified aviation specific measures." Improvements in aircraft design and technology and future growth or decline in passengers would occur independently of whether or not the Proposed Project is implemented.

Aviation Greenhouse Gas Emissions Reduction Plan

The United States Government has committed to addressing the climate change impacts from commercial aviation through a multi-pronged approach. The Next Generation Air Transportation System Plan includes initiatives for improvements in technology and operations, advances in development and deployment of sustainable alternative fuels, and policies and selective measures to incentivize transition of the fleet and airspace system to a carbon neutral growth model. This is because the U.S. has set an ambitious overarching goal of achieving carbon-neutral growth for U.S. commercial aviation by 2020, using 2005 emissions as a baseline.[13]

CEQ Guidance for NEPA Review

On August 3, 2016, the CEQ published the memorandum, "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effect of Climate Change" in *National Environment Policy Act Reviews*. The CEQ indicated that climate change should be considered in NEPA analyses; however, there are no specific federal standards for aviation-related GHG emissions. The CEQ issued final guidance for addressing climate change suggesting that agencies consider "(1) The potential effects of a proposed action on climate change as indicated by assessing GHG emissions; and, (2) The effects of climate change on a proposed action and its environmental impacts" (CEQ, August 1, 2016).

The FAA's AEDT version 2d software is the leading modeling methodology used to analyze the potential impacts of aviation related GHG emissions in the absence of aviation specific NEPA

[13]https://www.icao.int/environmental-protection/Lists/ActionPlan/Attachments/30/UnitedStates_Action_Plan-2015.pdf

guidelines. The guidance does not establish a significant impact threshold for GHG pollutants. The guidance states that "In light of the global scope of the impacts of GHG emissions, and the incremental contribution of each single action to global concentrations, CEQ recommends agencies use the projected GHG emissions associated with proposed actions as a proxy for assessing proposed actions' potential effects on climate change in NEPA analysis" (CEQ, August 3, 2016). This guidance has been responsible for providing the most relevant means of assessing the potential effects of a proposed project on climate change.

In the absence of state and local GHG thresholds applicable to aviation sources and air travel, this PEIR utilizes the CEQ-recommended guidance as the most relevant approach to quantify and disclose the Proposed Project's potential increase to aviation-related GHG emissions. This approach is compliant with State CEQA Guidelines Section 15064.4.

As of April 5, 2017, the CEQ guidance has been withdrawn and under further evaluation. Although withdrawn, the valuable methods proposed by this guidance for evaluating aviation related GHG emissions continue to be used by the FAA and have been determined to be applicable to aviation sources and the Proposed Project.

State

California Executive Order S-3-05

California Executive Order (EO) S-3-05 is a State EO, signed in June 2005, which set GHG emissions reduction targets for California. The EO also specified the state agencies responsibilities for implementing and reporting on the EO. The EO established three GHG emission reduction targets; reduce to 2000 levels by 2010, reduce to 1990 levels by 2020, and reduce to 80 percent below 1990 levels by 2050. AB 32 includes the first and second targets of this EO as requirements for the state.

California Executive Order B-30-15

California EO B-30-15, signed in April 2015, added an intermediate GHG emissions reduction target. This target is set as the reduction of GHG emissions to 40 percent below 1990 levels by 2030.

California Global Warming Solutions Act of 2006

In 2006, the California state legislature passed AB 32, California Global Warming Solutions Act of 2006, in an effort to reduce the impact from climate change. The passage of AB 32 requires the State of California reduce GHG emissions to 1990 levels by the year 2020. GHGs included under the bill include CO_2, CH_4, NO_X, HFCs, PFCs, SF_6, and nitrogen trifluoride (NF_3).

In 2016, the California state legislature passed SB 32, which amended and extended the California Global Warming Solutions Act of 2006 beyond 2020 to 2030. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize the CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the state's continuing efforts to pursue the long-term target expressed in EOs S-3-05 of 80 percent below 1990 emissions levels by 2050.

California Air Resources Board Scoping Plan

In 2008, CARB adopted the first iteration of the Climate Change Scoping Plan: A Framework for Change (Initial Scoping Plan), which identified the main strategies California would implement to achieve the GHG reductions necessary to reduce forecasted business as usual (BAU) emissions in 2020 to the state's historic 1990 emissions level (CARB 2008). As noted in the Initial Scoping Plan Climate Change Scoping Plan Appendices: Volume I: Supporting Documents and Measure Detail; while "[e]missions from the fuel used in planes is an important consideration … the State does not have regulatory authority over aviation. [C]ARB has not identified aviation specific measures; nevertheless, successful deployment of High Speed Rail could divert some air passengers to rail" (CARB 2008).

CARB approved the first update to the Initial Scoping Plan in May 2014 (2014 Scoping Plan Update). The 2014 Scoping Plan Update built upon the Initial Scoping Plan using the same emissions sources with a better understanding of the potential of different gases to affect climate change and their duration in the atmosphere. The 2014 Scoping Plan Update contained new strategies and recommendations focusing on nine key focus areas (energy, transportation, agriculture, water, waste management, and natural and working lands), along with short-lived climate pollutants, green buildings, and the Cap-and-Trade Program (CARB 2014). The 2014 Scoping Plan Update did not change the emission sources or calculation methodologies, but did update the emissions from the Initial Scoping Plan to reflect a more current understanding of the global warming potential for various gases as issued by the Intergovernmental Panel on Climate Change (IPCC). As stated by CARB in the Initial Scoping Plan, the State does not have regulatory authority over aviation emissions. Accordingly, CARB's 2014 Scoping Plan Update did not include aviation-related GHG emissions, nor did it identify any measures for reducing emissions from aviation sources.

In 2015, Executive Order B-30-15 directed CARB to update the Scoping Plan to establish a mid-term GHG reduction target for California of 40 percent below 1990 levels by 2030. In November 2017, CARB released the 2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target (2017 Scoping Plan Update; CARB 2017). The 2017 Scoping Plan Update identifies state strategies for achieving the state's 2020 and 2030 GHG emissions reduction targets codified by the California Global Warming Solutions Act of 2006 (AB 32) and SB 32), which SB 32, which amended and extended the California Global Warming Solutions Act of 2006 beyond 2020 to 2030. The 2017 Scoping Plan Update "draws from the experiences in developing and implementing previous plans" to achieving California's 2030 GHG reduction target. The 2017 Scoping Plan Update includes programs from the Initial Scoping Plan and the 2014 Scoping Plan Update, including the Low Carbon Fuel Standard and Renewables Portfolio Standard, which are delivering cleaner fuels and energy, the Advanced Clean Cars Program, which has led to more than a quarter million clean vehicles on the road, and the Sustainable Freight Action Plan. According to the 2017 Scoping Plan Update, enhancing these and other ongoing programs paired with an extended, more stringent Cap-and-Trade Program will achieve the 2030 emissions target. Once again in the 2017 Scoping Plan Update CARB did not include aviation emissions nor did it identify any measure for reducing emission from aviation sources. However, the 2017 Scoping Plan Update did identify the emission reduction efforts of the FAA as a component of reaching the State's long-term goal of reducing GHG emissions statewide 80 percent by 2050.

Specifically, FAA is currently working on improving the National Airspace System energy efficiency, including efforts to develop and deploy alternative jet fuels for commercial aviation. The FAA Office of Environment and Energy is pursuing a five-pillar approach to reduce environmental impacts from aviation, including (1) advancing sustainable alternative jet fuels; (2) accelerating maturation of new aircraft technologies; (3) exploring air traffic management modernization and operational improvements; (4) improving scientific knowledge and enhance integrated environmental modeling capability; and (5) developing policies, environmental standards, and market-based measures[14]. FAA has also awarded $100,000,000 through the Continuous Lower Energy, Emissions, and Noise (CLEEN) Program to develop technologies that reduce fuel consumption, emissions, and noise.

As the Scoping Plan does not contain any measure or goal requirements for aviation GHG emissions, its provisions would achieve the identified statewide goals for 2020 and 2030 regardless of aviation activity. As aircraft emissions are not evaluated in the Scoping Plan, it has limited applicability to airport projects that primarily involve aviation sources.

For local (non-aviation) emissions reduction strategies, CARB recommends in the 2017 Scoping Plan Update that local jurisdictions apply a 2030 emission limit of 6 metric tons (MT) of CO_2e per person, and 2 MT CO_2e by 2050, for "city, county, subregional, or regional level" plans (CARB 2017). As stated in the Scoping Plan Update, "[t]he recommendation…provides guidance on CARB's view on what would be consistent with the Scoping Plan Update and the State's long-term goals" (CARB 2017). Furthermore, the 2017 Scoping Plan Update includes a statement regarding GHG emission evaluation under CEQA, "[l]ead agencies have the discretion to develop evidence-based numeric thresholds (mass emissions, per capita, or per service population [SP]) consistent with this Scoping Plan, the State's long-term GHG goals, and climate change science." However, unlike the assessment of community area plans, no specific method was provided by CARB on how to develop a SP threshold for an individual project.

California Senate Bill 375

In September 2008, California's Governor approved SB 375, which directs CARB to set regional targets for reducing GHG emissions. The law establishes a "bottom up" approach to ensure that cities and counties are involved in the development of regional plans to achieve those targets. SB 375 builds on the existing framework of regional planning to tie together the regional allocation of housing needs and regional transportation planning in an effort to reduce emissions from motor vehicle trips.

Assembly Bill 197 of 2016

Governor Brown signed AB 197 (Garcia, Chapter 250, Statutes of 2016) as a companion bill to SB 32. AB 197 creates a legislative committee to oversee CARB and requires CARB to take specific actions when adopting plans and regulations pursuant to SB 32 related to disadvantaged communities, identification of specific information regarding reduction measures, and information regarding existing GHGs at the local level.

[14] NextGen. Environment and Energy, In the Operation. Modified April 12. Available at: https://www.faa.gov/nextgen/how_nextgen_works/eande_safety/eande/in_depth/

California Environmental Quality Act

In 2010, the CEQA Guidelines (with Appendix G) were amended to address the analysis of GHG emissions. CEQA Section 15064.4: *Determining the Significance of Impacts from Greenhouse Gas Emissions* states that the CEQA lead agency "should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." It also states that the lead agency has the discretion to determine the methodology to assess the significance of GHG emissions on the environment. Although climate change is generally not considered a direct impact, it should be analyzed as a potential cumulative impact under CEQA.

The California Air Pollution Control Officers Association (CAPCOA) white paper titled "CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act," provides a current methodology used for jurisdictions across the state to identify a screening level for GHG emissions. The CAPCOA guidance states that projects should be screened to determine if their associated GHG emissions exceed 900 MT CO_2e. The screening level does not indicate impact significance; rather, it is intended to be used to screen out smaller projects that do not generate substantial amounts of GHG emissions and allows regulatory and discretionary actions to focus on the more significant sources of GHG emissions. If a project exceeds this threshold, a climate change analysis would need to be completed to analyze any potential project-specific impact. The significance criteria used in climate change analysis should include a statement and supporting analysis as to whether the Proposed Project complies with GHG reduction requirements under current state and local emissions reductions plans and targets, discussed below.

Local

County of San Diego Climate Action Plan

On February 14, 2018, the County Board of Supervisors adopted the CAP, which identifies specific strategies and measures to reduce GHG emissions in the largely rural, unincorporated areas of San Diego County as well as County government buildings and operations. The CAP updates and implements the County's 2011 General Plan Update goals, policies, and reduction measures to meet the State's GHG reduction targets including AB 32 (2020 goal) and SB 32 (2030 goal), and demonstrate progress towards a 2050 GHG reduction goal (County of San Diego 2018). The plan includes six chapters: (1) Introduction; (2) Greenhouse Gas Emissions Inventory, Projections, and Reductions Targets; (3) GHG Reduction Strategies and Measures; (4) Climate Change Vulnerability, Resiliency, and Adaptation; (5) Implementation and Monitoring; and (6) Public Outreach and Engagement.

Concurrent with adoption of the CAP, the County adopted new Guidelines for Determining Significance for Climate Change, which identifies that a proposed project would have a less than significant cumulatively considerable contribution to global climate change if it is consistent with the County's CAP (County of San Diego 2018). As defined in these Guidelines, consistency with the CAP is determined through the CAP Consistency Review Checklist (Checklist). The Checklist follows a two-step process to determine if projects are consistent with the CAP, and

whether they may have a significant cumulative impact under the County's adopted GHG thresholds of significance. The Checklist further explains that if a project is consistent with the projections and land use assumptions in the 2011 General Plan Update and CAP, its associated growth in terms of GHG emissions would have been accounted for in the CAP's projections and project implementation of the CAP reduction measures will contribute towards reducing the County's emissions and meeting the County's reduction targets.

The County 2011 General Plan cites goals and policies pertaining to all County-owned airports, including McClellan-Palomar Airport, which is a County-owned facility. However, because the airport is located within the City of Carlsbad, the airport does not have a County-designated zone or land use to compare against the assumed designations used in the CAP. Because the CAP and the County GHG Guidelines are based upon the land use assumptions of the 2011 General Plan, the fact that the Airport Master Plan Update improvements were not included in the 2011 General Plan means that the CAP cannot be used to streamline the review of GHG emission from the Proposed Project. The CAP's emissions inventory includes emissions associated with ongoing maintenance and short-term capital improvement projects, but the County's 2011 General Plan Update preceded the planning of Airport Master Plan Update elements, and accordingly were not included in the 2011 General Plan Update nor the CAP. As noted in the County's Guidelines for Determining Significance, projects that may intensify GHG emissions over existing designations (or would result in greater GHG emissions than assessed in the CAP) are required to (1) prepare a separate, project-level GHG analysis, (2) explain how the Proposed Project is consistent with the CAP, and (3) demonstrate that the Proposed Project will not prevent the County from meeting its share of emissions reductions. Therefore, the Proposed Project is not required to use the "no net increase" or "net zero" thresholds of significance prescribed by the County's CAP EIR mitigation measure M-GHG-1 and the County's Climate Change Significance Guidelines. Those documents anticipate a "no net increase" or "net zero" threshold for projects that amend the General Plan, but this Airport Master Plan Update does not amend the General Plan. As such, although the CAP cannot be used to streamline the review of GHG emissions from the Proposed Project, a Project-specific climate change analysis was completed in compliance with the CAP to analyze potential Project-related impacts and to show consistency with the CAP.

County of San Diego Comprehensive Strategic Plan to Reduce Waste

The County's Strategic Plan to Reduce Waste outlines near-, mid-, and long-term programs and policies to increase the County's solid waste diversion rate to meet state targets and support other County initiatives, such as the CAP. In April 2017, the County adopted a solid waste diversion goal of 75 percent by 2025 (County of San Diego 2017a). CAP measure SW-1.1 is based on the requirement of this plan for County facilities, and commits to 80% diversion by 2030. County-owned buildings and ongoing ground operations at the Airport, including maintenance and construction methods, would adhere to the provisions of the County Strategic Plan to Reduce Waste and meet the solid waste reduction targets.

County of San Diego Renewable Energy Plan

The County's Comprehensive Renewable Energy Plan (CREP) highlights the mix of renewable energy and energy efficiency scenarios that are most likely to enhance the economic well-being of the regional economy. Phase I of the CREP Report was approved in February 2017. It

highlights the scale of the investment that is required and the mix of policies, programs, and best practices that are most likely to ensure the development of a renewable energy market and the robust and sustained development of the regional economy. The planning effort covers the residential, commercial, and industrial sectors of the County, with a particular focus on unincorporated areas, and presents a comprehensive approach to renewable energy and energy efficiency (County of San Diego 2017b).

The County CREP is a long-term plan that would be applicable largely to building emissions and more limited to County employees that work at the Airport. However, while the Airport Master Plan Update forecasts improvements to 2036, the CREP is a longer-range plan as it projects to 2050. Like other statewide energy plans, energy sources and fuel associated with aviation sources are not included in the CREP; and thus, the CREP has limited applicability to the Airport Master Plan Update. Nonetheless, CAP measures E-1.4 and E-2.1 are based on the requirement for County facilities. CAP Measure E-1.4 commits the County to achieving a 10% reduction in energy intensity in County Facilities by 2020 and 20% by 2030. Lastly, CAP Measure E-2.1 commits the County to achieving a 90% renewable energy mix for the unincorporated County by 2030.

County of San Diego Strategic Energy Plan

The main objectives of the County Strategic Energy Plan[15] ensure that sustainability practices are assimilated into County infrastructure operations and minimize utility (water and energy) consumption/costs. Operations specifically apply to County-owned facilities, facilities the County leases, and County-owned vehicles. Specific goals of the Strategic Energy Plan applicable for County infrastructure associated with the proposed Master Plan Update include:

- Reduce Energy Use Intensity by 10 percent comparing data from fiscal year 2019-2020 against baseline data from fiscal year 2014-2015 (Consistent with CAP measure E-1.1, E-1.4)

- Reduce potable water consumption by 25 percent comparing data from fiscal year 2019-2020 against baseline data from fiscal year 2013-14 (Consistent with CAP measure W-1.3)

- Realize a 10 percent average reduction in greenhouse gas emissions for all County owned vehicles comparing data from 2020 against baseline data from 2015 (Consistent with CAP measure T-3.4)

- Improve the sustainability of operations by reducing and recycling resources, and using environmentally friendly practices in maintenance and new construction (Consistent with CAP measure SW-1.1)

The County Strategic Energy Plan is applicable to emissions associated with the County-owned buildings and with the employees that work at the Airport. Any new construction procured by the

[15] Available at: https://www.sandiegocounty.gov/content/dam/sdc/dgs/Doc/Energy_StrategicEnergyPlan.pdf

County would be subject to emissions reduction measures, including use of alternative fuels and construction debris recycling. As shown, the measures contained in the Strategic Energy Plan are consistent with the aforementioned CAP measures applicable to the Proposed Project; thus the Proposed Project (while not tiering off the CAP) is consistent with the applicable measures for County-owned facilities. The GHG Analysis Memorandum (included in Appendix H) includes a summary table outlining County-initiated measures as identified in the CAP Chapter 3 (Strategies and Measures) applicable to the Proposed Project. As individual project elements are proposed throughout the Airport Master Plan Update's 20-year planning period, each element would incorporate applicable measures.

City of Carlsbad Climate Action Plan

In 2015, the City of Carlsbad prepared the CAP concurrently with the City's updated General Plan. The CAP was designed to help reduce the City's GHG emissions and streamline environmental review of future development projects in the City in accordance with CEQA. It should also be noted that the CAP acknowledged that the Airport is County owned and operated, and is outside of the City's oversight and authority. Construction and operational emissions associated with airport operations were not included in the City CAP's overall strategy to reduce GHG emissions.

San Diego Association of Governments San Diego Forward: The Regional Plan

San Diego Forward: The Regional Plan (2015 Regional Plan) combines the region's two most important existing planning documents: the Regional Comprehensive Plan (RCP) and the Regional Transportation Plan (RTP) and its Sustainable Communities Strategy (SCS). San Diego Forward establishes an implementation plan for how the region will grow over the next 35 years. Developed in accordance with SB 375, San Diego Forward includes an SCS that demonstrates how the region will meet its GHG reduction targets through integrated land use, housing, and transportation planning. While the purpose of an SCS is to reduce GHG emissions due to mobile sources, it also results in a decrease in mobile sources of criteria pollutants. Enhanced public transit service combined with incentives for land use development that provides a better market for public transit will play an important role in the SCS. The RCP, adopted in 2004, laid out key principles for managing the region's growth while preserving natural resources and limiting urban sprawl. The plan covered eight policy areas including urban form, transportation, housing, healthy environment, economic prosperity, public facilities, our borders, and social equity. These policy areas were addressed in the 2050 RTP/SCS and are now fully integrated into the 2015 Regional Plan. On April 24, 2015, SANDAG released the draft 2015 Regional Plan for public comment, with a closing date of July 15, 2015. A final plan was adopted by the SANDAG Board of Directors on October 9, 2015.

San Diego Forward includes strategies related to (1) a land use pattern that accommodates future employment and housing needs, (2) a transportation network of public transit, managed lanes and highways, local streets, bikeways, and walkways, (3) transportation demand management to reduce traffic congestion during peak periods, (4) transportation system management to maximize the SP of the transportation network, and (5) innovative pricing policies and other measures designed to reduce vehicle miles traveled and congestion.

San Diego Forward includes a Smart Growth Concept Map that identifies the location of existing, planned, and potential smart growth areas. The seven smart growth place types include the Metropolitan Center, Urban Centers, Town Centers, Community Centers, Rural Villages, Mixed-Use Transit Corridors, and Special-Use Centers, reflecting the notion that smart growth is not a "one-size-fits-all" endeavor.

As part of the EIR completed by SANDAG for the RTP/SCS, an inventory of future GHG emissions were calculated and used as the basis to help determine emission reduction strategies. Emissions calculations related to vehicular traffic patterns at airports located in the County were derived from transportation improvements recommended in the AMAP and the RASP, prepared by the SDCRAA. Specific to the Airport, the AMAP selected Scenario 1C of the RASP to determine the future increase in vehicular traffic coming to and from the Airport. Scenario 1C included 641,355 forecasted passenger enplanements at CRQ by the year 2030, which exceeds the projected enplanements of any alternative included in the Airport Master Plan Update. Accordingly, vehicular emissions associated with growth of the ground transportation network at and around the Airport were incorporated in SANDAG's regional emissions inventory and reduction measures and targets.

3.1.5.2 Analysis of Project Effects and Determination as to Significance

As discussed above, the County adopted Guidelines for Determining Significance for Climate Change (concurrently with adoption of the CAP), which states:

- A proposed project would have a less than significant cumulatively considerable contribution to climate change impacts if it is found to be consistent with the County's Climate Action Plan; and, would normally have a cumulatively considerable contribution to climate change impacts if it is found to be inconsistent with the County's Climate Action Plan.

However, as noted in Section 3.1.5.1, because the Airport is located within the City of Carlsbad, it does not have an unincorporated County-designated zone or land use to compare against the designations used in the County's CAP. Furthermore, because the County's CAP and the GHG Guidelines are based upon land use assumptions of the County's 2011 General Plan, and that the Airport Master Plan Update improvements were not included in the emissions inventory for the CAP, the CAP cannot be used to streamline the review of GHG emissions associated with the Proposed Project. However, the Airport is required to adhere to County initiatives and plans that support system-wide CAP emissions reduction targets associated with County-owned facilities.

Additionally, the following criteria are provided from Appendix G of the State CEQA Guidelines. A significant impact from GHG emissions would result if the Proposed Project would:

- Generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment.

- Conflict with an applicable plan, policy or regulation adopted for reducing the emissions of GHG emissions.

As discussed above, no federal, state, or local agency has formally adopted quantified thresholds for determining the significance of potential GHG emissions for aviation-related operations. In the absence of applicable thresholds for aviation-related emissions, this section also incorporates FAA guidance as noted.

In the absence of state or local thresholds for GHG emissions from aviation sources, State CEQA Guidelines Appendix G criteria shall apply to determine if the proposed project would result in a significant impact. For non-aircraft operational and construction GHG sources, the County has identified a project specific annual screening level to determine if additional analysis is required.

For operations, the GHG analysis for the Airport Master Plan Update is unique for several reasons:

- The EIR is programmatic, i.e., addressing a number of development projects included in the Airport Master Plan Update that interact to affect the level of activity;
- The primary emission sources associated with the Proposed Project are not under the jurisdiction of the County or State;
- The projects included in the Airport Master Plan Update involve improvements and reconstruction of elements within an existing facility (the Airport) or improvements to existing facilities, rather than a completely new development; and
- The phasing and timing of projects are subject to funding availability, so construction scale and schedule are not guaranteed.

Screening Level

As discussed above, CAPCOA identified a 900 MT CO_2e screening level as an emissions level that was developed by experts in air quality that reviewed hundreds of projects approved in several air districts throughout California where the smallest 10 percent of projects were identified and modeled. The review identified that 10 percent of the development in these districts was represented by small projects, such as single-family residential projects with less than 50 units, commercial offices with less than 35,000 square feet, and retail uses of less than 11,000 square feet. It was determined that emissions on this scale are de minimis; and therefore, it was concluded that controlling emissions on this smaller scale would not help or hinder the State's progress in meeting the statewide goals. Thus, these projects did not warrant significant evaluation, and emissions from these projects would be largely controlled by state regulatory actions, such as building code requirements.

After issuance of the CAPCOA guidance, several lead agencies and air districts within the State developed mass emission screening levels using the same data sets. These are known as "bright line" limits, which exceed the 900 MT CO_2e screening level. Thus, 900 MT CO_2e can be considered an appropriate screening level. This same method was used by the Bay Area Air Quality Management District (BAAQMD), the South Coast Air Quality Management District (SCAQMD), San Luis Obispo County Air Pollution Control District (SLOAPCD), and the

Sacramento Metropolitan Air Quality Management District (SMAQMD) to develop screening level thresholds specific to their jurisdictions. In each jurisdiction, the districts developed higher screening levels ranging from 1,000 to 1,100 MT CO_2e. The SMAQMD also uses the same threshold to assess construction emissions separate from operation emissions. In addition, local jurisdictions have used a similar approach, including the City of Escondido, which uses a 2,500 MT CO_2e screening level and the City of Carlsbad CAP which identifies the same 900 MT CO_2e screening level used in the PEIR. Applying the CAPCOA screening level to this project is valid and adequate as it is based on current methodologies and is used throughout the State

Service Population Metric Threshold

According to the 2017 Scoping Plan Update "[l]ead agencies have the discretion to develop evidence-based numeric thresholds (mass emissions, per capita, or per SP) consistent with this Scoping Plan, the State's long-term GHG goals, and climate change science." To determine the significance of emissions for projects over the 900 MT CO_2e screening level, a project-specific SP threshold has been developed based on the 2017 Scoping Plan's state-wide year 2030 emissions target.

As recommended in the 2017 State Scoping Plan Update, local jurisdictions should limit GHG emissions in 2030 to no more than 6 MT CO_2e per person and no more than 2 MT CO_2e per person by 2050. This recommendation was for "city, county, subregional, or regional level" plans (CARB 2017). As stated in the Scoping Plan Update, this "recommendation…provides guidance on CARB's view on what would be consistent with the Scoping Plan Update and the State's long-term goals" (CARB 2017). This method allows a regional population to be used to develop a regional emissions budget. The regional emissions budget can then be adjusted to account for local economic conditions by including the regional employment projections and developing a GHG-emission per SP. As the proposed Airport Master Plan Update is a long-range planning document that extends to 2036, the County analyzed GHG emissions using CARB's guidance from the 2017 Scoping Plan Update.

The 2017 Scoping Plan Update recommended that the community-wide goal for local agencies in 2030 should be 6 MT CO_2e per person. SANDAG's 2030 population estimate is 3,816,404 people, which results in a countywide emissions budget of 22,898,424 MT CO_2e. Using SANDAG's countywide 2030 employment projection of 1,648,361, the SP of the whole county would be 5,464,765. The SP metric for the whole County would then be calculated by dividing the 2030 emissions budget by the SP of the whole county, which results in a SP threshold of 4.19 MT CO_2e in 2030 as shown below:

$$\frac{22{,}898{,}424 \text{ MT } CO_2e \text{ } (3{,}816{,}404 \times 6)}{5{,}464{,}765 \text{ SP } (3{,}816{,}404 + 1{,}648{,}361)} = 4.19 \text{ MT } CO_2e/SP$$

To develop the 2036 threshold for the Proposed Project evaluation, the 2030 calculated SP threshold was reduced by 5.2 percent per year out to year 2036 to align with CARB's recommended 2050 target of 2 MT CO_2e per person for community-wide plans. This results in a 2036 SP threshold of 3.01 MT CO_2e.

Using the SP metric (i.e., efficiency metric) method and CARB's specified per capita emissions target, the statewide per capita limit is used directly to develop a local emissions budget that is in line with the statewide goals of AB 32. The threshold is further refined to the local level and associated with the local economy by using local employment to refine the emission budget from a per capita metric to a SP metric, which takes into account anticipated population growth and foreseeable economic conditions.

Project-specific Service Population

In order to evaluate the Proposed Project-specific emissions against the regional 2036 target of 3.01 MT CO_2e, the Proposed Project's SP must be calculated. The County evaluated several methods for determining the SP of an airport and concluded that the SP for a unique land use such as an airport was best defined by the users of the airport as defined in the 2014 True Market/Leakage Study.

Specifically, the True Market/Leakage Study defined the "catchment" of the Airport, which includes potential users of the Airport (Sixel 2015). The marketing study was based on ticket sales at the Airport, other destination airports, and potential airlines that could operate at the Airport. The study determined that the catchment for the Airport was an area that included a large portion of northern San Diego County and a small portion of southern Riverside County, and it covered a total population of 1,564,407 for calendar year 2014. Of this total population, 1,311,539 residents were located in San Diego County. As a conservative approach to identifying the SP for the Proposed Project, the employment rate was not included since it would be too speculative to identify how many individuals are utilizing the Airport for business purposes. Also, by including the population only (i.e., without employment), this maintains a smaller SP, which would result in more conservative GHG efficiency level for the SP. As such, the 1,311,539 residents were then projected to 2036 based on growth projections developed by SANDAG as part of San Diego Forward to determine the SP at plan build out. This results in a 2036 SP of 1,552,067. As a result, 1,552,067 is used for the analysis instead of the countywide population of 3,816,404.

3.1.5.2.1 Project-Generated GHG Emissions

Guideline for the Determination of Significance

A significant impact from GHG emissions would result if the Proposed Project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Analysis

Construction

For construction sources, GHG emissions were inventoried for each individual Master Plan Update project element (see Figure 1-5) to determine the net increase in GHG emissions generated from construction. Although individual components of the Airport Master Plan Update

are subject to FAA approval and funding, it is assumed that construction will be performed under the County's authority. As such, construction of the Proposed Project would generate GHG emissions from off-road heavy-duty equipment (e.g., dozers, loaders, forklifts, and tractors); on-road heavy-duty equipment (e.g., haul trucks used to transport material to and from the project site; and on-road passenger vehicles (e.g., workers commuting to and from the site).

Construction-related GHG emissions were calculated for the three stages of development including the near-, intermediate-, and long-term phases. For the Proposed Project, the estimated emissions were based on construction of the project elements as well as the vehicle emissions from transporting subbase, asphalt, and aggregate material to the site.

Based on preliminary scheduling identified in the Airport Master Plan Update, the Proposed Project improvements would be phased over a 20-year period. However, their exact date of construction would be dependent upon the availability of funding and the demand for Airport facilities. This construction analysis was prepared at a programmatic level using all available resources to define the Proposed Project improvements. Defined construction schedules would only be developed once final engineering is complete. Table 3.1.5-3 illustrates the expected annual construction emissions by year (assuming first element starts construction in near-term) through 2036 (full implementation of the Airport Master Plan Update).

As previously described, construction emissions associated with the 16 project-specific activities are individually quantified. The emissions are then combined and amortized over the 20-year life of the Airport Master Plan Update, and the average annual construction emissions are compared to the 900 MT CO_2e screening level. Total construction emissions (3,648.37 MT CO_2e) amortized over 20 years results in annual construction emissions of approximately 183 MT CO_2e/year.

Therefore, annual construction emissions would be below the annual screening level of 900 MT CO_2e, and GHG emissions associated the Proposed Project construction activities would result in less than significant impacts.

Operation

In accordance with the FAA Air Quality Handbook guidance, GHG emissions associated with aircraft operations were quantified for the Proposed Project to help determine the overall potential impact to climate change. Although the guidance does not establish a threshold in which a determination can be made that a project will create a significant impact, it does clarify that a project's emissions should be quantified and identify measures to avoid, minimize, or mitigate adverse effects, if necessary.

Operation of the Proposed Project could be associated with a net change in GHG emissions from a variety of sources, including:

- Aircraft emissions from a net change in taxiway operations relative to the proposed shift of Runway 06-24 (Scope 3).

- Stationary source (i.e., large boilers) emissions from a net change in equipment usage (Scope 1). Only County-owned facilities are anticipated to result in stationary source emissions under the Proposed Project.

- Area-source building emissions (i.e., natural gas) from a net change in landside development square footage (Scope 1). Only County-owned facilities are anticipated to result in stationary source emissions under the Proposed Project.

An emissions inventory for operational sources was prepared for the annual GHG emissions that would be generated as a result of only the Proposed Project. Table 3.1.5-4 lists the calculated GHG emissions (inclusive of commercial air service), and excludes any background conditions and anticipated natural growth of airport use.

Proposed Project improvements are scheduled to be carried out over the 20-year planning period to improve operational efficiency and aircraft safety at the Airport. They are not intended to increase airport capacity. However, increased aircraft taxi-times resulting from the potential runway extension would generate an increase in GHG emissions. Regardless of whether or not the Proposed Project improvements are constructed, GHG emissions associated with the following sources are anticipated to increase over the 20-year planning as forecasted aviation demand rises. However, they were still quantified for the purposes of this PEIR. This includes:

- Aircraft emissions from a net change in the number of aircraft operations over the future (2036) conditions (Scope 3).

- Airport-owned ground access vehicles; (i.e., maintenance trucks). Net change related to on-airport property and off-airport property VMT (Scope 1).

- Non-airport-owned ground access vehicles (i.e., passenger vehicles, vendor shuttle buses). Net change related to on-airport property and off-airport property VMT (Scope 3).

- GSE emissions from a net change in GSE operations (Scope 3).

Similar to FAA's guidance for analyzing noise and air quality, no locally adopted thresholds exist for airport-related operational emissions; therefore, FAA guidance is applied. This approach compares emissions related to the Proposed Project by analyzing the difference between emission values with and without the Proposed Project in the same implementation year (i.e., 2036). Using forecast information provided by the Airport Master Plan Update, natural aviation growth at the Airport without any commercial airline activity would total 180,450 annual operations, and its associated GHG emissions are presented in Table 3.1.5-5.

Net Increase Emissions from Operational Activities

As discussed under the regulatory environment, the Scoping Plan states, "the State does not have regulatory authority over aviation" and "[C]ARB has not identified aviation specific measures." Improvements in aircraft design and technology and future growth or decline in passenger demand would occur independently of whether or not the Proposed Project is implemented. As such, the Airport Master Plan Update long-term aviation forecasts state that

the annual number of aircraft operations will increase overtime regardless of the Proposed Project.

Table 3.1.5-6 presents the net increase in emissions for PAL 1 and PAL 2 for 2036 with the Proposed Project compared to the same timeframe without the Proposed Project. Because these emission levels would exceed the 900 MT CO_2e /year screening level, the emissions were evaluated using the SP significance threshold and compared to the Proposed Project-specific SP. As such, Table 3.1.5-7 summarizes that the net increase in per capita emissions would be 0.009 MT CO_2e/year and 0.016 MT CO_2e/year for PAL1 and PAL2, respectively. Both of these are below the threshold of 3.01 MT CO_2e/year; therefore, the Proposed Project would result in less than significant impacts. This is also represented in the following mathematical formulas.

$$\frac{\text{PAL 1 Net Increase in Emissions}}{\text{Project SP in 2036}} = \frac{13{,}469}{1{,}552{,}067} = 0.009 \text{ MT } CO_2e/SP$$

$$\frac{\text{PAL 2 Net Increase in Emissions}}{\text{Project SP in 2036}} = \frac{24{,}115}{1{,}552{,}067} = 0.016 \text{ MT } CO_2e/SP$$

Total Emissions from Operational Activities

While the above calculations identify the net increase resulting from the Proposed Project, Tables 3.1.5-8 and Table 3.1.5-9 disclose the *total* emissions associated with each planning scenario as additional information. This results in a total of 40,697.93 MT CO_2e/year for PAL1 and 51,344.15 MT CO_2e/year for PAL2. Similarly, because these emission levels would exceed the 900 MT CO_2e/year screening level, the emissions were evaluated using the SP significance threshold and compared to the Proposed Project-specific SP. As such, Table 3.1.5-10 summarizes that both of these emission levels are below the threshold of 3.01 MT CO_2e/year. Therefore, the Proposed Project would result in less than significant impacts. This is also represented in the following mathematical formulas.

$$\frac{\text{PAL 1 Total Emissions}}{\text{Project SP in 2036}} = \frac{40{,}697.93}{1{,}552{,}067} = 0.026 \text{ MT } CO_2e/SP$$

$$\frac{\text{PAL 2 Total Emissions}}{\text{Project SP in 2036}} = \frac{51{,}344.15}{1{,}552{,}067} = 0.033 \text{ MT } CO_2e/SP$$

Although in-flight measures to reduce GHG emissions cannot be mandated by the state or county, other measures may be considered for the reduction of aircraft-related emissions while aircraft are parked on the apron, such as the current practice of providing electric powered Ground Power Units to reduce the usage of APUs. Other potential reduction measures would include promoting the usage of electric-powered GSE for future commercial aircraft operations, replacing all airfield lights with light-emitting diodes (LED), or increasing electric vehicle charging stations.

These potential measures may be considered on an individual project basis; however, they are not required as mitigation since the above analysis concludes that implementation of the Airport Master Plan Update would result in less than significant impacts and would not exceed applicable standards.

3.1.5.2.2 Conflict with Plans, Policies, or Regulations

Guideline for the Determination of Significance

A significant impact from GHG emissions would result if the Proposed Project would:

- Conflict with an applicable plan, policy or regulation adopted for reducing the emissions of GHGs.

Analysis

Due to the unique nature of the Proposed Project, state and local GHG reduction plans have limited applicability. For example, the Scoping Plan does not contain any measure or goal requirements for aviation-related GHG emissions; thus, the Scoping Plan would achieve the identified statewide goals for 2020 and 2030 regardless of aviation activity. Similarly, the County's CAP does not contain a measure or goal requirements for aviation-related GHG emissions, and it would achieve the CAP objectives regardless of aviation activity. Therefore, the focus of this analysis is on non-aviation sources, such as existing facilities operated by the County and mobile sources.

County's Climate Action Plan

In review of the CAP Consistency Checklist, the following general measures are taken directly from the CAP's "Consistency Review Checklist" to determine applicability to the Proposed Project:

- Measure 1a. – Reducing Vehicle Miles Traveled

  Under Measure 1a. for non-residential projects with anticipated tenant-occupants of 25 or more, the Project will achieve a 15 percent reduction in commute emissions and commit to monitoring and compliance. This measure is applicable to the Proposed Project because more than 25 employees and visitors commute to existing Airport facilities, including administrative offices and the airline service terminal, and are subject to County policies and goals to reduce Transportation Demand Management (TDM) and improve parking strategies.

  Master Plan Update improvements that service the airport's tenant-occupants within the County-owned buildings (i.e. the airports administration offices, commercial passenger terminal, etc.) would comply with County policies targeting the reduction of vehicle miles traveled and associated vehicular emissions. The reduction measures govern all County facilities and may include carpool-only parking spaces, bicycle-parking facilities, car-sharing facilities, and electric vehicle-only parking spaces. These types of measures

correlate to CAP Measures T-2.2 and T-2.4, and specifically for County airports employees, correlates to Measure T-2.3: Reduce County Employee Vehicle Miles Traveled. This project would meet the objectives of Measure 1a through consistency with County policies and strategies to reduce vehicle miles traveled to County facilities system-wide by 15 percent, and contribute to meeting CAP emission reduction targets.

- Measure 2 – 2a. Shared and Reduced Parking Nonresidential.

  Under Measure 2a. the Checklist states "check "N/A" if the project is a residential project or if the project would accommodate more than 25 tenant occupants." The Proposed Project would allow for more than 25 tenant-occupants and thus the measure is not applicable. However, as a County project, the Proposed Project would be required to meet County parking standards, which include the requirement of providing clean air parking, which includes a carpool and vanpool preferential parking spaces as required by measure 2a. The Proposed Project also uses shared parking for the various existing and future uses.

- Measure 3a. – Electric or Alternatively Fueled Water Heating Systems Residential.

  Under Measure 3a. the Checklist states "check "N/A" if the project is a non-residential project." The Proposed Project is non-residential and does not include any residential buildings, therefore this measure is not applicable.

- Measure 4 – Water Efficient Appliances and Plumbing Fixtures.

  Under Measure 4a. the Checklist states "check "N/A" if the project is a non-residential project." The Proposed Project is non-residential, therefore this measure is not applicable.

- Measure 5a. – Rain Barrel Installations

  Under Measure 5a. the Checklist states "check "N/A" if the project is a non-residential project; if State, regional or local incentives/rebates to purchase rain barrels are not available; or if funding for programs/rebates has been exhausted." The Proposed Project is non-residential, therefore this measure is not applicable.

- Measure 6a – Reduce Outdoor Water Use

  Under Measure 6a. the Checklist states "check "N/A" if the project does not propose any landscaping, or if the aggregate landscaped area is between 500 – 2,499 square feet and elects to comply with the Prescriptive Compliance Option within the Water Conservation in Landscaping Ordinance." The existing airport landscaping is irrigated using "purple line" reclaimed water and Proposed Project does not propose additional landscaping areas, therefore Measure 6a. is not applicable.

- Measure 7a. – Agricultural and Farming Equipment

  Under Measure 7a. the Checklist states “check “N/A” if the project does not contain any agricultural or farming operations; if the San Diego Air Pollution Control District incentive program is no longer available; or if funding for the incentive program has been exhausted.” The Proposed Project is non-agricultural, therefore this measure is not applicable.

- Measure 8a. – Electric Irrigation Pumps

  Under Measure 8a. the Checklist states “check “N/A” if the project does not contain any agricultural or farming operations; if the SDAPCD incentive program is no longer available; or if funding for the incentive program has been exhausted.” The Proposed Project is non-agricultural, therefore this measure is not applicable.

- Measure 9a. – Tree Planting

  Under Measure 9a. the Checklist states “check ““N/A” if the project is a non-residential project.” The Proposed Project is non-residential, therefore this measure is not applicable.

For County-owned facilities, the CAP identifies strategies that will be implemented system-wide for public projects, including improvements at this and other County airports. Table 3.1.5-12 summarizes County-initiated measures identified in the CAP Chapter 3 (Strategies and Measures) applicable to the Master Plan Update improvements. As individual project elements are proposed throughout the Airport Master Plan Update’s 20-year planning period, each project would incorporate these measures to contribute to meeting the County’s emissions reduction targets.

In review of the CAP Consistency Review Checklist and the list of County-initiated project CAP measures, conformance to the applicable CAP strategies will contribute to the County’s emission reduction goals. As discussed above, the County did not set emissions reduction targets related to aircraft use, however, emissions associated with existing County-owned airport facilities and new construction are required to adhere to County policies and plans, which are key components of the County’s commitments to reducing GHG emissions in the CAP and meeting State targets (see discussion below). While the reduction of aircraft-related emissions are not within the County’s jurisdiction to regulate and are not included in the CAP, the Master Plan Update improvements are consistent with applicable measures for County-owned facilities as discussed in the County’s Comprehensive Strategic Plan to Reduce Waste, Renewable Energy Plan, and Strategic Energy Plan. As a result, the Proposed Project would not impact or impede implementation of the CAP.

The following list provides the County Strategic Energy Plan policies and identifies the County CAP measures that are related to the policy:

- Reduce Energy Use Intensity by 10 percent comparing data from fiscal year 2019-2020 against baseline data from fiscal year 2014-2015

  (Consistent with CAP measure E-1.1, E-1.4)

- Reduce potable water consumption by 25 percent comparing data from fiscal year 2019-2020 against baseline data from fiscal year 2013-14

  (Consistent with CAP measure W-1.3)

- Realize a 10 percent average reduction in greenhouse gas emissions for all County owned vehicles comparing data from 2020 against baseline data from 2015

  (Consistent with CAP measure T-3.4)

- Improve the sustainability of operations by reducing and recycling resources, and using environmentally friendly practices in maintenance and new construction

  (Consistent with CAP measure SW-1.1)

Emissions associated with an increase in vehicle traffic to and from the Airport were accounted for throughout the region and air basin under the RTP/SCS, and as analyzed in Section 3.1.5.2.1 the Proposed Project (including non-aircraft sources) would not conflict with those plans. In addition, the quantification of GHG emissions in the above section shows that the Proposed Project would not conflict with CARB's Scoping Plan.

3.1.5.3 Cumulative Impact Analysis

The topic of global climate change is inherently a cumulative issue, as the GHG emissions of individual projects cannot be shown to have any material effect on global climate. Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emissions impacts from a climate change perspective (CAPCOA 2008).

The discussion of the Proposed Project's GHG emissions and impact on global climate are addressed in terms of the Proposed Project's contributions to a cumulative impact on the global climate. Although there is no adopted guidance, regulatory or advisory, which identifies the need to combine the evaluation of short-term construction emissions with long-term operations emissions, analysis was conducted using the more locally-focused calculations discussed above while evaluating the combined emissions from construction and operations (including aircraft and non-aircraft). As such, all construction and operations emissions for the Proposed Project have been combined in Table 3.1.5-11 and evaluated against the new 2036 SP significance threshold. This is also represented in the following mathematical formulas.

$$\frac{\text{PAL 1 Combined Emissions (operation + construction)}}{\text{Project SP in 2036}} = \frac{44{,}346.30}{1{,}552{,}067} = 0.029 \text{ MT } CO_2e/SP$$

$$\frac{\text{PAL 2 Combined Emissions (operation + construction)}}{\text{Project SP in 2036}} = \frac{54{,}992.52}{1{,}552{,}067} = 0.035 \text{ MT } CO_2e/SP$$

As shown, emissions would not exceed 3.01 MT CO_2e/SP/year, and the Proposed Project's cumulative GHG emissions would result in less than significant impacts.

3.1.5.4 Conclusion

Implementation of the Proposed Project would not result in significant impacts from GHG emissions. As stated above, while the County adopted Guidelines for Determining Significance for Climate Change, its threshold of significance requires a consistency determination with the CAP, and for the reasons stated above, the CAP cannot be used to streamline the review of GHG emissions for the Proposed Project. In addition, there are no formally approved significance thresholds applicable to aviation sources and their contribution to climate change.

Section 3.1.5.1 and technical reports (see Appendix H) discuss the existing federal, state, and local regulatory framework for addressing GHG emissions and reduction targets. Section 3.1.5.2 establishes the approach to a scientifically-based and widely used emissions screening level, and for analysis that exceeds the screening level, the section discusses the methodology for applying a SP threshold to consider GHG efficiency. The analysis found that the sum total of all Master Plan Update construction elements, as amortized over the 20-year Plan lifespan, would not exceed the screening level. The analysis of operations, as well as operations plus construction, exceeded the screening level, and the SP threshold was applied. Analysis was conducted using a threshold based on CARB's guidance and emissions reduction targets from the 2017 Scoping Plan Update, and using a project- and location-specific approach to determining GHG efficiency.

Also, while construction and operation of the Proposed Project would result in an incremental increase in GHG emissions, as discussed in Section 3.1.5.2.2, these activities would comply with all applicable County policies, plans, and guidelines, the Proposed Project would not conflict with the County's CAP, Comprehensive Strategic Plan to Reduce Waste, Renewable Energy Plan, Strategic Energy Plan, or SANDAG's San Diego Forward. Nor would it conflict with CARB's Scoping Plan or other state- and locally-developed GHG reduction plans intended to meet state emission reduction targets. In accordance with the County's Guidelines for Determining Significance for Climate Change and State CEQA Guidelines Section 15064.4, a project-specific methodology and threshold was applied to the data to provide a CEQA determination of *less than significant* as supported by substantial evidence.

Table 3.1.5-1. Existing Conditions (2016) GHG Emissions Inventory

Emission Source	Annual Emissions (tpy)[d]			
	CO_2	CH_4	N_2O	Total CO_2e [e]
Aircraft[a]	10,864.59	1.86	0.01	10,930.64
GSE[b]	468.68	0.03	0.01	476.88
Motor Vehicles[c]	N/A	N/A	N/A	N/A
Stationary Sources	245.21	0.01	0.01	249.21
Electrical Consumption	271.19	0.16	0.02	282.24
Total	**11,849.66**	**2.06**	**0.05**	**11,938.98**

Source: AEDT version 2d, C&S Companies, Inc. (Appendix H)
[a] Includes APU usage
[b] Includes on-airport vehicles
[c] Off-airport motor vehicle emissions were only calculated for net increase in emissions
[d] Tons per year, reported in metric tons
[e] Emissions are calculated in terms of CO2 equivalents, which is the universal unit of measurement used to indicate the global warming potential (GWP) for different GHG pollutants. Total CO_2e is not the summation of individual pollutants. Each of these pollutants is multiplied by their "Global Warming Potential." which is a weighted factor that is relative to the amount of heat a greenhouse gas traps in the atmosphere.

Table 3.1.5-2. Sources of Airport GHG Emissions

Source	Characteristics of Emissions	Scope[a]
Aircraft	Exhaust products of fuel combustion that vary depending on aircraft engine type, fuel type (Jet-A, aviation gasoline), number of engines, power setting and time-in-mode (i.e., taxi/idle, take-off, cruise), and amount of fuel burned. This includes emissions associated with the use of Auxiliary Power Units.	3
GSE	Exhaust products of fuel combustion from aircraft service trucks, tow tugs, belt loaders, and other portable equipment.	1 and 3
Ground Access Vehicles	Exhaust products of fuel combustion from airport operations staff, passengers, employee and cargo motor vehicles approaching, departing, and moving about the Airport. These include automobiles, vans, trucks, and buses. Emissions vary depending on vehicle and fuel type (i.e., gasoline, diesel, etc.) and the amount of fuel consumed.	1 and 3
Stationary sources and fuel facilities	Exhaust products of fossil fuel combustion in boilers for space heating and emergency generator units. Evaporative emissions from fuel storage and transfer facilities and fugitive emissions of refrigerant and cooling system gases are also included.	1 and 3
Electrical Consumption	Emissions associated with the production of electricity at off-site utilities that use coal, oil or natural gas.	2 and 3
Construction	Emissions associated with fossil fuel combustion from construction equipment such as backhoes, cranes, dozers, loaders, haul trucks, and excavators.	1
Refrigerants[b]	Emissions associated with the use of refrigerants in chillers and air conditioning units.	1 and 3

Source: C&S Companies, inc. (Appendix H)
[a] Based on guidance provided in the ACRP Report 11, *Guidebook on Preparing Airport Greenhouse Gas Emissions Inventories*.
[b] Although refrigerants are listed as a source of GHG emissions, refrigerant production at the Airport is low and no increase of refrigerants is associated with the Proposed Project. Therefore, refrigerants were omitted from this analysis.

Table 3.1.5-3. Total Construction GHG Emissions (Metric Tons per Project)

Phase	Project #	CO_2	CH_4	N_2O	Total CO_2e
Near-Term	1	23.91	0.01	0.00	24.05
	2	19.62	0.00	0.00	19.67
	3	69.00	0.02	0.00	69.42
	4	1,683.66	0.06	0.00	1,684.89
	5	57.22	0.01	0.00	57.41
	6	31.47	0.01	0.00	31.67
	7	88.08	0.02	0.00	88.47
Intermediate	8	5.56	0.00	0.00	5.58
	9	403.67	0.06	0.00	404.94
	10	N/A	N/A	N/A	N/A
	11	22.50	0.01	0.00	22.63
Long-Term	12	767.41	0.14	0.00	770.86
	13	31.72	0.00	0.00	31.78
	14	390.59	0.06	0.00	391.92
	15	15.60	0.00	0.00	15.70
	16	29.36	0.00	0.00	29.39
Total*		**3,639.36**	**0.41**	**0.00**	**3,648.37**

Source: C&S Companies, Inc. (Appendix H) Project numbers associated with Figure 1-5.
*Total may differ from the sum of individual emissions due to rounding in the calculated model.

Table 3.1.5-4. Project-related GHG Emissions from Operational Activities

Scenario	CO_2	CH_4	N_2O	Total CO_2e
PAL 1	12,331.95	0.19	0.05	12,351.81
PAL 2	22,971.53	0.22	0.07	22,998.03

Source: C&S Companies, Inc. (Appendix H)

Notes: Calculations for the Proposed Project planning scenarios were deduced from Tables 5 and 7 in the project Climate Change Technical Report. This does not include background conditions such as existing or future emissions. This only represents emissions directly attributable to the Proposed Project.

Emissions are calculated in terms of CO_2 equivalents, which is the universal unit of measurement used to indicate the global warming potential (GWP) for different GHG pollutants. Total CO_2e is not the summation of individual pollutants. Each of these pollutants is multiplied by their "Global Warming Potential", which is a weighted factor that is relative to the amount of heat a greenhouse gas traps in the atmosphere.

Table 3.1.5-5. Future Conditions (2036) GHG Emissions from Operational Activities Without Project

Emission Source	Annual Emissions (tpy)[d]			
	CO_2	CH_4	N_2O	Total CO_2e
Aircraft[a]	25,906.12	1.94	0.01	25,975.50
GSE[b]	432.07	0.02	0.01	439.63
Motor Vehicles[c]	N/A	N/A	N/A	N/A
Stationary Sources	516.61	0.17	0.02	531.67
Electrical Consumption	271.19	0.16	0.02	282.24
Total	**27,125.99**	**2.29**	**0.06**	**27,229.04**

Source: AEDT version 2d, C&S Engineers, Inc. 2017 (Appendix H)
Notes:
[a] Includes Auxiliary Power Unit usage
[b] Includes on-airport vehicles
[c] Off-airport motor vehicle emissions were only calculated for net increase in emissions
[d] Tons per year, reported in metric tons

Table 3.1.5-6. Future Conditions (2036) GHG Emissions from Operational Activities Comparison

Scenario	Annual Emissions (tpy)[d]			
	CO_2	CH_4	N_2O	Total CO_2e
Future Conditions (2036) No Project vs. With-Project (PAL 1)	13,447.93	0.22	0.05	13,468.89
Future Conditions (2036) No Project vs. With-Project (PAL 2)	24,087.51	0.25	0.07	24,115.11

Source: C&S Companies, Inc. (Appendix H)
Notes: These 2036 scenarios differ from Table 3.1.5-4 since they account for and include natural aviation growth with and without the Proposed Project under 2036 conditions.

Table 3.1.5-7. Net Increase in Operational Activities GHG Emissions 2036 Between Project vs. No Project [1]

Scenario	Annual Emissions (Net MT CO_2e) [2]	2036 SP	Annual Emission (MT CO_2e/SP)	2036 Threshold (MT CO_2e/SP)	Significant Impact?
PAL1	13,469	1,552,067	0.009	3.01	No
PAL2	24,115		0.016		No

[1] This table presents the 2036 emissions for PAL 1 and PAL 2 with the Proposed Project compared to the same timeframe without the Proposed Project.
[2] Source: C&S Engineers, Climate Change Technical Report, January 2018

Table 3.1.5-8. Total GHG Emissions from Operational Activities from PAL1

Emission Source	Annual Emissions (tpy)[d]			
	CO_2	CH_4	N_2O	Total CO_2e
Aircraft[a]	36,328.98	1.98	0.03	36,404.33
GSE[b]	543.77	0.03	0.01	553.28
Motor Vehicles[c]	2,547.41	N/A	N/A	2,547.41
Stationary Sources	736.13	0.26	0.04	758.26
Electrical Consumption	417.63	0.24	0.03	434.65
Total	**40,573.92**	**2.51**	**0.11**	**40,697.93**

Source: AEDT version 2d, C&S Engineers, Inc. analysis 2017 (Appendix H)
Notes:
[a] Includes Auxiliary Power Unit usage
[b] Includes on-airport vehicles
[c] Off-airport motor vehicle emissions were only calculated for net increase in emissions
[d] Tons per year, reported in metric tons

Table 3.1.5-9. Total GHG Emissions from Operational Activities from PAL2

Emission Source	Annual Emissions (tpy)[d]			
	CO_2	CH_4	N_2O	Total CO_2e
Aircraft[a]	44,581.73	2	0.04	44,661.38
GSE[b]	654.48	0.04	0.02	665.99
Motor Vehicles[c]	4,804.67	N/A	N/A	4,804.67
Stationary Sources	754.99	0.26	0.04	777.46
Electrical Consumption	417.63	0.24	0.03	434.65
Total	**51,213.50**	**2.54**	**0.13**	**51,344.15**

Source: AEDT version 2d, C&S Engineers, Inc. 2017 (Appendix H)
Notes:
[a] Includes Auxiliary Power Unit usage
[b] Includes on-airport vehicles
[c] Off-airport motor vehicle emissions were only calculated for net increase in emissions
[d] Tons per year, reported in metric tons

Table 3.1.5-10. Total Operations GHG Emissions (2036)

Scenario	Annual Emissions (Total MT CO_2e) [1]	2036 SP	Annual Emissions (MT CO_2e/SP)	2036 Threshold (MT CO_2e/SP)	Significant Impact?
PAL 1	40,697.93	1,552,067	0.026	3.01	No
PAL 2	51,344.15		0.033		No

[1] Source: C&S Engineers, Climate Change Technical Report, January 2018

Table 3.1.5-11. GHG Emissions (2036): Construction and Operations Combined

Scenario	Annual Emissions (MT CO_2e) [1]	2036 SP	Annual Emissions (MT CO_2e/SP)	2036 Threshold (MT CO_2e/SP)	Significant Impact?
PAL 1	44,346.30	1,552,067	0.029	3.01	No
PAL 2	54,992.52		0.035		No

[1] Source: C&S Engineers, Climate Change Technical Report, January 2018

Table 3.1.5-12. County CAP Reduction Measures

MEASURE	STRATEGY	APPLICABILITY TO PROJECT
Built Environmental and Transportation Category		
STRATEGY T-2: SHIFT TOWARDS ALTERNATIVE MODES OF TRANSPORTATION		
T-2.3	Reduce County Employee VMT	This measure sets a target to reduce County employee VMT by 15 percent by 2030. The Airport is an existing employment location for County employees and is required to comply with of County initiatives to educate and engage participation in programs to reduce vehicle miles traveled and associated vehicular emissions consistent with the CAP's target.
STRATEGY T-3: DECARBONIZE ON-ROAD AND OFF-ROAD VEHICLE FLEET		
T-3.2	Use Alternative Fuels in County Projects	This measure sets a target for all County-initiated projects to use alternative fuels in 100 percent of construction equipment. Construction, maintenance activities, and ongoing operations at the Airport that use the County Fleet are required to comply with subject to the implementation of the 2016 Green Fleet Action Plan, which includes the shift to alternative fuels, consistent with the CAP's target .
T-3.4	Reduce the County's Fleet Emissions	Same as above.
T-3.5	Install Electric Vehicle Charging Stations	The County's initiative to install electric vehicle charging stations in priority locations extends across all County-owned facilities, including County airports. The Airport is required to comply with the County initiative to decarbonize the vehicle fleet and is a County-owned facility included in system-wide installations of electric vehicle charging stations consistent with the CAP's target.
Energy Category		
STRATEGY E-1: INCREASE BUILDING ENERGY EFFICIENCY		
E-1.4	Reduce Energy Use Intensity at County Facilities	The County's Strategic Energy Plan (discussed below) extends across all County-owned facilities, including County airports. As existing buildings are retrofitted, and new buildings are designed with more energy efficient fixtures, energy use intensity has been declining to below 2014 levels. All County-owned facilities at the Airport are required to comply with the Strategic Energy Plan and other initiatives to reduce energy use consistent with the CAP's target.
STRATEGY E-2: INCREASE RENEWABLE ELECTRICITY USE		
E-2.1	Increase Renewable Electricity	All County-owned facilities at the Airport are required to comply with the Renewable Energy Program to use renewable sources for electricity, primarily for the unincorporated County to meet CAP's targets. As elements of the Master Plan Update are designed, integration of renewable electricity generation will be

Table 3.1.5-12. County CAP Reduction Measures

MEASURE	STRATEGY	APPLICABILITY TO PROJECT
		incorporated to the extent allowed under FAA airport design standards.
E-2.4	Increase Use of On-site Renewable Electricity Generation for County Operations	Same as above.
Solid Waste Category		
STRATEGY SW-1: INCREASE SOLID WASTE DIVERSION IN THE UNINCORPORATED COUNTY		
SW-1.1	Increase Solid Waste Diversion	The CAP sets a target consistent with the County's Strategic Plan to Reduce Waste and increase solid waste diversion to divert 80 percent of the unincorporated County's solid waste from landfills. County-owned buildings and operations at the Airport, including maintenance and construction methods, are required to adhere to the provisions of the County Plan to meet the solid waste reduction targets and the CAP's target. .
Water and Wastewater Category		
STRATEGY W-1: REDUCE POTABLE WATER CONSUMPTION		
W-1.3	Reduce Potable Water Consumption at County Facilities	The County's Strategic Energy Plan sets targets for reduction in potable water consumption levels at County facilities. In 2016 the County proactively installed irrigation pipes accessing existing reclaimed (purple line) water to use on all airport landscaping. As a design feature identified in the Master Plan Update, and in accordance with Title 24 California Green Building Standards Code (known as CALGreen), the Proposed Project would contribute to the reduction in potable water demand for indoor use by at least 20 percent. The Airport is required to comply with the County initiative to reduce potable water consistent with CAP targets.
Agriculture and Conservation Category		
STRATEGY A-2: INCREASE CARBON SEQUESTRATION		
A-2.2	Increase County Tree Planting	The CAP establishes goals for annual increases of the number of trees in the unincorporated county through tree planting programs and canopy assessments. These programs will be implemented throughout the County system at priority locations across all County-owned facilities, and is required to be implemented at County airports to the extent allowed under FAA airport design standards, and consistent with CAP targets.

Source: County CAP Table 5-1 Monitoring Program.

3.1.6 Hydrology and Water Resources

This section provides an analysis of the potential significant impacts to hydrology and water quality that may result from implementation of the proposed Project. The analysis is based in part on information from a Storm Water Quality, Hydrologic, and Floodplain Technical Report (Hydrology Report) prepared by C&S Engineers, Inc. (2017).

3.1.6.1 Existing Conditions

Hydrologic Setting

San Diego County is divided into eleven hydrologic units that flow from elevated regions in the east toward coastal lagoons, estuaries, or bays in the west. Each of the hydrologic units features similar water quality characteristics, and all face similar water quality issues. The Proposed Project site is located within the Carlsbad Hydrologic Unit as defined in the San Diego Basin Water Quality Control Plan, referred to as the Basin Plan. This Hydrologic Unit consists of approximately 210 square miles, and it contains numerous important surface hydrologic features within the Carlsbad Hydrologic Unit including four unique coastal lagoons, three major creeks, and two large water storage reservoirs (City of Carlsbad). Specifically, the Proposed Project is located within two hydrologic areas (HA): Encinas (904.4) and Agua Hedionda (904.3).

In accordance with CWA Section 303, Agua Hedionda Creek is classified as a 303(d) listed water body under Category 5 associated with toxicity, pesticides, and nutrients (WBID No. CAR904310002001092414505l). However, the Proposed Project would not include discharges to Agua Hedionda Creek, which has a downstream confluence with the Agua Hedionda Lagoon and the Pacific Ocean (Regional Board website).

Dam inundation is caused by the release of impounded water from structural failure or overtopping of a dam. The Proposed Project is entirely located on airport property, which is not located within a dam inundation zone. As shown in Figure 3.1.6-1, the nearest inundation zone is located approximately two-thirds mile north of the Airport associated with both the Maerkle Dam and Pechstein Dam (Carlsbad General Plan EIR, Ch.3.8).

The limits of base floodplains are determined by Flood Insurance Rate Maps (FIRMs) prepared by the Federal Emergency Management Agency (FEMA). The Airport is not located within a 100-year floodplain. The Airport is mapped on FIRM map panels 06073C0768G and 06073C0769G, and is designated as Zone X. The closest 100-year floodway is associated with Agua Hedionda Creek, located north and east of the Airport (see Figure 3.1.6-2).

Regulatory Environment

Federal Regulations

Clean Water Act

The CWA established guidelines for regulating discharges of pollutants into waters of the U.S. The CWA requires that states adopt water quality standards to protect public health, enhance

the quality of water resources, and ensure implementation of the CWA. In California, the EPA has delegated responsibility for implementation of portions of the CWA to the SWRCB and the relevant RWQCBs, including water quality control planning and programs.

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) permit program to control water pollution by regulating point sources that discharge pollutants into waters of the United States. In California, the U.S. Environmental Protection Agency (EPA) has authorized the SWRCB to implement the NPDES Program.

Section 303 of the CWA established water quality standards to protect beneficial uses of state waters. Section 303(d) establishes the total maximum daily load (TMDL) process to guide the application of state water quality standards. Under this section, the state generates and maintains a list of water bodies that are "impaired" (polluted) by any number of chemical or physical pollutants. A TMDL program is then established to improve water quality and reduce or eliminate the presence of the relevant pollutants.

Federal Flood Insurance Program

FEMA administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations specifying protection measures for development in floodplains. FEMA issues FIRMs for communities participating in the NFIP. These maps delineate flood hazard zones in the community.

State Regulations

Porter-Cologne Water Quality Control Act of 1969

The Porter-Cologne Act, Division 7 of the California Water Code, is the basic water quality control law for California. The goal of the Porter-Cologne Act is to create a regulatory program to protect water quality and beneficial uses of the state's waters. As such, the state and nine regional boards were established to implement and enforce CWA and State-adopted water quality control plans.

The SWRCB is responsible for issuing storm water permits in accordance with the NPDES program, which requires regulated entities to obtain coverage under an NPDES stormwater permit and implement a SWPPP or a storm water management plan, and to utilize BMPs to reduce or prevent the discharge of pollutants into receiving waters.

The San Diego RWQCB (Region 9) is responsible for implementing and enforcing the laws and regulations addressing water quality in the San Diego region. Each RWQCB is responsible for water quality control planning within its region, often in the form of a Basin Plan. A major purpose of the Basin Plan is to define beneficial uses of surface water and groundwater. Beneficial uses are defined as the uses of water necessary for the survival or well-being of people, plants, and wildlife. The NPDES Storm Water Program addresses non-agricultural sources of storm water runoff that adversely affect the quality of the nation's waters. Under the NPDES Program, regulated entities must obtain coverage under an NPDES storm water permit. NPDES storm water permit regulations generally cover the following classes of storm water

dischargers: operators of municipal separate storm sewer systems (MS4), operators of certain industrial facilities, and operators of construction activities that disturb one or more acre of land.

Construction General Permit

Dischargers who disturb one or more acres of soil are required to obtain coverage under the SWRCB's Construction General Permit, Order 2012-0006-DWQ (amending Order 2009-0009-DWQ as amended by 2010-0014-DWQ). Construction and demolition activities subject to this permit include clearing, grading, grubbing, and excavation, or any other activity that results in a land disturbance equal to or greater than one acre.

Municipal Storm Water Permit

The San Diego RWQCB regulates discharges from Phase I MS4s in the San Diego Region under the Regional MS4 Permit. The Regional MS4 Permit covers 39 municipal, county government, and special district entities (referred to jointly as Copermittees) located in San Diego County, southern Orange County, and southwestern Riverside County who own and operate large MS4s that discharge storm water (wet weather) runoff and non-storm water (dry weather) runoff to surface waters throughout the San Diego Region. The Regional MS4 Permit, Order No. R9-2013-0001, was initially adopted on May 8, 2013 and subsequently amended as Order No. R9-2015-0001 on February 11, 2015, and again as Order No. R9-2015-0100 on November 18, 2015.

Regional and Local Regulations

Permanent Design, Storm Water Treatment, and Hydromodification Management

The reissued MS4 Permit updated storm water requirements for new development and redevelopment projects. As required by the reissued MS4 Permit, the Copermittees on June 27, 2015 prepared the Model BMP Design Manual, which serves as a countywide guide. This replaced the previous countywide model known as the Standard Urban Stormwater Mitigation Plan. Subsequently, on February 16, 2016 the County released a modified version of the model tailoring it to the County's specific guidelines and requirements thereby creating the County BMP Design Manual.

It should be noted the City of Carlsbad also created a tailored version of the BMP Design Manual effective February 16, 2016. As it relates to the land use authority, future private development at the Airport is subject to discretionary review by the City; therefore, future private development shall comply with the City's BMP Design Manual. However, the County maintains land use authority over public improvements, and acting as the CEQA Leady Agency for the Proposed Project the County's BMP Design Manual shall be utilized for County-initiated public improvements.

As defined by the MS4 Permit and County BMP Design Manual, development (or redevelopment) projects typically require a Storm Water Quality Management Plan. The content of a SWQMP varies depending on whether the improvements qualify as a Standard Project or Priority Development Project. The County BMP Design Manual provides guidance for determining the type of project and storm water requirements needed to comply with the MS4

Permit and the County Watershed Protection Ordinance. The thresholds of impervious surface that would be created or replaced by a project vary based on land use, land characteristics, and whether the project qualifies as a new development or redevelopment activity.

3.1.6.2 Analysis of Project Effects and Determination as to Significance

The identified significance thresholds for hydrology and water quality impacts are based on criteria provided in County Guidelines for Determining Significance–Surface Water Quality, and County Guidelines for Determining Significance–Hydrology. A project will generally be considered to have a significant effect if it proposes any of the following. Conversely, if a project does not propose any of the following, it will generally not be considered to have a significant effect on hydrology.

A significant impact to hydrology and water quality would result if any of the following would occur:

- The project will substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

- The project will increase water surface elevation in a watercourse within a watershed equal or greater than one square mile, by one foot or more in height and in the case of the San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River, and Otay River, two-tenths of a foot or more in height.

- The project will result in increased velocities and peak flow rates exiting the project site that would cause flooding downstream or exceed the storm water drainage system capacity serving the site.

- The project will result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map, or County Alluvial Fan Map, which would subsequently endanger health, safety, and property due to flooding.

- The project will place structures within a 100-year flood hazard or alter the floodway in a manner that would redirect or impede flow resulting in any of the following:

    a. Alter the Lines of Inundation resulting in the placement of other housing in a 100 year flood hazard; OR

    b. Increase water surface elevation in a watercourse with a watershed equal to or greater than one square mile by one foot or more in height and in the case of the San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River and Otay River two-tenths of a foot or more in height.

- The project is a development project listed in the County, Code of Regulatory Ordinances (Regulatory Ordinances), Section 67.804(g), as amended and does not

comply with the standards set forth in the County Stormwater Standards Manual, Regulatory Ordinances Section 67.813, as amended, or the Additional Requirements for Land Disturbance Activities set forth in Regulatory Ordinances, Section 67.

- The project would drain to a tributary of an impaired water body listed on the CWA Section 303(d) list, and will contribute substantial additional pollutant(s) for which the receiving water body is already impaired.

- The project would drain to a tributary of a drinking water reservoir and will contribute substantially more pollutant(s) than would normally runoff from the project site under natural conditions.

- The project will contribute pollution in excess of that allowed by applicable state or local water quality objectives or will cause or contribute to the degradation of beneficial uses.

- The project does not conform to applicable federal, state or local "Clean Water" statutes or regulations including but not limited to the Federal Water Pollution Control Act, California Porter-Cologne Water Quality Control Act, and the County Watershed Protection, Stormwater Management, and Discharge Control Ordinance.

3.1.6.2.1 Drainage and Landform Alteration

Guideline for the Determination of Significance

A significant impact would occur if the project would:

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in adverse impacts from erosion or siltation on or off site.

- Increase water surface elevation in a watercourse within a watershed equal or greater than one square mile, by one foot or more in height and in the case of the San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River, and Otay River, two-tenths of a foot or more in height.

- Result in increased velocities and peak flow rates exiting the project site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site.

Analysis

The major hydrological feature in the vicinity of the Proposed Project site is Agua Hedionda Creek, which is located approximately 4,500 feet north of the Airport. Therefore, the project would not directly alter Agua Hedionda Creek or its existing drainage pattern, nor would it substantially alter the existing on-site drainage patterns in a manner that would result in substantial erosion or siltation on- or off-site. Therefore, this impact would be less than significant. Similarly, the Proposed Project does not include any improvements or discharges that would result in increasing the water surface elevation of Agua Hedionda Creek or

associated tributaries within the watershed. Therefore, this would also result in less than significant impacts. Runoff from the Proposed Project would flow into existing drainages and other primary discharge points. The Proposed Project would be required to meet the existing peak discharges, which may require detaining storm water on-site.

As individual improvements are proposed under this PEIR and Airport Master Plan Update, the engineering design process will include an evaluation of anticipated storm flows and design features to ensure increased velocities and peak flow rates exiting the project site would not result in flooding downstream or exceed the storm water drainage system. Therefore, this would result in a less than significant impact. Project design of the public infrastructure to be improved by the County would be developed consistent with the following guidance:

- Prior to any development, engineering design plans shall be prepared in accordance with the San Diego County Grading, Clearing, and Watercourse Ordinances and be consistent with the San Diego County Hydraulic Design Manual dated September 2014 (or current update) that will address all grading and drainage improvements necessary to accommodate the Proposed Project. This shall include any storm water detention system and outlet drainage facilities necessary to accommodate the improvements.
- The County shall implement permanent site design, storm water treatment, and/or hydromodification management techniques as applicable to reduce storm water runoff rates and duration consistent with County BMP Design Manual. This will provide a reduction in storm water runoff rates to achieve no net increase in flow rates discharged from the project site. Storm water runoff reduction shall be accomplished by strategic placement of storm water management techniques throughout the project site to mimic the natural flow regime and capture any net increase in runoff through increased infiltration.

3.1.6.2.2 Flood Hazard

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- Place housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map, or County Alluvial Fan Map, which would subsequently endanger health, safety, and property due to flooding.
- Place structures within a 100-year flood hazard or alter the floodway in a manner that would redirect or impede flow resulting in any of the following:
    - Alter the Lines of Inundation resulting in the placement of other housing in a 100-year flood hazard; OR
    - Increase water surface elevation in a watercourse with a watershed equal to or greater than one square mile, by one foot or more in height.

Analysis

The Proposed Project is not located within a 100-year flood hazard area as shown on a FIRM or local floodplain map, nor does it include development of housing or other habitable structures located within the floodplain. Therefore, the Proposed Project would not endanger health, safety, or property due to flooding-related development, nor would it impact the floodway by altering the lines of inundation or increasing the water surface elevation. As such, the Proposed Project would result in less than significant impacts related to housing or other structures within a FEMA 100-year flood hazard area.

3.1.6.2.3 Water Quality – Regulatory Compliance

Guideline for the Determination of Significance

A significant impact would occur if the project would:

- The project is a development project listed in County of San Diego, Code of Regulatory Ordinances (Regulatory Ordinances), Section 67.804(g), as amended and does not comply with the standards set forth in the County Stormwater Standards Manual, Regulatory Ordinances Section 67.813, as amended, or the Additional Requirements for Land Disturbance Activities set forth in Regulatory Ordinances, Section 67.

- The project does not conform to applicable federal, state or local "Clean Water" statutes or regulations including but not limited to the Federal CWA, California Porter-Cologne Water Quality Control Act, and the County Watershed Protection, Stormwater Management, and Discharge Control Ordinance.

Analysis

In accordance with the reissued MS4 Permit (Order No. R9-2015-0001) and the County's BMP Design Manual, it is anticipated that individual elements of the Master Plan Update could potentially qualify as Priority Development Projects, depending on type and size of each future development. While the Airport Master Plan Update serves as a useful tool for planning and project funding purposes during a 20-year period, implementation of individual projects is dependent on available funding and current priorities. At this time, the County presumes several of the elements under the Master Plan Update as identified on the ALP may individually (and collectively) exceed the typical 5,000 square-foot threshold (as identified in the County BMP Design Manual) and qualify as Priority Development Projects. Specifically, this is anticipated to include, but is not limited to, installation of the service road, EMAS, and runway extension. As such, each future development will be reviewed under the County BMP Design Manual (or current policies and regulations) to determine its level of stormwater compliance requirements, and project-specific Storm Water Quality Management Plans may be required when these activities are proposed.

Construction activities could have the potential to result in erosion leading to sediment-laden discharges to nearby water resources, and sediment transport to drainages could result in degradation to water quality. Similarly, fuels, oils, lubricants, and other hazardous substances used during construction could be released and impact surface runoff. The release of sediment

and other substances from the project site can be controlled through the use of appropriate erosion control devices as required by regulations summarized above. BMPs will be implemented to address water quality impacts during the planning and design, construction, and operational and maintenance stages. At the planning and design phase, BMPs will be implemented by the design engineer or architect designing the project. At the construction phase, BMPs will be implemented by the construction contractor responsible for the work. At the operational and maintenance phase, BMPs will be implemented and maintained by the County (for public infrastructure) and individual developers (for private development). The SWPPP would describe construction methods and BMPs necessary to ensure that water quality is protected in and around a construction project. The SWPPP, and the BMPs it describes, will be implemented by the construction contractor during construction of the project. Implementation of a SWPPP and the construction BMPs in accordance with the project plans and specifications, which are in compliance with federal, state, and local regulations, would reduce potential water quality construction impacts to less than significant.

During operation conditions (i.e., post-construction), different types of BMPs will be installed to ensure long-term protection of water quality within the project area. These will include site design, source control, and treatment control BMPs:

- Site Design BMPs – BMPs that create a hydrologically functioning project design that attempt to mimic the natural hydrologic regime. Examples include reducing imperviousness, conserving natural resources, and providing runoff storage measures dispersed uniformly throughout a site's landscape with the use of a variety of detention, retention and runoff practices.

- Source Control BMPs – BMPs that are incorporated during site planning and approval, consistent with applicable General Plan policies and other development regulations. Examples include storm drain system stenciling and signage and design of trash storage areas to reduce pollution introduction.

- Treatment Control BMPs – BMPs designed to remove specific pollutants from the storm water conveyance system to the maximum extent practicable. These BMPs are focused on the site-specific pollutants generated by the project. Treatment Control BMPs include biofilters, detention basins, infiltration basins, wet ponds/wetlands, drainage inserts, filtration, and hydrodynamic separator systems.

As individual activities are proposed under this PEIR and Airport Master Plan Update, they will be evaluated to ensure full compliance with the standards set forth by the County, including all applicable regulatory ordinances. To reduce the potential impacts to water quality, individual activities would also be required to comply with the SWRCB Construction General Permit and the NPDES Municipal Permit, as applicable, thereby conforming to applicable federal, state, or local "Clean Water" status or regulations. Implementation of these measures would comply with state and federal water quality regulations and reduce potential water quality impacts to less than significant.

3.1.6.2.4 Water Quality – Contribution of Pollutants

Guideline for the Determination of Significance

A significant impact would occur if the project would:

- Drain to a tributary of an impaired water body listed on the CWA Section 303(d) list, and will contribute substantial additional pollutant(s) for which the receiving water body is already impaired.

- Drain to a tributary of a drinking water reservoir and will contribute substantially more pollutant(s) than would normally runoff from the project site under natural conditions.

- Contribute pollution in excess of that allowed by applicable state or local water quality objectives or will cause or contribute to the degradation of beneficial uses.

Analysis

The Airport is partially located within the hydrologic unit of Agua Hedionda Creek, which is classified as a CWA Section 303(d) listed water body under Category 5 associated with toxicity, pesticides, and nutrients (WBID No. CAR9043100020010924145051). While runoff from the Proposed Project site does not directly discharge into Agua Hedionda Creek, construction of the Proposed Project may have the potential to affect water quality, if not managed, as a result of sedimentation and polluted storm water runoff. Similarly, fuels, oils, and other hazardous substances used during construction or future operation of aviation uses at the Proposed Project site could be released and impact surface water quality. However, proper management of sediment and pollution control measures will be implemented prior to the construction of future development. Water quality impacts would be minimized through incorporation of the project design features, and through the implementation of a SWPPP prepared by the County and each private project developer, as applicable. In accordance with the NPDES permit, the SWPPP will ensure that adequate BMPs will be applied. Although runoff may have the potential to ultimately reach Agua Hedionda Creek, the Proposed Project would not contribute substantial additional pollutants as the appropriate BMPs would be implemented to control runoff prior to entering the drainage system. Therefore, the Proposed Project would have a less than significant impact.

3.1.6.3 Cumulative Impact Analysis

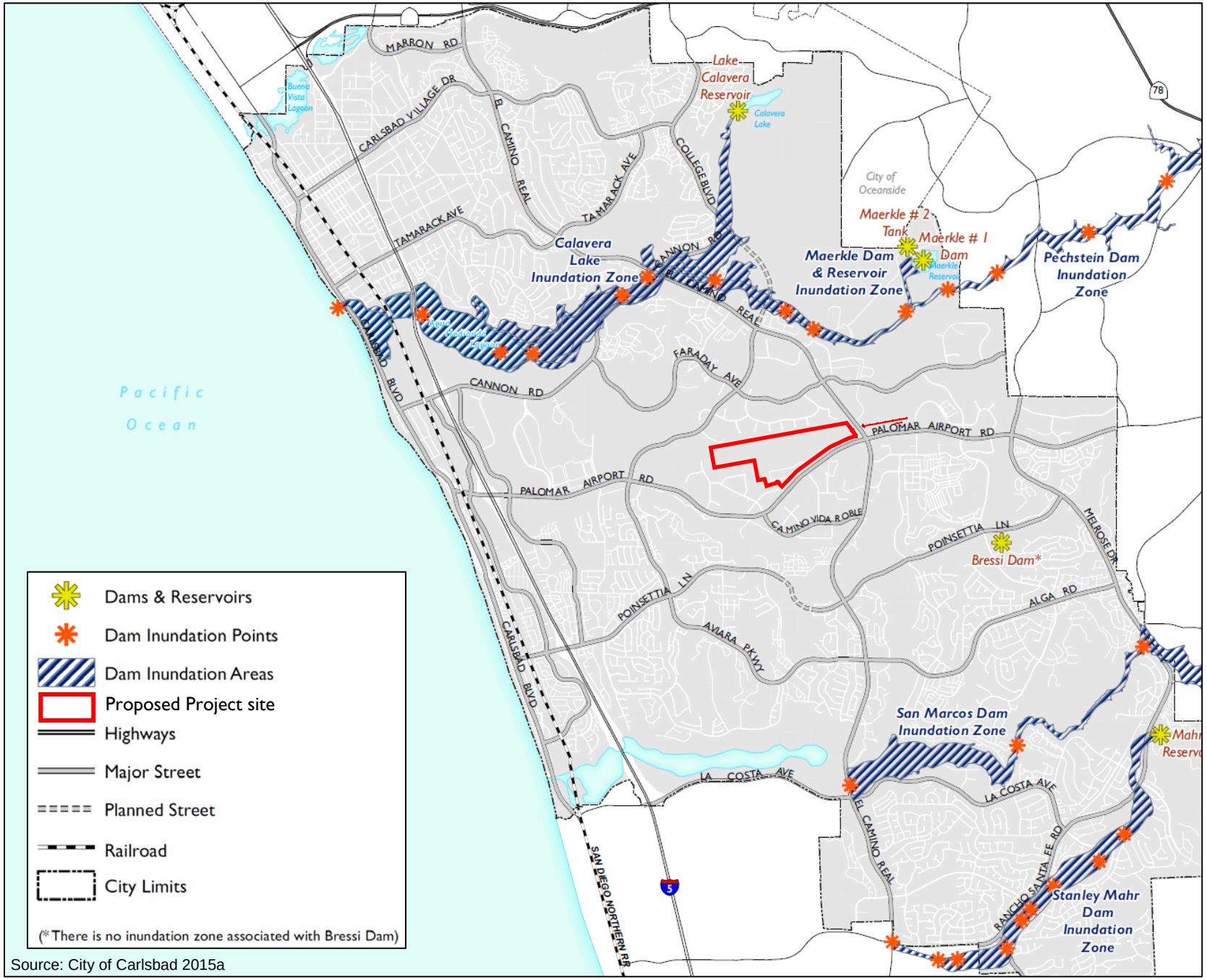
Each individual project identified in the cumulative project list (Table 1-4) is required to address individually-generated construction and post-construction runoff in order to comply with the Federal CWA and the State's Porter-Cologne Water Quality Control Act. Adherence to the regulations governed by jurisdictional agencies substantially reduces the cumulative impacts of multiple projects on water quality, including potential violations to water quality standards and waste discharge requirements. Each of the identified cumulative projects will also be required to prepare a SWPPP per the NPDES under the CWA. These SWPPPs will ensure that adequate BMPs are used for each of the projects to minimize water quality impacts. Given current regulations, each project would be constructed and managed in accordance with regional requirements which typically require acquisition of discharge permits and the use of BMPs to

limit erosion, control sedimentation, and reduce pollutants in runoff. Therefore, the cumulative impact to hydrology and water quality would be less than significant.

3.1.6.4 Conclusion

The Proposed Project would not pose a flood hazard nor would directly alter a natural waterway or its existing drainage pattern. Although the Proposed Project would introduce impervious surfaces in an area that was previously permeable, project design features would be incorporated that would reduce the potential to create or contribute to runoff that may exceed the capacity of existing water drainage systems. Therefore, the Proposed Project would result in a less than significant impact to hydrology.

The Proposed Project could result in impacts related to sedimentation and pollution of storm water during construction of the Proposed Project; however, implementation of the identified project design features would reduce the potential to result in runoff that would exceed water quality standards established by federal, state, and local regulations. Therefore, the Proposed Project would result in a less than significant impact to water quality.

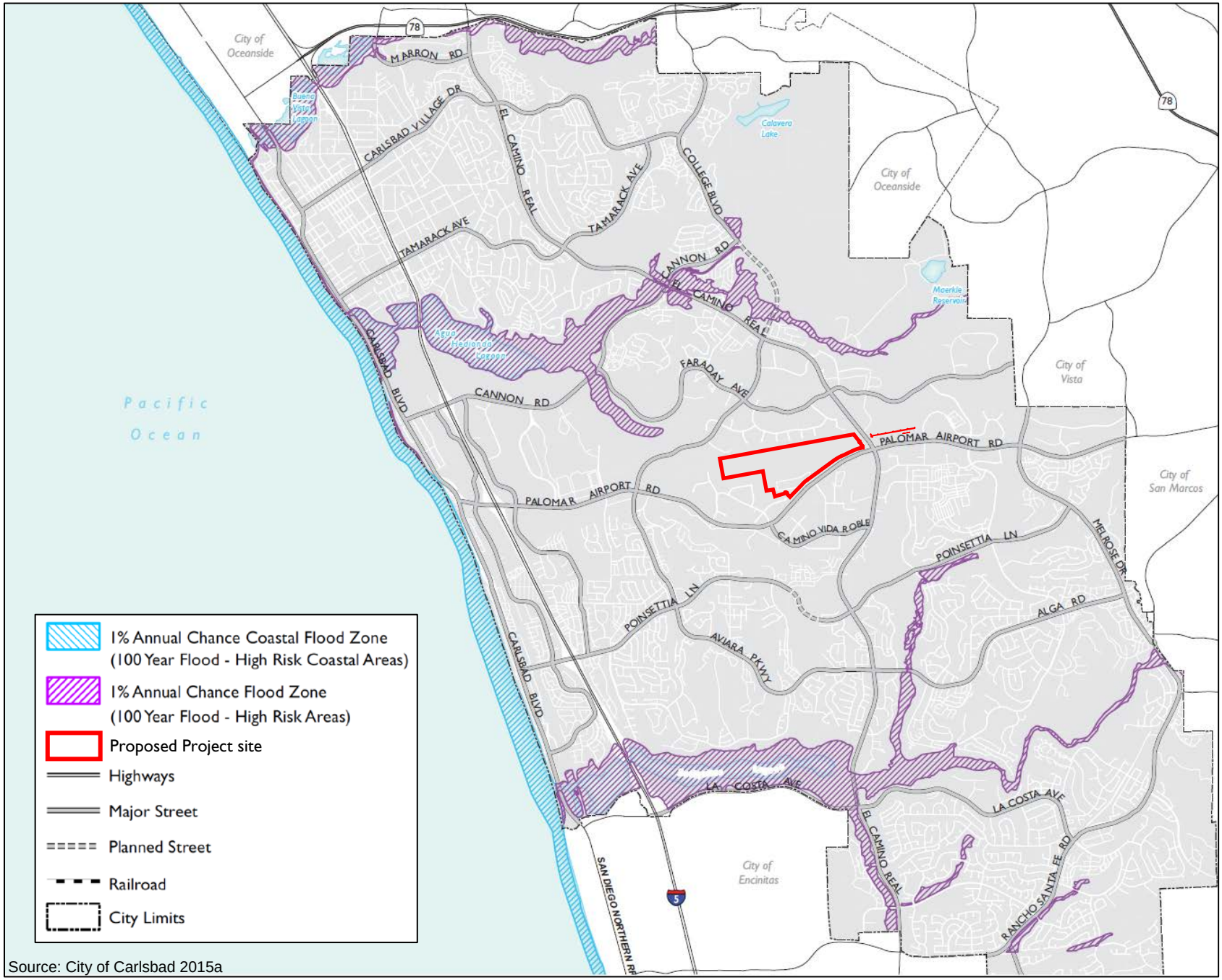


Source: City of Carlsbad 2015a

McClellan-Palomar Airport Master Plan Update
Program EIR

Dam Inundation Zone
Figure 3.1.6-1

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Source: City of Carlsbad 2015a

McClellan-Palomar Airport Master Plan Update
Program EIR

Floodplains
Figure 3.1.6-2

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3.1.7 Land Use and Planning

The following analysis describes existing land uses and policies associated with the Proposed Project site and within its vicinity. It identifies guidelines and evaluates the Proposed Project's potential land use impacts. The Proposed Project's consistency with adopted plans has also been evaluated in other sections of this PEIR, as applicable (e.g., traffic, air quality, noise, and biology). These evaluations are cross-referenced in this section where appropriate.

As discussed in Chapter 1 of this PEIR, the County has decided not to propose Airport Master Plan Update development at this time at the 17-acre vacant site located at the northeast corner of Palomar Airport Road and El Camino Real. Therefore, this PEIR only focuses on Airport Master Plan Update improvements at the active airfield site and associated shift in the MALSR on the Eastern Parcel, and the PEIR does not analyze effects associated with the aforementioned vacant 17-acre site.

3.1.7.1 Existing Conditions

The County-owned Airport is located approximately 30 miles north of downtown San Diego within the municipal limits of the City of Carlsbad. The main highway access to the Airport is provided by I-5, which traverses north to south through the City of Carlsbad. The Airport is generally bounded by El Camino Real to the east, Palomar Airport Road to the south, the Crossings at Carlsbad golf course to the west, and commercial and industrial buildings to the north. The primary point of entry into the Airport is Yarrow Drive, but the Airport can also be accessed on Owens Avenue.

The Airport has been owned and managed by the County since 1959. As it relates to the land use authority, whenever possible and consistent with the County's obligations to the federal government as a grant recipient, the County will endeavor to voluntarily seek approvals from the City of Carlsbad and require its tenants and contractors to seek approvals from the City as a means of coordinating airport development with City land use requirements. The County, however, has immunities from City of Carlsbad ordinances (e.g., building and zoning) and cannot waive those immunities without risking a violation of its federal sponsor assurances[16]. To the extent immunities have been waived, City of Carlsbad's approval may be sought, but the County reserves the right to reassert immunities, federal preemption, or other legal theories when necessary to remain compliant with federal sponsor assurances or implement County objectives.

While these immunities apply to projects by the County and other public agencies, they can also apply to projects by airports lessees and contractors[17]. As such, depending on the development proposed, future private development at the Airport may be subject to discretionary review by the City of Carlsbad; however, the County maintains land use authority over public improvements such as the Airport. Typically, private development would be required to obtain building and grading permits from the City of Carlsbad and follow policies and ordinances where applicable.

[16] See, Govt. Code § 53090, et seq. & FAA Sponsor Assurances, Assurance No. 5
[17] See, Bame v. City of Del Mar (2001) 86 cal. App. 4th 1350

As shown in Table 3.1.7-1, County-owned Airport property is comprised of five parcels totaling approximately 454 acres. However, the main Airport parcel (APN 213-020-18) is bifurcated by Palomar Airport Road, and its southern portion (20.43 acres) is not included in the Proposed Project since no improvements are identified by the Airport Master Plan Update. The County also owns a vacant 203-acre parcel located east of El Camino Real, of which 18.8 acres were studied for potential impacts associated with potential shifts in the FAA-owned MALSR navigational lighting structures since it is a potentially foreseeable action associated with the Master Plan Update. However, because the shift of the existing MALSR navigational lighting structures would not alter the current or planned land use, this section of the PEIR only addresses land use and planning analysis associated with the approximately 231-acre active airfield. Refer to Figure 1-6 for an illustration of the Proposed Project site in relation to other County-owned Airport property.

Table 3.1.7-1. County-owned Land

Parcel	Land Use	Acreage	Airport Master Plan Update PEIR (Proposed Project)
West of El Camino Real			
213-020-18	Airport Property	241.06	--
	(Active Airfield)	(220.63)	Included
	(Offsite Ground lease issued for non-airport Commercial & Retail)	(-20.43)	Not Included
212-093-06	Airport Parking (contiguous with active airfield)	2.06	Included
212-093-07		2.19	
212-093-08		5.65	
	Subtotal	***250.96***	
Master Plan Update (Proposed Project)		**230.53 (excludes non-Airport commercial & retail)**	
East of El Camino Real			
209-050-25	Airport Property	203.05	--
	(Conservation Easement)	(108.40)	Not Included
	(Vacant) [1]	(83.67)	Partially Included (0.7 acre for MALSR navigational lighting system)
	(Industrial / Waste Disposal)	(10.98)	Not Included
	Subtotal	***203.05***	
Master Plan Update (Proposed Project)		**Approx. 232 (230.53 + 0.7)**	
TOTAL (all Airport-owned property)		454.01 (250.96 + 203.05)	

[1] An existing MALSR lighting system, which is owned, operated, and maintained by the FAA, is located within 83.67 acres of vacant property east of El Camino Real.

An inactive solid waste landfill was historically located at the Airport. The landfill was operated by the County as a municipal solid waste disposal facility beginning in 1962 until 1975. As discussed in Chapter 2.3, Hazards and Hazardous Materials, the landfill was graded, capped, and methane (CH_4) extraction facilities were installed along with monitoring wells. The landfill is divided into three units. Unit 1 is located in the central portion of the Airport in a paved area used for airplane hangars and parking. Unit 2 is located approximately 800 feet east/northeast

of Unit 1 in a paved area, currently used for aircraft parking. Unit 3 is located at the eastern terminus of the runway on the far eastern portion of the Airport in a grass covered, vacant area. See Figure 2.3-1 for approximate limits of the inactive landfill cells underneath the airfield.

3.1.7.1.1 Existing Land Uses

On-Airport Uses

The existing 231-acre active airfield is used for aviation-related activities and supports one runway, helicopter operating areas, ATCT, terminal/administration buildings, aircraft parking aprons, aircraft storage spaces, aircraft hangars, as well as other buildings used for private companies and support facilities.

Adjacent Uses

Existing uses adjacent to the Proposed Project site include industrial buildings to the north and the Crossings at Carlsbad golf course to the west. The Airport is bounded to the south by Palomar Airport Road, and further south lies additional industrial and commercial buildings. The Airport is bounded to the east by El Camino Real, and further east lies a County-owned parcel that contains a mixture of existing industrial uses, vacant fallow lands, and existing open space granted to the City under a conservation easement[18]. As noted in Section 2.2, County-owned land east of El Camino Real and north of Palomar Airport Road is known as the Eastern Parcel, which contains an existing MALSR navigation lighting system that is a potentially foreseeable action associated with the Master Plan Update.

3.1.7.1.2 Relevant Policies, Ordinance, and Adopted Plans

Federal Requirements

Federal guidance includes Federal Aviation Regulations Part 77 (*Safe, Efficient Use, and Preservation of the Navigable Airspace*) which establishes standards for determining obstructions to navigable airspace and the effects of such obstructions on the safe and efficient use of that airspace; and FAA AC 150/5300-13 which establishes standards for dimensions and other features of airport runways, taxiways, and the RPZ.

FAA Order 5190.6B FAA Airport Compliance Manual, Grant Assurance 22a states that the County:

> "Will make [the] airport available as an airport for public use on reasonable terms, and without unjust discrimination, to all types, kinds, and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport."

In other words, the County has no authority over the quantity, type, or flight track of an aircraft arriving or departing from the Airport, which are under the jurisdiction of the FAA. Federal

[18] Conservation Easement Deed #2004-1123441 was authorized by the County Board of Supervisors on June 23, 2004 (08) and subsequently approved on October 14, 2004. Document was recorded on November 30, 2004.

Aviation Regulations and the County's acceptance of federal funding obligate the Airport to be made available for public use.

State and Local Requirements

Airport Land Use Compatibility Plan

In 1967, the State of California enacted the State Aeronautics Act (Division 9, Part I of the California Public Utilities Code (commencing with Section 21001) requiring the formation of an ALUC in each county containing a public airport (Section 21670 of the California Public Utilities Code, et seq.). The State Aeronautics Act requires that every county in California with an airport operated for the benefit of the general public create an ALUC responsible for conducting airport land use compatibility planning and preventing the creation of new noise and safety problems in the vicinity of public-use airports. Caltrans prepared the *California Airport Land Use Planning Handbook* (2011) to provide guidance to ALUCs in preparing ALUCPs.

The SDCRAA performs the responsibilities of the ALUC for 16 public-use and military airports within San Diego County (Public Utilities Code Section 170002, et seq.) As part of that responsibility, the SDCRAA has prepared and adopted an ALUCP for the McClellan-Palomar Airport. Each ALUCP may include measures specifying land use, height restrictions, and building standards. The ALUCP is required to use and be based on the long-range master plan or Airport Layout Plan (ALP) for an airport (Public Utilities Code Section 21675). Cities and Counties with land use jurisdiction for areas around airports are required to ensure their general and specific plans are consistent with the ALUCP. The authority of cities and counties to adopt land use plans that are inconsistent with an ALUCP is constrained by State law. (Government Code Section 65302.3 & Public Utilities Code Section 21675.)

The current ALUCP for the Airport was adopted on January 25, 2010 and amended twice on March 4, 2010 and December 1, 2011. In accordance with State Law, General Plan Guidelines (California Government Code Subsection 65302(f) and 65302.3) explicitly require local land use authorities (in this case, City of Carlsbad and the County) to either modify their respective general plans, specific plans and ordinances (including zoning designations) to be consistent with the ALUCP or to take special steps to overrule the findings of the ALUC.

The purpose of the Airport's ALUCP is to ensure compatibility between future land uses (or changes to existing land uses) and the operation and/or improvements to the Airport. One function of the ALUCP is to address existing and future noise levels and how the surrounding land uses may be impacted. The ALUCP identifies an Airport Influence Area (AIA) that designates the general area in which current and future airport-related noise, overflight, safety, and/or airspace protection factors may affect land uses or necessitate restrictions on the uses. Implementation of the ALUCP is intended to reduce the adverse impacts from aircraft noise, limit the increase in the number of people exposed to airport approach hazards, and ensure that no structures are erected that are deemed by the FAA to be hazards.

California Public Utilities Code

In accordance with the Section 21664.5 of the California Public Utilities Code, the County would seek an amended Airport Permit from Caltrans, Division of Aeronautics (as a responsible agency) to include the Master Plan Update improvements in the continued operation of the Airport. The current Airport Permit was issued on November 7, 2005.

County of San Diego - General Plan

The County of San Diego General Plan includes requirements for land use compatibility for County airports as stated in the following goals and policies, including the Mobility, Safety, Land Use, and Noise Elements (County 2015):

Mobility Element

- Goal M-7 Airport Facilities. Viable and accessible airport facilities whose continuing operations effectively serve the evolving needs of the region while minimizing any adverse impacts of airport operations.

  Policy M-7.1 – Meeting Airport Needs. Operate and improve airport facilities to meet air transportation needs in a manner that adequately considers impacts to environmental resources and surrounding communities and to ensure consistency with ALUCPs.

Safety Element

- Goal S-15 Airport Zone Hazards. Development within airport hazard zones that minimize the risk of personal injury to both flight occupants and people and property damage on the ground as well as protect airport operations from incompatible land uses.

  Policy S-15.1 – Land Use Compatibility. Require land uses surrounding airports to be compatible with the operation of each airport.

  Policy S-15.2 – Airport Operational Plans. Require operational plans for new public/private airports and heliports, as well as future operational changes to existing airports, to be compatible with existing and planned land uses that surround the airport facility.

  Policy S-15.3 – Hazardous Obstructions within Airport Approach and Departure. Restrict development of potentially hazardous obstructions or other hazards to flight located within airport approach and departure areas or known flight patterns and discourage uses that may impact airport operations or do not meet Federal or State aviation standards.

  Policy S-15.4 – Private Airstrip and Heliport Location. Locate private airstrips and heliports outside of safety zones and flight paths for existing airports where they are compatible with surrounding established and planned land uses, and in a manner to avoid impacting public roadways and facilities.

Land Use Element

- Goal LU-4 Inter-jurisdictional Coordination. Coordination with the plans and activities of other agencies and tribal governments that relate to issues such as land use, community character, transportation, energy, other infrastructure, public safety, and resource conservation and management in the unincorporated County and the region.

  Policy LUE-4.7 –ALUCPs. Coordinate with the ALUC and support review of ALUCP for development within AIAs.

Noise Element

- Goal N-1 Land Use Compatibility. A noise environment throughout the unincorporated County that is compatible with the land uses.

  Policy N-1.4 – Adjacent Jurisdiction Noise Standards. Incorporate the noise standards of an adjacent jurisdiction into the evaluation of a proposed project when it has the potential to impact the noise environment of that jurisdiction.

  Policy N-1.5 Regional Noise Impacts. Work with local and regional transit agencies and/or other jurisdictions, as appropriate, to provide services or facilities to minimize regional traffic noise and other sources of noise in the County.

- Goal N-4 Transportation-Related Noise Generators. A noise environment that reduces noise generated from traffic, railroads, and airports to the extent feasible.

  Policy N-4.9 – Airport Compatibility. Assure the noise compatibility of any development projects that may be affected by noise from public or private airports and helipads during project review by coordinating, as appropriate, with appropriate agencies such as the SDCRAA and the FAA.

City of Carlsbad – Growth Management Plan

In 1986, Carlsbad residents voted to pass the Growth Management Plan, which put conditions on how growth could occur throughout the City while maintaining the right mix of commercial, industrial, recreation, open space, and infrastructure. It ensures the City maintains an excellent quality of life with sufficient parks, libraries, roads, open space, and important city infrastructure and services as the city grows. Under the Growth Management Plan, development can only occur when certain quality of life standards are met. Specifically, the Citywide Facilities and Improvement Plan was adopted to establish performance standards for eleven types of public facilities, including transportation and fire response. Subsequently, the city was divided into 25 subareas with a unique Local Facilities Management Plan (LFMP) for each subarea. McClellan-Palomar Airport is located within LFMP Zone 5.

County of San Diego, Board of Supervisors: Policy F-44

The County Board of Supervisors are charged with the responsibility of establishing policy to guide the various functions of the County and, where necessary, to establish procedures by

which functions are performed. As such, the Board of Supervisors adopted Policy F-44, Development of McClellan-Palomar Airport, which establishes guidelines for the operation and development of the Airport. This policy was originally adopted on October 9, 2002 and has been continued several times, most recently on December 14, 2016.

McClellan-Palomar Airport Master Plan Update and Airport Layout Plan

The primary goal of an airport master plan is to identify short-term, intermediate-term, and long-term improvements that enhance the airport's safety, maximizes efficiency, promotes sustainability and economic stability, and is environmentally conscious while being attentive to the needs of not only the airport, but to the community that it serves. The most recent Master Plan for the Airport was prepared in 1997, which served a planning period from 1995–2015. As discussed in Chapter 1, the proposed Airport Master Plan Update was prepared in accordance with FAA guidelines (FAA AC 150/5070-6B) and will provide the next 20-year strategy to prioritize projects at the Airport that provide safety and operational enhancements. The Airport Master Plan Update uses technical studies, forecast data, FAA-design engineering standards, and public involvement to support the modernization of the Airport while maximizing use of existing airport property.

An ALP is a set of drawings that depict a range of conceptual facility improvements at an airport as anticipated by an airport master plan. Information included on an ALP include runway details and data, approach and departure profiles, airspace protection surfaces, obstruction information, land use information and airport property maps. ALPs must be approved by the FAA prior to implementation. The most recent ALP for the Airport was conditionally approved by FAA on July 12, 2010. As part of the proposed Airport Master Plan Update, the ALP would be revised to depict anticipated improvements in the 20-year planning period (2016–2036).

City of Carlsbad, General Plan

Although the County owns the Airport land, private development may need to comply with City of Carlsbad regulations. As noted in Sections 1.3 and 3.1.7.1, whenever possible and consistent with the County's obligations to the federal government as a grant recipient, the County will endeavor to voluntarily seek approvals from the City of Carlsbad and require its tenants and contractors to seek approvals from the City as a means of coordinating airport development with City land use requirements. The County, however, has immunities from City of Carlsbad ordinances (e.g., building and zoning) and cannot waive those immunities without risking a violation of its federal sponsor assurances[19]. To the extent immunities have been waived, City approval may be sought, but the County reserves the right to reassert immunities, federal preemption, or other legal theories when necessary to remain compliant with federal sponsor assurances or implement County objectives. While these immunities apply to projects by the County and other public agencies, they can also apply to projects by airports lessees and contractors[20].

[19] See, Govt. Code § 53090, et seq. & FAA Sponsor Assurances, Assurance No. 5
[20] See, Bame v. City of Del Mar (2001) 86 cal. App. 4th 1350

The City's General Plan – most recently updated and approved on September 22, 2015 – is the main planning document for the City and provides the goals, objectives, and policies to achieve desired community needs through a coordinated implementation project. The General Plan identifies land use designations of "Public" for the Airport (i.e., active airfield), and "Open Space" and "Planned Industrial" for the Eastern Parcel. Regarding zoning, the General Plan has the Airport zoned as "Industrial", and the Eastern Parcel zoned as "Open Space" and "Planned Industrial" (City of Carlsbad 2015b).

Similar to the County's General Plan, the City General Plan is comprised of several elements that address the Airport, including the Land Use and Community Design, Mobility, Noise, and Public Safety Elements.

Land Use and Community Design Element

- Goal 2-G.13: Maintain land use compatibility between McClellan-Palomar Airport and surrounding land uses, and encourage the airport's continued operations while ensuring it does not unduly impact existing neighborhoods and communities.

- Policy 2-P.37: Require new development located in the AIA to comply with applicable land use compatibility provisions of the McClellan–Palomar ALUCP through review and approval of a site development plan or other development permit. Unless otherwise approved by City Council, development proposals must be consistent or conditionally consistent with applicable land use compatibility policies with respect to noise, safety, airspace protection, and overflight notification, as contained in the McClellan-Palomar ALUCP. Additionally, development proposals must meet FAA requirements with respect to building height as well as the provision of obstruction lighting when appurtenances are permitted to penetrate the transitional surface (a 7:1 slope from the runway primary surface). Consider the SDCRAA ALUC recommendations in the review of development proposals.

- Policy 2-P.38: Coordinate with the SDCRAA ALUC, and the FAA to protect public health, safety and welfare by ensuring the orderly operation of the airport and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around the airport.

- Policy 2-P.39: Prohibit approval of any zone change, general plan amendment or other legislative action that authorizes expansion of McClellan-Palomar Airport, unless authorized to do so by a majority vote of the Carlsbad electorate. (Section 21.53.015, Carlsbad Municipal Code.)

Mobility Element

- Policy 3-P.44: Work with the County and other agencies to ensure continued safe and efficient operation of the McClellan-Palomar Airport, consistent with the Carlsbad Community Vision and existing city policy.

Noise Element

- Goal 5-G.4: Ensure long-term compatibility between the airport and surrounding land use.

- Policy 5-P.7: Mitigation Cost. The City of Carlsbad shall not fund mitigation of existing or future noise impacts from streets, railroad, airport or any other source for existing or future private development within the city.

- Policy 5-P.12 Use the noise policies in the McClellan-Palomar ALUCP to determine acceptability of a land use within the AIA as depicted in the ALUCP. Additional disclosure actions for new development in the AIA, such as avigation easements, deed restrictions, recorded notice, etc., are required of developers/sellers of noise impacted residential units.

- Policy 5-P.13 For projects within the AIA, utilize the noise standards contained in the McClellan-Palomar ALUCP, as well as the noise standards contained in this element. However, reserve the right to overrule the ALUCP as provided for in State Public Utilities Code Section 21676.

- Policy 5-P.14 Recognize that procedures for the abatement of aircraft noise have been identified in the Fly Friendly Program for McClellan-Palomar Airport. The city expects the widespread dissemination of, and pilot adherence to, the adopted procedures.

- Policy 5-P.15 Expect the airport to control noise (to the extent of its limited authority granted by the FAA to indirectly regulate aircraft noise through airport design and scheduling) while the city shall control land-use thus sharing responsibility for achieving and maintaining long-term noise/land-use compatibility in the vicinity of McClellan-Palomar Airport.

- Policy 5-P.16 Require new nonresidential development to comply with the noise compatibility criteria in the ALUCP. Require dedication of avigation easements for new developments designated as conditionally compatible for noise in the ALUCP, and which are located within the 65 dB CNEL noise contour as mapped on Figure 5-4: Airport Noise Compatibility Policy Map.

Public Safety Element

- Goal 6-G.2: Minimize safety hazards related to aircraft operations in areas around the McClellan-Palomar Airport.

- Policy 6-P.18: Ensure that development in the McClellan-Palomar AIA is consistent with the land use compatibility policies contained in the McClellan-Palomar ALUCP.

City of Carlsbad Municipal Code 21.95 (Hillside Development Regulations)

Title 21 (Zoning) Section 21.95 of the City of Carlsbad Municipal Code is intended to (1) implement the goals and objectives of the land use and open space/conservation elements of the Carlsbad general plan; (2) assure hillside conditions are properly identified and incorporated into the planning process; (3) preserve and/or enhance the aesthetic qualities of nature hillsides and manufactured slopes by designing projects which relate to the slope of the land, minimizing

the amount of project grading, and incorporating contour grading into manufactured slopes which are located in highly visible public locations; and (4) assure that the alteration of natural hillsides will be done in an environmentally sensitive manner whereby lagoons and riparian ecosystems will be protected from increased erosion and no substantial impacts to natural resource areas, wildlife habitats, or native vegetation areas will occur.

El Camino Real Corridor Development Standards

The El Camino Real Corridor Development Standards were adopted in 1984 to further the goals of the then-existing Land Use and Scenic Highways Elements of the Carlsbad General Plan to preserve unique City resources as they relate to highways. The standards provide a general design concept for the entire length of the El Camino Real right-of-way, and establish development restrictions for private properties fronting the roadway. The design concept is an easily identifiable homogenous corridor that capitalizes on the distinct design characteristics of five distinct subareas. The standards include design guidelines emphasizing retention of natural topography; right-of-way standards for landscaping, street lighting, signage, and furniture; and private frontage standards for design theme, medians, sidewalks, signage, building height and setback, grading, street furniture and lighting, roofing, and land use.

City of Carlsbad Landscape Manual

The purpose of the Landscape Manual is to aid applicants, qualified professionals, and residents, in understanding the City's policies, programs and requirements for landscaping, and to provide guidance for implementation of Carlsbad Municipal Code Chapter 18.50 - WELO. The City's WELO implements the State of California Water Conservation in Landscaping Act to reduce water use associated with irrigation of outdoor landscaping by setting a maximum amount of water to be applied to landscaping and by designing, installing and maintaining water efficient landscapes not to exceed the maximum water allowance. As noted in the Landscape Manual, "this manual applies to all public and private developments which require submittal of landscape plans in conjunction with a building permit, grading permit or discretionary permit" (City of Carlsbad 2016b).

City of Carlsbad, Conditional Use Permit 172

The Airport is located on County property within the municipal limits of the City of Carlsbad and is zoned Industrial (M) pursuant to the Carlsbad Municipal Code (CMC) Title 21 "Zoning Ordinance" (Section 21.34) and consists of government (airport) facility land uses. While the County has immunities from the City's land use restrictions (See, for example, Government Code Section 53090, et seq.), the County coordinates with the City in an effort to ensure City requirements are taken into consideration. The County has historically used the City's use permit process as a vehicle to facilitate coordination and obtained Conditional Use Permit (CUP) 172 from the City on September 24, 1980. CUP-172 was voluntarily obtained by the County as a means of coordinating County Airport planning with the City.

At the time CUP-172 was obtained, the FAA used a weight-based standard to describe the design characteristics of airports. Shortly after CUP-172 was approved, the weight-based standards were replaced by an Airport Reference Code (ARC) system that primarily looks at

approach speed and airframe dimensions to develop airfield design criteria. The reference to the Airport in CUP-172 as a General Aviation Basic Transport Airport is an older weight-based classification that has become functionally obsolete as the FAA no longer uses this terminology or the methodology on which it was based to establish design criteria for airports. In any event, design criteria of the airfield are established by the FAA ~~based on the design characteristics of the most demanding aircraft regularly using an airport (referred to as "critical design aircraft")~~[21] so that the Airport's classification can change without any action being taken by the County or City. This in fact happened when the FAA replaced the General Aviation Basic Transport standard with the current ARC system.

The current ARC for the Airport as reflected in the ALP approved by the FAA on July 12, 2010 is B-II with an ultimate of C-II. CUP-172 requires the County to obtain the approval of the City's Planning Commission for any change in the status of the Airport from "General Aviation Basic Transport". In Citizens for a Friendly Airport v. County of San Diego, Case No. 37-2018-005764-CO-TT-CTL, the Court issued a judgment on January 26, 2021, finding that an amendment to CUP-172 would be required if the status of the Airport were to change from B-II to D-III. This judgment was not appealed by any party to the litigation and has become final. It is unclear whether a change to something less than D-III would trigger a need for an amendment to the "General Aviation Basic Transport" language in CUP-172.

In an effort to comply with the Court's order, whether applicable or not, the County will seek an amendment to CUP-172 for any change in the existing ARC as shown on an ALP from B-II to something greater (i.e., B-III or higher). The County will also seek a use permit amendment prior to seeking grant funds, awarding a construction contract, or taking other action to implement facility improvements needed to implement an ultimate ARC greater than B-II. The County's effort to comply with the court's order should not be interpreted as a waiver of the right to seek a determination regarding the applicability of immunities, federal preemption, or other legal theories that may limit the applicability of CUP-172 to the County. The County is required by its federal grant assurances to retain land use control and seek to regain land use control when it has been relinquished.

~~While this aspect of CUP-172 has become obsolete, the authority given to the County by CUP-172 to make changes to Airport facilities necessary to support aircraft activities and allow airlines, scheduled and non-scheduled, has provided the flexibility needed for the County to operate the Airport in accordance with federal requirements. While the County has immunities from City land use requirements, including the requirement to obtain a new CUP or amended CUP, and the County hereby asserts those immunities, the County notes that the design changes to the Airport addressed by this Master Plan Update remain consistent with the portions of CUP-172 that have not been rendered moot by the FAA.~~

The County sought and obtained an amendment to CUP-172 related to the use of three County-owned parcels as parking lots. The amendment was approved on November 3, 2004 as CUP-172(B). Given the scope of uses allowed by right pursuant to CUP-172 as amended, the County

[21] ~~As discussed in Section 1.1.1, the critical design aircraft is defined by FAA AC 150/5325-4B as the most demanding aircraft that has over 500 annual itinerant operations at an airport.~~

has ~~voluntarily~~ remained in compliance with the use permit, but reserves the rights to assert immunities or other legal theories to limit the applicability of CUP-172 to the County should it become necessary to operate the Airport in a manner consistent with federal obligations or County objectives.

City of Carlsbad Municipal Code Section 21.53.015

In addition to voluntarily seeking input from the City through the City's use permit process, the County has remained mindful of the wishes of Carlsbad residents as reflected in Carlsbad Municipal Code Section 21.53.015. In response to a proposal to expand the Airport by adding a second runway to the north, Carlsbad residents sponsored an initiative petition that, if passed, would have required a vote of the people for any expansion of the Airport. The City, on its own initiative, adopted Ordinance No. 9558 in August of 1980 to add Section 21.53.015 to the City's Municipal Code. This section provides that, "[t]he city council shall not approve a zone change, general plan amendment or any other legislative enactment necessary to authorize expansion of any airport in the city nor shall the city commence any action to spend any funds preparatory to or in anticipation of such approvals without having first been authorized to do so by a two thirds vote of the qualified electors of the city voting at an election for such purposes."

Section 21.53.015 would only be applicable if the County were to expand the Airport beyond its current boundaries and a City legislative enactment or City expenditure in support of such an expansion were required. In developing the Airport Master Plan Update, the County has voluntarily avoided any property acquisition to support the expansion of airport facilities beyond current property boundaries. There is no proposal to build a second runway or expand the existing runway outside of the existing Airport footprint. All facilities needed to support existing and forecasted aviation activities (e.g., runway, taxiways, hangars, terminal building, etc.) are proposed to remain on existing airport property. Moreover, no legislative enactment or funding is needed from the City to develop the Airport in accordance with the Airport Master Plan Update. Accordingly, Section 21.53.015 does not prevent the County from meeting the objectives of the Airport Master Plan Update.

3.1.7.2 Analysis of Project Effects and Determination of Significance

The following thresholds for land use and planning are based on criteria provided in Appendix G of the CEQA Guidelines. No adopted County Guidelines exist for land use and planning. A significant impact would result if any of the following would occur:

- The project would physically divide an established community.
- The project would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- The project would conflict with any applicable HCP or NCCP.

3.1.7.2.1 Physical Division of an Established Community

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- Physically divide an established community.

Analysis

The Airport has been owned and managed by the County in its current location since 1959. Its growth and development have been anticipated in previous Airport Master Plans prepared in 1975, 1997, and now with the current iteration. The Proposed Project includes improvements within the existing Airport property, and would not include acquisition of additional property for active aviation uses. The Proposed Project also includes relocation of the existing MALSR on adjacent County-owned land (i.e., Eastern Parcel). The Proposed Project does not propose the introduction of new uses that are different or inconsistent from existing uses in the area and will not significantly disrupt or divide an established community. Therefore, impacts related to division of an established community would be *less than significant*.

3.1.7.2.2 Conflict with Applicable Land Use Plans, Policies, or Regulations

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Analysis

Because the Proposed Project site is owned by the County, it is not subject to the land use plans and policies or municipal code of the City of Carlsbad, except where identified. The following sections evaluate the consistency of the Proposed Project with the applicable plans governing compatible land use.

Airport Land Use Compatibility Plan

California law (Public Utilities Code Section 21670.3) requires the SDCRAA to prepare and adopt an ALUCP for each airport in San Diego County. The purpose of the ALUCP is to provide land use measures that ensure the safety and welfare of the public is protected from excessive noise and safety hazards associated with aviation by discouraging new incompatible development in areas surrounding airports. For this purpose, ALUCs are charged with development of guidelines suggesting compatible land use for areas affected by aviation related noise and safety.

As operator of McClellan-Palomar Airport, the County has been in coordination with SDCRAA regarding the Airport Master Plan Update and the safety and operational enhancement elements of the Proposed Project. As discussed in Chapter 2.4, Noise, operational forecasts, noise data, and modeling are integral components of the ALUCP for the Airport.

All proposed improvements identified in the Airport Master Plan Update would be located entirely on existing County-owned property. Accordingly, the SDCRAA jurisdiction does not apply to the land uses within the County-owned property, unless they are non-aviation uses. However, alterations to Runway 06-24 and other applicable facilities, would require an update to the Airport's ALUCP for changes in noise contours, safety zones, and/or land use type or density policies within the ALUC jurisdiction for the Airport. Processing of this update to the ALUCP would ensure consistency and reduce impacts to a level less than significant. Figure 3.1.7-1 illustrates the Proposed Project's highest planning scenario (PAL 2), which includes a shift and extension of Runway 06-24, as compared to the adopted ALUCP future noise contours.

County of San Diego - General Plan

One of the primary goals of the Airport Master Plan Update is to identify improvements that enhance the airport's safety, maximizes efficiency, promotes sustainability and economic stability, and is environmentally conscious while being attentive to the needs of not only the airport, but to the community that it serves. This complies with the County General Plan goals of continuing to effectively serve the evolving needs of the region while minimizing adverse impacts as well as minimizing safety risks by protecting the public from incompatible land uses and obstructions. Therefore, the Proposed Project is consistent with the applicable goals and policies of the County General Plan.

McClellan-Palomar Airport Master Plan and Airport Layout Plan

The Airport Master Plan was initially prepared in 1975 with a 15-year planning period ending in 1990. A subsequent Master Plan was prepared in 1997, which served a planning period from 1995–2015. With the forecast and planning range reaching its end, the County began development of the next 20-year planning strategy for the Airport (2016–2036). This PEIR analyzes the potential environmental impacts resulting from said Airport Master Plan Update. Therefore, because the Airport Master Plan Update is the subject this PEIR, the Proposed Project would not conflict with the goals of the Airport Master Plan.

City of Carlsbad

Where required, as discussed above, subject to the right to assert immunities, federal preemption or other legal theories, the County will seek an amendment to CUP-172 for any change in ARC beyond the existing B-II designation in the ALP or prior to taking action to implement facility improvements for an ARC greater than B-II. ~~Future County public infrastructure improvements as part of the Proposed Project are not subject to City of Carlsbad regulations as further discussed earlier in this section.~~ In an effort to ensure coordination with the City, the County looks to leasees to obtain approvals of private development on leaseholds wherever necessary but reserves the right to assert available immunities on behalf of tenants as discussed above in Section 3.1.7.1.2 regarding the City of Carlsbad Genera Plan.

Regarding the City General Plan, the goals and policies primarily require development surrounding the Airport to coordinate with the SDCRAA and comply with land use compatibility requirements for any development within the Airport's AIA. These conditions do not require additional conditions of the County within the airport property. Nor would the Proposed Project conflict with Policy 2-P.39 – requiring a vote of the people for any expansion of the Airport – as the Airport Master Plan Update does not proposed an expansion of airport property. As discussed above, Section 21.53.015 would only be applicable if the County were to expand the Airport beyond its current boundaries and a City legislative enactment or City expenditure in support of such an expansion were required.

In developing the Airport Master Plan Update, the County has voluntarily avoided any property acquisition to support the expansion of airport facilities beyond current property boundaries. There is no proposal to build a second runway or expand the existing runway outside of the existing Airport footprint. The Airport Master Plan Update does not introduce new uses and the continuation of existing uses as outlined in the Airport Master Plan Update are consistent with the City General Plan industrial zoning designation.

Under the City Growth Management Plan, new development occurring within the City is required to demonstrate conformance with both the Citywide Facilities and Improvement Plan and applicable LFMP. This ensures there are sufficient public facilities to serve any new development. However, no new development of commercial or industrial space is proposed at the Airport as part of the Master Plan Update (and LFMP Zone 5 does not include residential uses). Specifically, the General Plan identifies the Airport as "Industrial Zone", and the Master Plan Update does not introduce new uses that are inconsistent with this zoning designation. While the General Plan does not focus on specific development restrictions within the County-owned property; nonetheless, the Master Plan Update does not propose adding or eliminating commercial or industrial space within or outside the existing Airport boundaries. In summary, the forecasted supply and demand of commercial and industrial areas (as outlined in the Citywide Facilities and Improvement Plan and LFMP Zone 5) would not be affected by the Proposed Project.

The County has not, as part of the Airport Master Plan Update process, identified a need to expand Airport facilities beyond the current provisions of CUP-172 or for a legislative enactment from the City such as a zone change or general plan amendment to support any changes to facilities recommended by the Airport Master Plan Update. In accordance with FAA guidance, the County would seek property interest in protecting safety areas on land surrounding the runway. These areas would be precluded from incompatible uses, not proposed for aviation uses, and would not allow for inconsistency with applicable land use plans, policies or regulations.

The Proposed Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. Subject to the right to assert immunities, federal preemption or other legal theories, the County will seek an amendment to CUP-172 for any change in ARC beyond the existing B-II designation in the ALP or prior to taking action to implement facility improvements for an ARC greater than B-II. Therefore, the Proposed Project would have a *less than significant impact*.

3.1.7.2.3 Conflicts with Applicable Habitat Conservation Plan or NCCP

Guidelines for the Determination of Significance

A significant impact would occur if:

- Conflict with any applicable HCP or NCCP

Analysis

As discussed in Chapter 2.2, Biological Resources, the Proposed Project is located and identified within the County's draft NC MSCP, including PAMA, Hardline Development Take Authorized, and Outside PAMA. Since the County has been a partner with the Wildlife Agencies in developing the draft NC MSCP, and has an approved letter from the Wildlife Agencies confirming the draft NC MSCP designations on Airport property, the Proposed Project is not anticipated to conflict or prevent the development of the NC MSCP. Furthermore, no HCP or NCCP currently exists for the Proposed Project site. Lands surrounding the Proposed Project site are partially within the planning area for the City of Carlsbad's HMP; however, the HMP does not include the County-owned Airport properties. Therefore, because the Proposed Project would not conflict with the City's HMP or the County's draft NC MSCP, it would have a *less than significant impact*.

3.1.7.3 Cumulative Impact Analysis

The Proposed Project and several of the cumulative projects listed in Table 1-4 may entail an increase in the intensity of land use on their respective sites. However, none of the projects listed in Table 1-4 results in a significant impact to land use. The Proposed Project is compatible with established land use designations and would not conflict with applicable planning policies.

Development of the Proposed Project site in association with the cumulative projects would not divide an established community. These projects are all proposed in or adjacent to areas that are already developed. Furthermore, none of these projects are of a size or nature that would have the potential to divide an established community. Therefore, *no significant adverse cumulative impacts* on land use are anticipated within the cumulative study area.

3.1.7.4 Conclusion

The Proposed Project includes a flexible, phased 20-year Airport Master Plan Update strategy to prioritize projects at the Airport that provide safety and operational enhancements. The Airport Master Plan Update does not propose the introduction of new land uses that are different from existing conditions surrounding the Airport and will not significantly disrupt or divide an established community.

The Proposed Project would not result in a land use compatibility impact. Airport development has been anticipated with land use plans and policies including the City of Carlsbad General Plan, County General Plan, and historical Master Plans Update prepared for the Airport. The ALUCP would be amended to be consistent with the Proposed Project, and subject to the right to assert immunities, federal preemption or other legal theories, the County will seek an amendment to CUP-172 for any change in ARC beyond the existing B-II designation in the ALP or prior to taking action to implement facility improvements for an ARC greater than B-II. Therefore, the Proposed Project would have a *less than significant impact* to land use and planning.

McClellan-Palomar Airport
Master Plan Update - Program EIR

City of Carlsbad Land Use
- Community Facilities
- General Commercial
- Local Shopping Center
- Office
- Open Space
- Planned Industrial
- Planned Industrial/Office
- Public
- Regional Commercial
- Transportation Corridor
- Village
- Visitor Commercial
- Residential

County of San Diego Land Use
- Communications/Utilities
- Fire/Police Station
- Hotel/Motel
- Industrial
- Residential
- Open Space
- Healthcare
- Other Public Services
- Recreation
- Retail/Trade
- Warehousing
- School/Religious Facility
- Service Station
- Protected Natural Area
- Undeveloped Land

Future No-Project
- 65 CNEL Contour

Future With Proposed Project
- 65 CNEL Contour

Currently Adopted ALUCP
- 65 CNEL Contour

1000' 0' 1000' 2000'

Cannon Rd.
Faraday Ave.
College Blvd.
Faraday Ave.
Carlsbad City Limit
County of San Diego Land Use
65 CNEL
McClellan-Palomar Airport
Palomar Airport Rd.
Aviara Pkwy.
El Camino Real
Poinsettia Ln.
Poinsettia Ln.

Source: Land Use from City of Carlsbad and County of San Diego; Parcels from SANGIS

Comparison of ALUCP Noise Contour vs Proposed Project (PAL 2)

Figure 3.1.7-1

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3.1.8 Public Services

This section discusses potential impacts on public services, including fire protection, police protection, school, parks, and other services that may result from implementation of the Proposed Project. The analysis is based on the review of existing resources, technical data, and applicable laws, regulations, and guidelines.

3.1.8.1 Existing Conditions

Fire Protection

The Proposed Project site is within the municipal boundary of the City of Carlsbad. Fire response is currently (and would continue to be) provided by the City's Fire Department. The Fire Department Station #5 is located east of the Airport on Orion Way, just east of El Camino Real. In addition, the Airport maintains an on-site Aircraft Rescue and Fire Fighting (ARFF) facility that remains active during scheduled air carrier service. The ARFF facility is currently located directly west of, and adjacent to the passenger terminal building, within a canopy structure that houses two ARFF vehicles. This on-site ARFF facility, which currently complies with "Index B" standards, is required by FAA as a component of the Airport's Class I Part 139 Certification. The ARFF facility standards are further defined in the ACM (County of San Diego 2017). As identified in the ACM (Section 10.4), the ARFF response is required within three minutes from the time of alarm. The City Fire Department also provides support vehicles typically within six minutes.

Police Protection

Police response will continue to be served by the City of Carlsbad Police Department, and County Sheriff Department as needed.

Schools

The closest school to the Airport is Pacific Ridge School, which is located over 1.3 miles southeast of the Airport at 6269 El Fuerte Street.

Parks

There are approximately four existing parks or other recreational facilities within one mile of the Proposed Project site.

3.1.8.2 Analysis of Project Effects and Determination as to Significance

The following significance thresholds for public services are based on Appendix G of the CEQA Guidelines. No adopted County Guidelines for Determining Significance exist for public services. A significant impact would result if any of the following would occur:

- The project would result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically

altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a. Fire protection
b. Police protection
c. Schools
d. Parks
e. Other Public facilities

Fire Protection

Guidelines for the Determination of Significance

A significant impact to public services would occur if the project would:

- Result in substantial adverse physical impacts on, or result in a need for, new or physically altered fire services or facilities in order to maintain acceptable service ratios, response times or other performance objectives, the construction of which would cause significant environmental impacts.

Analysis

The Proposed Project does not include expansion of the Airport boundaries, and all planned improvements would occur within the existing County-owned parcels. As a result, the Proposed Project would not adversely impact response times by the City Fire Department, nor require the construction of additional fire services.

ARFF facilities are required to be maintained at the Airport during commercial air carrier operations. Prior to September 2017, the Airport maintained an ARFF designation of “Index A” as defined by FAR Part 139.315(b)(2). As of September 2017, the FAA changed the Airport’s ARFF designation to “Index B” due to the aircraft utilized by the current air carrier. In the interim prior to improvements, all equipment and personnel necessary to operate and comply with “Index B” standards are being provided at the Airport. The Proposed Project would include relocating the existing ARFF facilities and reconstructing them in accordance with “Index B” (Kimley-Horn 2018). The relocated facilities would be sited south of the existing ATCT and west of an existing access road. The proposed location is currently developed consisting of a parking lot. Because the ARFF facilities would be relocated within the existing developed airfield, it would not create significant environmental impacts. Therefore, impacts would be *less than significant*.

Police Protection

Guidelines for the Determination of Significance

A significant impact to public services would occur if the project would:

- Result in substantial adverse physical impacts on, or result in a need for, new or physically altered police services or facilities in order to maintain acceptable service ratios, response times or other performance objectives, the construction of which would cause significant environmental impacts.

Analysis

The proposed Airport Master Plan Update is not anticipated to result in an increase need of police protection as the project does not include development of new residences or businesses involving increased concentrations of people. Airport security within the passenger terminal would be provided by the federal TSA and contracted security personnel. While a minimal increase in demand for police service may occur, the Proposed Project is not expected to result in a need for new or altered police protection facilities. Therefore, impacts would be *less than significant*.

Schools

Guidelines for the Determination of Significance

A significant impact to schools would occur if the project would:

- Result in substantial adverse physical impacts on, or result in a need for, new or physically altered school facilities in order to maintain acceptable service ratios or other performance objectives, the construction of which would cause significant environmental impacts.

Analysis

The Proposed Project involves short-term and long-term planning of the existing airport, which is an existing small/non-hub commercial airport that has been in operation since 1959. Under the Proposed Project, the Airport will continue to operate as a publicly-owned facility that accommodates general aviation, corporate aircraft activity, and scheduled commercial service. The Proposed Project would not result in the generation of additional students to nearby schools. Nor is the Proposed Project anticipated to affect population growth necessitating new school facilities. Therefore, the Proposed Project would have *no impacts* to schools.

Parks

Guidelines for the Determination of Significance

A significant impact to parks would occur if the project would:

- Result in substantial adverse physical impacts on, or result in a need for, new or physically altered parks services or facilities in order to maintain acceptable service ratios or other performance objectives, the construction of which would cause significant environmental impacts.

Analysis

The Proposed Project would not increase the use of existing neighborhood or regional parks, or other recreational facilities. Nor does it require construction or expansion of such facilities that could have an adverse physical effect on the environment. Therefore, the Proposed Project would have *no impacts* to parks.

Other Public Services

Guidelines for Determination of Significance

A significant impact to other public services would occur if the project would:

- Result in substantial adverse physical impacts on, or result in a need for, new or physically altered public services or facilities in order to maintain acceptable service ratios or other performance objectives, the construction of which would cause significant environmental impacts.

Analysis

There are no other public services, facilities, or infrastructure anticipated to be required or impacted due to construction and operation of the Proposed Project.

3.1.8.3 Cumulative Impact Analysis

The existing public services currently are adequate to serve the Proposed Project, and the project does not contribute to a significant demand for additional services or require an increase in personnel or facilities for service agencies. As such, the project does not contribute to a cumulatively considerable impact on public services.

3.1.8.4 Conclusion

The Proposed Project is not anticipated to present a need for new or altered fire protection facilities, and would minimally increase demand for police protection. Additionally, the Proposed Project is not expected to present a need for new or altered police protection facilities and is not expected to result in the generation of additional students to nearby schools nor is expected to affect population growth. Therefore, the Proposed Project would not result in significant impacts to public services.

3.1.9 Utilities and Service Systems

The information in this section considers potential impacts on utilities and service systems that may result from implementation of the Proposed Project. The utilities and services evaluated in this section include wastewater, storm water, water supply, and solid waste.

3.1.9.1 Existing Conditions

Wastewater

Sanitary sewer service is currently provided by the Encina Wastewater Authority (EWA). EWA is a joint powers agency headquartered in Carlsbad, California. EWA's alliance includes six member agencies: the City of Carlsbad, the City of Vista, the Buena Sanitation District, the Vallecitos Water District, the Leucadia Wastewater District, and the City of Encinitas. EWA and its member agencies provide services to the 358,000 citizens who reside in its 123 square mile service area of northwest San Diego County (EWA 2014).

Storm Water

The City of Carlsbad Environmental Service Department requires a storm water management plan for all development within its city limits. City of Carlsbad LFMP Zone 5, which includes the Airport, is divided into three separate drainage basins, two of which drain to the Agua Hedionda Lagoon. The third and most predominant basin drains down the Encinas Canyon and empties directly into the Pacific Ocean (Airport Master Plan, Section 2.9).

Water Supply

Potable water service is currently provided by the Carlsbad Municipal Water District.

Solid Waste

Solid waste generated in the City of Carlsbad, including the Airport, is collected by Waste Management, Inc. and routed to the Palomar Transfer Station, located at 5960 El Camino Real. It is ultimately transported to one of the County's four sub-regional landfills: Miramar, Sycamore, Otay, or Borrego Springs for solid waste disposal.

Regulatory Framework

City of Carlsbad – Growth Management Plan

As discussed in previous sections of this PEIR, the City's Growth Management Plan was initially adopted in 1986 to put conditions on how growth could occur throughout the City. Specifically, the Citywide Facilities and Improvement Plan was adopted to establish performance standards for 11 types of public facilities, including utilities such as sewer collection and water distribution. Subsequently, the city was divided into 25 subareas with a unique LFMP for each subarea. McClellan-Palomar Airport is located within LFMP Zone 5. As discussed in Section 3.1.7.2.2, new development occurring within the City is required to demonstrate conformance with both the aforementioned plans. This ensures there are sufficient public facilities to serve any new

development. However, no new development of commercial or industrial space is proposed at the Airport as part of the Master Plan Update (and LFMP Zone 5 does not include residential uses). Specifically, the General Plan identifies the Airport as "Industrial Zone", and the Master Plan Update does not introduce new uses that are inconsistent with this zoning designation. While the General Plan does not focus on specific development restrictions within the County-owned property; nonetheless, the Master Plan Update does not propose adding or eliminating commercial or industrial space within or outside the existing Airport boundaries that demand or necessitate additional utility services.

3.1.9.2 Analysis of Project Effects and Determination as to Significance

The following significance thresholds for utilities and service systems are based on Appendix G of the CEQA Guidelines. No adopted County Guidelines for Determining Significance exist for utilities and service systems.

A significant impact would result if any of the following would occur:

- The project would exceed wastewater treatment requirements of the applicable RWQCB.
- The project would require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- The project would require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.
- The project would not have sufficient water supplies available to serve the project from existing entitlements and resources, or would need new or expanded entitlements.
- The project would result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- The project would be unable to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- The project would not comply with federal, state, and local statutes and regulations related to solid waste.

3.1.9.2.1 Wastewater

Guideline for the Determination of Significance

A significant impact would occur if the project would:

- Exceed wastewater treatment requirements of the applicable RWQCB
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Analysis

The Proposed Project would continue to discharge domestic waste through existing facilities operated by EWA, which is a community sewer system permitted by the RWQCB. Therefore, because the Proposed Project would discharge wastewater to a RWQCB-permitted community sewer system, the project is consistent with the wastewater treatment requirements of the RWQCB, including the Regional Basin Plan.

As part of the passenger terminal analysis, the Airport Master Plan Update identifies that the Airport currently has sufficient public restroom capacity in the non-secure area (i.e., terminal). However, additional space may be needed for the secure area (i.e., post-security) in future planning scenarios. Therefore, the Proposed Project may include increasing available facilities to meet potential demand. However, this nominal increase in restroom facilities would not result in nor require new or expanded water or wastewater treatment facilities. Furthermore, the EWA 2040 Master Plan projects that the Encina Water Pollution Control Facilities will have sufficient capacity beyond its planning horizon. Specifically, the Encina Water Pollution Control Facilities' existing capacity totals 40.5 million gallons per day. The EWA 2040 Master Plan anticipates only 24 to 37 million gallons per day would be utilized through 2040 (EWA 2014). Therefore, the nominal increase in wastewater generation from the Proposed Project is not expected to exceed the facilities operated by EWA.

Therefore, the Proposed Project would result in a *less than significant* impact to wastewater utilities and services.

3.1.9.2.2 Storm Water

Guidelines for the Determination of Significance

A significant impact would occur if the project would:

- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Analysis

The proposed Airport Master Plan Update improvements include areas of new impervious surfaces that would require adherence to aircraft movement area drainage requirements established by FAA design standards. Storm water drainage improvements would be constructed in association with these projects, including surface and subsurface drain system components and stormwater detention basins. Construction of these storm water drainage improvements would occur within the impact footprint evaluated programmatically throughout this PEIR. Therefore, the Proposed Project would result in a *less than significant* impact to storm water facilities.

3.1.9.2.3 Water Supply

Guideline for the Determination of Significance

A significant impact would occur if the project would:

- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or would need new or expanded entitlements.

Analysis

Improvements identified in the Airport Master Plan Update have the potential to require additional potable water, and generate greater amounts of wastewater than existing conditions, primarily due to the potential improvements of the passenger terminal, administrative building, and support facilities. Where applicable, reclaimed water will continue to be used for landscaping. Once the actual landside improvements are sized and calculated for usage, the increased demand will be compared against the Airport's existing entitlements, but due to the use of water-efficient fixtures and reclaimed water, impacts are anticipated to be less than significant and within entitlements and wastewater treatment capacity.

3.1.9.2.4 Solid Waste Capacity

Guideline for the Determination of Significance

A significant impact would occur if the project would:

- Be unable to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Not comply with federal, state, and local statutes and regulations related to solid waste.

Analysis

The updated Airport Master Plan Update proposes improvement projects, which would result in greater generation of solid waste over its 20-year planning period than under current conditions, primarily due to increased visitor-serving facilities (e.g., restrooms, restaurants) and the projected increase in the number of airline passengers anticipated to use these facilities. All solid waste facilities, including landfills require solid waste facility permits to operate. In San Diego County, the County DEH, LEA issues solid waste facility permits with concurrence from the CIWMB under the authority of the PRC (Sections 44001-44018) and CCR Title 27, Division 2, Subdivision 1, Chapter 4 (Section 21440 et seq.). There are several permitted active landfills in San Diego County with remaining capacity. Therefore, there is sufficient existing permitted solid waste capacity to accommodate the Proposed Project's solid waste disposal needs.

The Proposed Project would comply with applicable federal, state, and local statutes and regulations related to solid waste during operation and construction, and therefore, would have No Impact.

3.1.9.3 Cumulative Impact Analysis

All agencies providing service to the Proposed Project and cumulative projects have indicated that services and facilities are available to adequately serve the Proposed Project site and no significant impacts related to utilities were identified. The existing utilities and services are adequate to serve the Proposed Project site, and the project is not considered to contribute to a significant demand for additional services or require an increase in personnel or facilities for service agencies. As such, the Proposed Project would not contribute to a cumulatively considerable impact on utilities.

3.1.9.4 Conclusion

The Proposed Project would not result in significant impacts to public services and utilities. Existing sewer lines have sufficient capacity to accommodate the demand on sewer facilities that would be presented by the Proposed Project. Moreover, the Proposed Project would not require the construction of new storm water drainage facilities or expansion of existing facilities as there is sufficient capacity in existing storm water drainage facilities. Water use at the Proposed Project site is not expected to increase substantially to require the construction of new water lines. The Proposed Project would be served by existing landfills with sufficient permitted capacity. Therefore, the Proposed Project would not result in significant impacts to public services and utilities.

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3.1.10 Energy Use and Conservation

The California Public Resource Code (CPRC) Section 21100(b)(3) and CEQA Guidelines Section 15126.4 require EIRs to analyze energy use and, if necessary, associated mitigation as it is applicable to the Proposed Project, and in particular to describe any wasteful, inefficient, and unnecessary consumption of nonrenewable energy caused by a project. Thus, this section discusses total energy consumed but focuses on the efficiency with which the electricity, natural gas, and fuel (diesel and gasoline) are consumed. The analysis of energy conservation consists of a summary of the energy regulatory framework, the existing conditions at the project site, a discussion of the Proposed Project's potential impacts on energy resources, and identification of project design features that avoid, minimize, and reduce energy consumption. The description of energy consumption and potential for impacts to energy conservation have been evaluated in accordance with Appendix F of the CEQA Guidelines and federal, State, and regional regulations. The data and analysis in this section was prepared by RECON Environmental, Inc., and Appendix J contains the Proposed Project's Energy Modeling Calculations.

3.1.10.1 Existing Conditions

State

In 2016, total electricity consumed in California was 285,700 gigawatt-hours (GWh), approximately 3 percent higher than 2011. In-state electricity production has increased by approximately one percent since 2015. The installed capacity of the 1,008 in-state power plants with generation rating greater than 0.1 megawatts totals 79,025 megawatts. In 2016, these plants produced 198,227 gigawatt-hours of electricity (California Energy Commission [CEC] 2018). Also in 2016, 25.45 percent of all electricity was generated from renewable resources such as wind, solar, geothermal, biomass, and small hydroelectric facilities. Large hydroelectric plants generated an additional 10.21 percent of the State's electricity (CEC 2018).

Natural gas is the second most widely used energy source in California with 12,739.1 million therms consumed statewide in 2016. Depending on yearly conditions, 40 to 45 percent of all natural gas is burned for electricity generation; 10 percent is consumed in facilitating the extraction of oil and gas, while the rest is used for a variety of different uses from space heating to fuel for bus fleets (CEC 2014). Natural gas-fired generation has been the primary source of electricity generation in the State, both from in-state and imported sources (CEC 2014). As natural gas is a resource that can fill in the gaps from other power resources, its total use can vary greatly from year to year. The availability of hydroelectric resources, the emergence of renewable resources for electricity generation, and the overall consumer demand are variables that shape natural gas use consumption.

Regarding gasoline, approximately 15.3 billion gallons were consumed in California in 2016, which is a decrease of approximately 1.6 percent increase from the previous year. Diesel fuel is the second largest transportation fuel in California behind gasoline. In 2017, approximately 3.1 billion gallons of diesel were consumed in California.

Regional

San Diego Gas and Electric (SDG&E) is the owner and operator of natural gas and electricity transmission and distribution infrastructure in San Diego County. SDG&E is regulated by the California Public Utilities Commission (CPUC). The Proposed Project's energy needs are currently supplied through the various combinations of energy resources available within the project area and would continue to be regardless of project implementation.

There are no energy utility facilities located at the Airport. Within San Diego County, there are three major electricity-generating power plants, which include the Palomar Energy Center, Otay Mesa Energy Center, and Encina Power Station (SDG&E 2013). There are also a number of smaller electricity-generating plants in the County that are used as backup during times of peak power demand, which are referred to as "peakers." These in-region assets are currently capable of generating approximately 10,757 GWh of electricity. Approximately 2,085 GWh are provided to commercial customers. Approximately 43 percent of all electricity delivered to SDG&E customers is from renewable energy sources. SDG&E also provides natural gas in the amount of approximately 536 million therms to residential users and 95.7 million therms annually to commercial users (SDG&E 2017).

Power generation and power use are not linked geographically. Electricity generated within the San Diego region is not dedicated to users in the SDG&E service area. Instead, electricity generated in the County is fed into the statewide utility grid and made generally available to users statewide. SDG&E purchases electricity from this statewide grid, through various long-term contracts. Similarly, natural gas is also imported into southern California and originates from a series of major supply basins located from Canada to Texas. Natural gas is pumped out and shipped to receipt points that connect with major interstate gas pipelines.

Table 3.10.1-1 lists SDG&E's current energy sources. As shown in Table 3.10.1-1, SDG&E renewable energy includes biomass and waste, geothermal, small hydroelectric, solar, and wind sources. SDG&E obtained 43 percent of its energy from renewable resources in 2016. Additionally, SDG&E's other energy sources include coal, large hydroelectric, natural gas, and unspecified sources.

According to the California Air Resources Board's Emissions Factor model (EMFAC2014), the total estimated gasoline consumed in the county in 2017 by all on-road activity was approximately 1.2 billion gallons. Diesel fuel is the second largest transportation fuel in California behind gasoline. In 2017, approximately 71.8 million gallons of diesel were consumed in the County during the same period.

McClellan-Palomar Airport

Upon completion of the Airport's main terminal in January 2009, the County was awarded a Leadership in Energy and Environmental Design (LEED) silver certification administered by the U.S. Green Building Council. The Airport terminal also received an Award of Excellence from SDG&E Savings By Design program, which encourages high-performance, non-residential building design and construction, and a provides a variety of solutions to building owners and design teams

The McClellan-Palomar Airport is currently served by SDG&E, including electricity and natural gas. According to available energy billing, in 2015, the airport facilities consumed approximately 1,051,461 kilowatt-hours (kWh) of electricity and 420,900 thousand British thermal units (kBTU) of natural gas. Total aircraft operations at the airport consumed 535,471 gallons of aviation fuels annually. Non-aircraft aviation related operations (i.e., ground support equipment; GSE) consumed 14,417 gallons of fuel annually, with approximately 11,274 gallons being diesel fuel.

Based on the estimated existing vehicle miles traveled (VMT), patrons and tenants of the Airport are estimated to consume 309,205 gallons of gasoline and diesel annually. According to EMFAC2014, in San Diego County approximately 5.6 percent of diesel fuel is consumed on roadways. Thus, it is estimated that approximately 8,294 gallons of diesel fuel would be consumed annually.

Regulatory Setting

The following regulations and guidelines provide the framework for energy conservation. According to the majority of these programs and their requirements, the increased and growing demands for non-renewable energy supplies are best addressed through conservation.

Federal

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the U.S. Department of Transportation, the U.S. Department of Energy, and the USEPA are three federal agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy-related research and development projects, and through funding for transportation infrastructure improvements.

Federal Energy Policy and Conservation Act and Amendments

Minimum standards of energy efficiency for many major appliances were established by the U.S. Congress in the federal Energy Policy and Conservation Act of 1975, and have been subsequently amended by succeeding energy legislation, including the federal Energy Policy Act of 2005. The Department of Energy is required to set appliance efficiency standards at levels that achieve the maximum improvement in energy efficiency that is technologically feasible and economically justified.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 established new standards for a few equipment types not already subjected to a standard, and updated some existing standards. Perhaps the most significant new standard it establishes is for general service lighting, which will be deployed in two phases. First, by 2012–2014 (phased over several years), common light bulbs were required to use approximately 20–30 percent less energy than present incandescent bulbs. Second, by 2020, light bulbs must consume 60 percent less energy than today's bulb; this requirement will effectively phase out the incandescent light bulb

Federal Aviation Administration

The FAA is currently working on improving the National Airspace System energy efficiency, including efforts to develop and deploy alternative jet fuels for commercial aviation. The FAA Office of Environment and Energy is pursuing a five-pillar approach to reduce environmental impacts from aviation. These include:

- advance sustainable alternative jet fuels;
- accelerate maturation of new aircraft technologies;
- explore air traffic management modernization and operational improvements;
- improve scientific knowledge and enhance integrated environmental modeling capability; and
- develop policies, environmental standards, and market-based measures.

As part of this effort, the FAA has awarded $100 million through the CLEEN Program to develop technologies that reduce fuel consumption, emissions, and noise. Products developed under the CLEEN Program include many jet engine technologies, wing and aerodynamic technologies, automation and flight management systems, as well as fuels and materials. Alternative jet fuels are the primary method the FAA intends to address aviation's environmental and energy challenges. Alternative fuels can replace petroleum jet fuels without the need to modify engines and aircraft.

State

On the state level, the CPUC and the CEC are two agencies with authority over different aspects of energy. The CPUC regulates utilities in the energy, rail, telecommunications and water fields. The CEC collects and analyzes energy-related data, prepares statewide energy policy recommendations and plans, promotes and funds energy efficiency programs, and adopts and enforces appliance and building energy efficiency standards.

California Building Standards

Part 6 of Title 24 of the California Code of Regulations was established in 1978, and serves to enhance and regulate California's building standards. Part 6 specifically establishes energy efficiency standards for residential and nonresidential buildings constructed in the State of California to reduce energy demand and consumption. Part 6 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies. The 2016 Title 24 building energy efficiency standards, which became effective on January 1, 2017, will serve to reduce energy consumption by project residences and non-residence buildings. In general, nonresidential buildings built to the 2016 standards will use an estimated 5 percent less energy than those built to the 2013 standards (CEC 2016).

Title 24 also includes Part 11, known as California's Green Building Standards Code (CALGreen). The CALGreen standards took effect in January 2011, and instituted mandatory minimum environmental performance standards for all ground-up, new construction of

commercial, lowrise residential and state-owned buildings, as well as schools and hospitals. The 2016 CALGreen standards became effective on January 1, 2017.

Energy Action Plan

The CEC, the CPUC, and the Consumer Power and Conservation Financing Authority (called the CPA, which is now defunct), approved the final State of California Energy Action Plan in 2003. The State of California Energy Action Plan establishes shared goals and specific actions to ensure that adequate, reliable, and reasonably-priced electrical power and natural gas supplies (CEC 2018). At the beginning of 2008, the CEC and CPUC didn't find it necessary or productive to create a new energy action plan. As the state's energy policies have been significantly influenced by the passage of AB 32, the California Global Warming Solutions Act of 2006, rather than produce a new Energy Action Plan, the CEC and CPUC have prepared instead an "update" that examines the state's ongoing actions in the context of global climate change. The update is prepared using the information and analysis prepared for the Integrated Energy Policy Report documents, as well as with recent CPUC decisions (CEC 2018).

As described in Section 3.1.5, there are a host of regulations at the State level intended to reduce energy use and GHG emissions. These include, among others, AB 1493–Light-duty Vehicle Standards, California Code of Regulations Title 24, Part 6–Energy Efficiency Standards, California Code of Regulations Title 24, Part 11–California Green Building Standards (CARB 2013).

State CEQA Guidelines, Appendix F

Appendix F of the State CEQA Guidelines contains energy conservation goals that promote the “wise and efficient” use of energy for projects. In order to ensure that energy impacts are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

The analysis in this section considers the expected energy use of the proposed project, as well as measures that will help to reduce the project’s energy consumption. The goal outlined in Appendix F of the State CEQA Guidelines is to conserve energy through the wise and efficient use of energy.

The means of achieving this goal include the following:

- decreasing the overall per capita energy consumption;
- decreasing reliance on natural gas and oil; and
- increasing reliance on renewable energy sources.

County of San Diego

Climate Action Plan

On February 14, 2018, the County Board of Supervisors adopted the CAP, which identifies specific strategies and measures to reduce GHG emissions in the largely rural, unincorporated areas of San Diego County as well as County government operations. The CAP updates and implements the County's 2011 General Plan Update goals, policies, and mitigation measures to meet the State's 2020 and 2030 GHG reduction targets, and demonstrate progress towards a 2050 GHG reduction goal (County 2018). The CAP contains 11 strategies, 26 GHG reduction measures, and supporting efforts organized under five GHG emissions categories:

1. Built Environment and Transportation
2. Energy
3. Solid Waste
4. Water and Wastewater
5. Agriculture and Conservation

The CAP Appendix A clarifies that while airport ground support[22] was included in CAP's baseline inventory and projections, "GHG emissions from aircraft operation are outside the scope of this baseline GHG emissions inventory and are not included. Aircraft emissions are under the jurisdiction of the Federal Aviation Agency and are also considered indirect, or Scope 3, emissions under the ICLEI Community Protocol." As discussed in the PEIR, the Airport is a public-use airport required to abide by federal law and cannot restrict type, kind, or class of aircraft using the facility. Only the FAA has jurisdiction over aircraft in flight, and movement within the airfield as under the purview of the FAA's Air Traffic Control Tower. The County's role is limited managing the Airport's ground facilities, not aircraft. Furthermore, while the County's General Plan identifies the Airport as a County-owned facility, the Airport is located within the municipal boundary of the City of Carlsbad, and does not have a County-designated General Plan land use designation to compare against the CAP Checklist. Accordingly, because the County does not have the regulatory ability or authority to control or restrict aircraft movement or their associated GHG emissions, the County's CAP does not include aircraft emissions in its emissions inventory.

Because the Airport is not subject to a County General Plan land use designation (the Airport is located within the municipal boundaries of the City of Carlsbad), aviation-related GHG emissions were not included in the County's CAP emissions inventory, and the Master Plan Update improvements were not included in the 2011 County General Plan on which the CAP was based, a consistency checklist review would not demonstrate CAP coverage. However, because aircraft emissions and Master Plan Update improvements were not included in emissions reductions in the CAP, the project does not impede or interfere with meeting the

[22] Starting aircraft, aircraft maintenance, aircraft fueling, transporting equipment to and from aircraft, baggage handling, etc.

reduction measures established to meet the County's reduction targets. Also see discussion regarding the County's CAP in Section 3.1.5 and Appendix H to this PEIR.

General Plan

The County General Plan takes steps to address energy use throughout all General Plan Elements by including policies for improving energy efficiency, reducing waste, recycling, and managing water use. The General Plan seeks to reduce energy consumption through minimizing vehicle trips and approving land use patterns that support increased density in areas where there is infrastructure to support it, increased opportunities for transit, pedestrians, and bicycles, and through green building and land development conservation initiatives. Applicable General Plan policies include:

- Policy COS-14.1, Land Use Development Form. Require that development be located and designed to reduce vehicular trips (and associated air pollution) by utilizing compact regional and community-level development patterns while maintaining community character.

- Policy COS-14.3, Sustainable Development. Require design of residential subdivisions and nonresidential development through "green" and sustainable land development practices to conserve energy, water, open space, and natural resources.

- Policy COS-14.10, Low-Emission Construction Vehicles and Equipment. Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.

- Policy COS-15.1, Design and Construction of New Buildings. Require that new buildings be designed and constructed in accordance with "green building" programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHGs and toxic air contaminants.

- Policy COS-15.2, Upgrade of Existing Buildings. Promote and, as appropriate, develop standards for the retrofit of existing buildings to incorporate design elements, heating and cooling, water, energy, and other elements that improve their environmental sustainability and reduce GHG.

- Policy COS-15.3, Green Building Programs. Require all new County facilities and the renovation and expansion of existing County buildings to meet identified "green building" programs that demonstrate energy efficiency, energy conservation, and renewable technologies.

- Policy COS-15.4, Title 24 Energy Standards. Require development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.

- Policy COS-16.2, Single-Occupancy Vehicles. Support transportation management programs that reduce the use of single-occupancy vehicles.

- Policy COS-17.2, Construction and Demolition Waste. Require recycling, reduction and reuse of construction and demolition debris.

County of San Diego Strategic Energy Plan 2015-2020

The County has developed a Strategic Energy Plan to guide energy and sustainability objectives and goals in the "areas of energy and water conservation and efficiency, sustainable design, energy supply, distributed generation, vehicular transportation, energy and sustainability education and outreach, energy consumer choice, recycling and landfill diversion, and greenhouse gas emissions reductions" (County of San Diego 2015). As part of the Strategic Energy Plan the County has identified the County Operations Energy Strategy, which includes all County-owned or leased facilities and the County's non-emergency vehicle fleet. From an energy conservation perspective, the County's main objectives are to reduce energy and water consumption, and ensure that sustainability practices are assimilated into County infrastructure operations.

The County has identified the following key focus areas for implementation of the Strategic Energy Plan:

1. Energy Use
2. Water Use
3. Cost Avoidance
4. Transportation
5. Green Buildings and Infrastructure
6. Monitoring and Communication

County of San Diego Renewable Energy Plan (CREP)

The County's CREP highlights the mix of renewable energy and energy efficiency scenarios that are most likely to enhance the economic well-being of the regional economy. Phase I of the CREP Report was approved in February 2017. It highlights the scale of the investment that is required and the mix of policies, programs, and best practices that are most likely to ensure the development of a renewable energy market and the robust and sustained development of the regional economy. The planning effort covers the residential, commercial, and industrial sectors of the County, with a particular focus on unincorporated areas, and presents a comprehensive approach to renewable energy and energy efficiency.

County of San Diego Comprehensive Strategic Plan to Reduce Waste

The County's Strategic Plan to Reduce Waste outlines near-, mid-, and long-term programs and policies to increase the County's solid waste diversion rate to meet state targets and support other County initiatives, such as the CAP. In April 2017, the County adopted a solid waste diversion goal of 75 percent by 2025.

SDG&E Long-term Resource Plan

In 2004, SDG&E filed a long-term energy resource plan (LTRP) with the CPUC, which identifies how it will meet the future energy needs of customers in SDG&E's service area. The LTRP identifies several energy demand reduction (i.e., conservation) targets, as well as goals for increasing renewable energy supplies, new local power generation, and increased transmission capacity.

SDG&E has also led the State in developing renewable energy sources and achieved a 35 percent renewable energy mix in 2015, which exceeded the 2020 target of 33 percent five years early. Additionally, all of the contracted renewables were from long-term contracts. As of 2017, SDG&E achieved 43 percent renewable energy in 2016, again 100 percent of which was also from long-term contracts.

3.1.10.2 Analysis of Project Effects and Determination as to Significance

The County's Guidelines for Determining Significance do not include guidelines for Energy Conservation. Therefore, for the purpose of this PEIR, Appendix F of the CEQA Guidelines shall apply. Appendix F does not prescribe a threshold for the determination of significance. Rather, CEQA Guidelines, Appendix F, Energy Conservation provides guidance for EIRs regarding potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing the inefficient, wasteful and unnecessary consumption of energy. The State Natural Resources Agency amended Appendix F to make it clear that an energy analysis is mandatory. However, the Natural Resources Agency also clarified that the energy analysis "lead agencies shall analyze energy conservation in their EIRs" and that the analysis should be limited to effects that are applicable to the project (California Natural Resources Agency 2009). Appendix F is not described as a threshold for determining the significance of impacts. Appendix F merely seeks inclusion of information in the EIR to the extent relative and applicable to the project. Therefore, as Appendix F indicates a particular emphasis should be focused on avoiding or reducing the inefficient, wasteful and unnecessary consumption of energy, for the purpose of determining the significance of an impact in this PEIR, implementation of the project would have significant energy impacts if it would:

1. Result in the wasteful and inefficient use of nonrenewable resources during its construction.

2. Result in the wasteful and inefficient use of nonrenewable resources during long-term operation.

3.1.10.2.1 Construction-Related Energy Use

Guideline for the Determination of Significance

A significant impact related to energy resources would occur if the Proposed Project would:

- Result in the wasteful and inefficient use of nonrenewable resources during the construction phase of the Proposed Project?

Analysis

Construction of the Proposed Project is expected to occur over the 20-year planning time frame. Construction activities would consume energy primarily through the consumption of motor fuel for the use of heavy off-road equipment, haul and delivery trucks, and worker commutes.

Construction equipment fuel consumption for each of the identified project components listed in Section 1.2.1 were based on equipment lists provided by the County. The construction equipment used to estimate fuel consumption is summarized in Table 3.10.1-2. The fuel consumption of off-road construction equipment calculated in this analysis is based on the list of Master Plan Update construction projects shown in Figure 1-5, the statewide data sets for horsepower and load factors, and data provided as part of the Proposed Project's air quality analysis in Section 3.1.2 and Appendix F to this PEIR.

Based on the above inventory of mostly off-road construction equipment, construction-related fuel-energy consumption can be estimated. The total horsepower multiplied by the load factor, hours of use, and gallons per horsepower-hour result in an annual average consumption of 4,944 gallons of diesel fuel from all 16 individual construction projects, which is equal to approximately 98,881 gallons, or 3,767,277 kWh over the entire 20-year construction period, for the off-road construction equipment (see Table 3.10.1-2 and modeling results in Appendix J).

The on-road worker, vendor, and hauling trips would result in a total of 427,270 VMT or an average of approximately 21,364 VMT annually. As these trips would occur in a variety of different vehicles, the EMFAC2014 Countywide average fuel consumption of 22.0 miles per gallon was applied to the VMT to calculate to fuel consumption (EMFAC 2014). Based on these factors, it is predicted 19,421 gallons of fuel, or 737,485 kWh, would be consumed by on-road worker, vendor, and hauling trips during construction of the Proposed Project.

Combing all construction fuel use and converting to kWh would result in a total of 4,504,761 kWh of energy used to construct all improvements, including all hauling, worker, and vendor trips.

The temporary construction air quality and GHG modeling previously conducted for the Draft PEIR was based on the most conservative CalEEMod default settings and assumed all construction equipment would be Tier 0, which represents the highest polluting category of equipment. However, implementation of CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation, it is anticipated that Tier III-rated equipment (representing cleaner and less polluting technology) or higher, will be used. Additionally, Tier IV equipment would likely be used in the

final phases of the Master Plan Update's 20-year planning period due to continued enforcement of CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation. More efficient Tier III and IV equipment, which uses clean-fuel technologies or alternative fuels would be employed wherever feasible during construction to ensure total fuel-energy consumption would be reduced.

Compliance with local, State and federal regulations, which limit engine idling times and require recycling construction debris, would reduce short-term energy demand during the project's construction to the maximum extent feasible and project construction and would not result in a wasteful or inefficient use of energy. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities or use of equipment that would not conform to current emissions standards (and related fuel efficiencies). Furthermore, as explained in Section 3.1.5 of this PEIR (Greenhouse Gas Emissions), individual project elements are subject to and would be consistent with County policies that are included in the CAP's emissions reduction strategies (e.g., CAP Measure T-3.2: Use Alternative Fuels in County Projects). The construction of each project element would not conflict with the CAP. Thus, construction of the Proposed Project would not consume energy resources in a wasteful or inefficient manner.

For the reasons stated above, the energy effects related to petroleum consumption during construction would be less than significant

3.1.10.2.2 Operation-Related Energy Use

Guideline for the Determination of Significance

A significant impact related to energy resources would occur if the Proposed Project would:

- Result in the wasteful and inefficient use of nonrenewable resources during the long-term operation of the Proposed Project?

Analysis

Long-term operational energy use associated with the Proposed Project is based on the calculations included in the GHG and Air Quality modeling, which includes electricity and natural gas consumption, energy consumption related to obtaining and treating water, and fuel consumption by operation of vehicles. Electricity, natural gas, and indoor water consumption were based on utility records from the existing airport facilities and scaled based on the anticipated increase in future improvements. On-road fuel consumption is based on Countywide consumption based on EMFAC2014.

Electricity Consumption

As indicated in Section 3.1.5 of this PEIR (Greenhouse Gas Emissions), the County Strategic Energy Plan requires newly constructed County-owned and leased facilities to exceed the 2016 Title 24 Part 6 energy efficiency standards by at least 10 percent. The Proposed Project would also install high-efficiency lighting and Energy Star certified appliances in common areas, i.e. fans. Additionally, the existing passenger terminal building was refurbished in January 2009 and

achieved LEED accreditation, and the County employs energy efficient technologies throughout the facility.

The Proposed Project's annual electricity demand associated with building and terminal improvements, excluding water conveyance and treatment, are estimated to be 1,619,250 kWh would account for less than 0.05 percent of the County's total demand and less than 0.0007 percent of the statewide generation capacity (SDG&E 2017a). Therefore, the Proposed Project is not expected to adversely affect statewide capacity, SDG&E's capacity, or the ability of state and local energy providers to continue to serve existing and anticipated future customers. Additionally, County energy efficiency measures are anticipated to result in an approximate 18 percent reduction in electricity use. As such, implementation of the Proposed Project would not result in a demand for substantial amounts of local or regional energy supplies compared to existing conditions. Therefore, impacts would be less than significant.

In addition to the GHG reduction measures included in the GHG analysis, the Master Plan Update includes other energy conservation measures that were not quantified because the scope and scale of the elements have not been designed. However, the County has implemented requirements in airport tenants' lease agreements to implement energy efficient infrastructure. Tenants have includes solar photovoltaic (PV) panel systems in their facility upgrades, and the County would continue to seek out opportunities to install charging stations for electronic vehicles and other alternative fuel incentives.

However, the installation of solar PV panels at and around airports requires proper analysis and design to ensure the solar panels do not cause interference with a pilot's vision due to glare from the panels. The FAA has also developed specific guidance and criteria to regulate installation of solar PV panels at airport facilities[23]. Therefore, without further evaluation it would be speculative to attempt to calculate the potential energy generation associated with future solar PV panels. Therefore, energy savings from solar PV panels are not quantified in this analysis.

In addition to lease requirements the County is evaluating the potential to convert runway and taxiway lighting systems as well as other on-airport signage to light-emitting diodes (LED). LED lights are approximately 10 times more efficient as standard lights. However, conversion of the aircraft safety lighting at the Airport requires coordination and oversight by FAA to ensure ongoing flight operations are not interrupted. Therefore, the potential energy savings from converting airfield lighting to LED lights is not quantified in this analysis.

Based on the "lower than average" energy use anticipated from the Proposed Project due to project design considerations, including designing the buildings to exceed Title 24 Part 6 energy efficiency standards by the required 10 percent, the Proposed Project would not result in the wasteful or inefficient use of nonrenewable resources during its long-term operation.

[23] Technical Guidance for Evaluating Selected Solar Technologies on Airports; FAA Office of Airport Planning and Programming. November 2010.

Natural Gas Consumption

Based on energy consumption data calculated in the Proposed Project's GHG emission estimates, the terminal building would consume 420,900 kBTU of natural gas and 1.6 million kWh of electricity annually.

The Proposed Project is estimated to use 420,900 kBTU of natural gas per year, or approximately 123,354 kWh. In 2016, SDG&E supplied 53,622,563,090 kBTU of natural gas to customers (SDG&E 2017b). The Proposed Project's estimated natural gas use would account for 0.008 percent of this amount. This demand would not adversely affect SDG&E or its ability to continue to serve existing and anticipated future customers and would not require increases in capacity or construction of new infrastructure. Additionally, County energy efficiency requirements are anticipated to result in an approximate 8 percent reduction in natural gas use. Therefore, the Proposed Project's natural gas demand would result in a less than significant impact.

Water Conveyance

The provision of potable water to residences consumes large amounts of energy through its supply, treatment, and distribution. The electricity intensity values reported in the California Energy Commission's 2006 report Refining Estimates of Water-Related Energy Use in California were used for the San Diego region to calculate the energy use associated with the supply, treatment and distribution of potable water.

The indoor water use for the Proposed Project is estimated to total 538,560 gallons of water per year. This would result in 5,239 kWh for water supply, 2,022 kWh for water treatment, and 1,272 kWh for water conveyance. In 2016 the County proactively installed irrigation pipes accessing existing reclaimed "purple line" water provided.

As a design feature identified in the Master Plan Update, and in accordance CALGreen, the Proposed Project would reduce potable water demand for indoor use by at least 20 percent. This commitment would ensure that the Proposed Project would not result in the wasteful or inefficient water or electricity used to convey and treat it.

Fuel Consumption

Energy in the form of fuel (gasoline and diesel) would be consumed by ground-based vehicles as well as aircraft associated with the Proposed Project. Fuel consumption associated with aviation sources were calculated using the FAA's Aviation Environmental Design Tool (C&S Engineering 2016). On-road vehicle fuel consumption calculations are based on an average projected fuel economy of 22.8 miles per gallon for 2016 and 33.7 for 2035.

No Project

Under the No Project scenario, emissions would reflect ongoing airport operations without the commercial air service growth forecasted in PAL 1 and PAL 2, and without extension of the runway and taxiway. Under the no project condition, aviation activity is estimated to result in the consumption of approximately 535,471 gallons of aviation fuel annually. Auxiliary Power Units

(APU) and GSE would consume an additional 70,100 gallons annually. Mobile sources associated with tenants and patrons of the airport are estimated to consume 298,355 gallons of gasoline and 16,589 gallons of diesel annually.

PAL 1

At full buildout of the Master Plan Update in 2036 under the PAL1 forecast, the Proposed Project is estimated to result in the consumption of approximately 677,513 gallons of aviation fuel annually. APU and GSE would consume an additional 83,273 gallons annually. Mobile sources associated with tenants and patrons of the Proposed Project are estimated to consume 301,901 gallons of gasoline and 16,786 gallons of diesel annually

Therefore, compared to the No Project condition, as shown in Table 3.1.10-3 PAL1 would result in an annual increase in consumption of 142,042 gallons (5,404,698 kWh) increase of aviation fuel. Additional GSE would consume an additional 13,173 gallons (499,915 kWh) annually over the no project condition. Fuel consumption associated with mobile sources would increase approximately 3,752 gallons (123,902 kWh) annually.

PAL 2

At full buildout of the Master Plan Update in 2036 under the PAL2 forecast, the Proposed Project is estimated to result in the consumption of approximately 704,300 gallons of aviation fuel annually. APU and GSE would consume an additional 95,291 gallons annually. Mobile sources associated with tenants and patrons of the Proposed Project are estimated to consume 569,432 gallons of gasoline and 31,660 gallons of diesel annually.

Therefore, compared to the No Project condition, as shown in Table 3.1.10-4 PAL2 would result in an annual increase in consumption of 168,829 gallons (6,423,943 kWh) increase of aviation fuel. Additional GSE would consume an additional 25,191 gallons (955,998 kWh) annually. Fuel consumption associated with mobile sources would increase approximately 286,148 gallons (9,449,716 kWh) annually.

Additionally, as discussed in subsection 3.1.5, while not part of the Proposed Project, SANDAG's long-term regional transportation planning document San Diego Forward includes the creation of an airport express transit line, serving the regional airports, including the Airport, as well as a general rapid transit line that would serve both South and North County. The availability of additional transit service for the Airport would also encourage lower vehicle fuel consumption.

Although the Proposed Project would see an increase in petroleum use during construction and operation, the use would be a small fraction of the statewide use and capacity. Additionally, petroleum use would diminish over time as a result of fuel efficiencies standards primarily driven by State-mandated policies. Moreover, the vehicle fleet for the Proposed Project would continue to replace older, less efficient vehicles with newer, more fuel-efficient vehicles. Given these considerations, the petroleum consumption associated with the Proposed Project would not be considered a substantial demand on local or regional petroleum supplies, and therefore would result in a less than significant impact.

Many of the regulations regarding energy efficiency are focused on increasing the energy efficiency of buildings and renewable energy generation, as well as reducing water consumption and VMT. The Proposed Project includes energy conservation measures to meet and exceed the regulatory requirements. Theses energy conservation measures that would ensure energy would not be used in a wasteful manner or conflict with adopted energy conservation plans, policies or regulations.

The Proposed Project would be consistent with several energy reduction policies of the County General Plan (see Section 3.1.2, Regulatory Setting), including policies, COS-14.1, COS-14.10, COS-16.2, and COS-17.2. Additionally, the Proposed Project would be consistent with sustainable development and energy reduction policies such as policies COS-14.3, COS-15.1 though COS-15.4, through compliance with the most recent Title 24 standards at the time of construction of each project element, installation of energy-efficient appliances as applicable, and provision of recharging locations for electric cars. Lastly, as explained in Section 3.1.5 of this PEIR (Greenhouse Gas Emissions), individual project elements are subject to and would be consistent with County policies that are included in the CAP's emissions reduction strategies (e.g., CAP Measure T-3.2: Use Alternative Fuels in County Projects). The construction of each project element would not conflict with the CAP. Therefore, the Proposed Project would implement energy-reduction design features and comply with the most recent energy building standards consistent with applicable plans and policies. Therefore, impacts would be less than significant.

3.1.10.3 Cumulative Impact Analysis

Potential cumulative impacts on energy would result if the Proposed Project in combination with past, present, and future projects would result in the wasteful or inefficient use of energy. This could result from development that would not incorporate sufficient building energy efficiency features, achieve building energy efficiency standards, or would result in the unnecessary use of energy during construction or operation. The cumulative projects within the areas served by energy providers would be applicable to this analysis. Projects that include development of large buildings or other structures that would have the potential to consume energy in an inefficient manner would have the potential to contribute to a cumulative impact. Projects that would mostly include construction, such as transportation infrastructure, could also contribute to a cumulative impact; however, the impact of these projects would be limited because they would typically not involve substantial ongoing energy use.

In consideration of the cumulative energy use demand, the Proposed Project would not contribute to a substantial demand on energy resources and services because no new regional energy facilities would be required to be constructed as a result of the incremental increase in energy demand resulting from the Proposed Project.

With the adherence to the increasingly stringent building and vehicle efficiency standards as well as implementation of the Proposed Project's design features that would reduce energy consumption, the Proposed Project would not contribute to a cumulative impact to the wasteful or inefficient use of energy. As such, the Proposed Project would not result in a cumulatively considerable impact on energy.

3.1.10.4 Conclusion

Energy would be consumed through daily airport activities as well as daily vehicle use by employees and patrons. While the long-term implementation of the Master Plan Update would result in an increase in energy consumption compared to existing conditions, this increase would result in less than significant impacts. The Proposed Project would incorporate State and local policies as explained in Section 3.1.10.3 (related to electricity, natural gas and water use) that require the project to exceed energy and water efficiency regulations, under the 2016 Title 24 Part 6 and Part 11. Agency-wide the County of San Diego has established plans, programs, and initiatives to address the reduction of unnecessary energy consumption, integrate efficiency measures, and convert County operations to more environmentally sustainable practices, and the Proposed Project is required to comply with those strategies.

In addition to the safety benefits of the Proposed Project, continuing to accommodate commercial air service in the North County as an alternative for passengers to use instead of driving to SDIA or other larger airports provides a regional reduction in vehicle fuel consumption. The project design features included in the Master Plan Update also include energy conservation measures that were not quantified due to the uncertainty of patron and tenant participation, such measure to provide the infrastructure necessary to accommodate the future use of solar photovoltaic panels and/or systems and a recharging stations for electric vehicles. These measures would further promote energy-efficiency and reduce future demand for energy from the Proposed Project. Overall, the Proposed Project therefore would not result in an inefficient, wasteful and unnecessary consumption of energy as described in Appendix F of the CEQA guidelines.

Table 3.1.10-1. SDG&E Power Content

Energy Source	SDG&E 2016 Power Mix
Renewables	43%
– Biomass & waste	1%
– Geothermal	0%
– Small hydroelectric	0%
– Solar	21%
– Wind	21%
Coal	0%
Large Hydroelectric	0%
Natural Gas	42%
Unspecified	15%
TOTAL	**100%**

*Source: SDG&E 2016

Table 3.1.10-2. Construction Horsepower and Fuel Consumption

Phase	Master Plan Update Project # (Figure 1-5)	Horsepower Hours	Fuel Consumed (Gallons)
Near-term	1	47,148	1,886
	2	20,880	835
	3	152,401	6,096
	4	339,944	13,598
	5	69,724	2,789
	6	64,988	2,600
	7	126,944	5,078
Intermediate-term	8	10,025	401
	9	419,376	16,775
	10*	0	0
	11	7,741	310
Long-term	12	715,411	28,616
	13	26,487	1,059
	14	404,630	16,185
	15	20,780	831
	16	45,538	1,822
		TOTAL	**98,881**

*Project Element #10 includes reserving existing pavement for potential General Aviation parking. No emissions are anticipated.

Source: Appendix J

Table 3.1.10-3. Fuel Consumption Comparison (PAL 1)
(gallons)

Scenarios	Aircraft	APU/GSE	Gasoline	Diesel	TOTAL
No Project	535,471	70,100	298,355	16,589	920,515
PAL 1	677,513	83,273	301,910	16,786	1,079,482
Difference	**142,042**	**13,173**	**3,555**	**197**	**158,967**

Table 3.1.10-4. Fuel Consumption Comparison (PAL 2)
(gallons)

Scenarios	Aircraft	APU/GSE	Gasoline	Diesel	TOTAL
No Project	535,471	70,100	298,355	16,589	920,515
PAL 2	704,300	95,291	569,432	31,660	1,400,683
Difference	**168,829**	**25,191**	**271,077**	**15,071**	**480,168**

3.2 Effects Found Not Significant During Initial Study

The following environmental areas were found not to be significant during the Environmental Initial Study Process: Mineral Resources, Population and Housing, Recreation. The Environmental Initial Study has been included with the NOP as Appendix A to this PEIR.

3.2.1 Mineral Resources

The project site has been classified by the California Department of Conservation – Division of Mines and Geology (Update of Mineral Land Classification: Aggregate Materials in the Western San Diego Production-Consumption Region, 1997) as an area of "Potential Mineral Resource Significance" (MRZ-3). However, the Proposed Project is located within an existing airport that has been in use since 1959. Furthermore, the Airport is surrounded by densely developed land uses (including commercial and industrial uses) that are incompatible with future extraction of mineral resources on the project site. A future mining operation at the project site would likely create a significant impact to neighboring properties for issues such as noise, air quality, traffic, and possibly other impacts. Therefore, implementation of the Proposed Project would not result in the loss of availability of a known mineral resource that would be of value since the mineral resource has already been lost due to incompatible land uses, and impacts would be less than significant.

The project site is not designated as a mineral resource recovery site, nor are there any designated locally important mineral recovery sites within the City of Carlsbad. Therefore, implementation of the Proposed Project would not result in the loss of availability of a known mineral resource of locally important mineral resource recovery (extraction) site delineated on a local general plan, specific plan or other land use plan. Therefore, no impacts to mineral resources would occur.

3.2.2 Population and Housing

The Proposed Project is designed to accommodate existing and long-term demand for the public-use airport. The Proposed Project does not propose new homes or businesses, nor does it require any physical or regulatory change that would remove a restriction to or encourage population growth in an area. Therefore, implementation of the Proposed Project would not induce substantial population growth, and impacts would be less than significant.

All proposed facility improvements are located within the existing airport property. Consequently, the project would not result in the displacement of any existing housing or people. Therefore, no impacts to population and housing would occur.

3.2.3 Recreation

The Proposed Project consists of improvements to the existing airport and does not propose any residential uses that would increase the use of existing neighborhood and regional parks or other recreational facilities in the vicinity. Similarly, the Proposed Project does not include recreational facilities or require the construction or expansion of recreational facilities that could have an adverse physical effect on the environment. Therefore, no impacts to recreational facilities would occur.

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CHAPTER 4 PROJECT ALTERNATIVES

The purpose of analyzing alternatives in this PEIR is to describe a range of reasonable alternatives to the project which could feasibly attain most of the basic objectives of the project, but would avoid or substantially reduce any of the significant effects of the Proposed Project, and to evaluate the comparative merits of the alternatives (Section 15126.6(a) of the CEQA Guidelines). Additionally, Section 15126.6(b) of the CEQA Guidelines requires consideration of alternatives that could reduce to a less than significant level or eliminate any significant adverse environmental effects of the project, including alternatives that may be more costly or could otherwise impede to some degree the attainment of the project's objectives. The No Project Alternative is also considered in conformance with Section 15126(d) of the CEQA Guidelines.

Throughout the development of the Airport Master Plan Update, input was gathered at regular coordination meetings with the County, FAA, FBOs and stakeholders. In addition, four public workshops were conducted at various benchmarks of the master plan process to provide status updates on the project and to gather feedback on the Airport Master Plan Update and other Airport-specific issues. The primary reason for receiving and incorporating public feedback is to ensure that proposed improvements balance the County's requirements to meet FAA design standards for the airport alongside the needs of Airport users and the concerns of the surrounding community. Based on the Airport Master Plan Update's recommended facility requirements and projections of demand/capacity, this section discusses project development alternatives that are possible, reasonable, feasible, sustainable, and environmentally responsible. It is also important to identify that recommended airfield improvements are solely based on accommodating existing and projected aircraft operations and are not contingent on scheduled commercial activity in any way. For additional discussion of the technical background including the long-term aviation forecast, FAA airport design standards, site constraints and evaluation criteria, see Section 5 of the Airport Master Plan Update.

4.1 Rationale for Alternative Selection

As discussed in Chapter 1, the County has identified eight objectives associated with the Airport Master Plan Update. Reasonable alternatives that have the potential to accomplish the stated objectives have been identified and evaluated in this Program EIR to satisfy CEQA requirements.

The following sections describe the screening process undertaken to initially evaluate the Proposed Project and any reasonable alternatives for inclusion in this PEIR. A total of six build alternatives and the No Project Alternative were reviewed as part of the process to select the Proposed Project. This chapter provides a description of each of these alternatives that were reviewed, presents the reasons each of these other alternatives was either brought forward for or eliminated from further study, and provides a graphic that depicts the alternative. Table 4-1 provides a comparison of each alternative the Proposed Project's objectives as outlined in Chapter 1 of this PEIR. Finally, this chapter also identifies an environmentally superior alternative. The purpose of the alternatives analysis is to explore ways that the objectives of the Proposed Project could be attained while reducing or avoiding significant environmental impacts of the Project as proposed. This process is intended to foster informed decision-making and

public participation in the environmental process. Table 4-2 provides a comparison of each alternative's potential environmental impacts in relation to the Proposed Project.

4.1.1 Alternatives Screening Process

As described in Section 1.1 of this PEIR and the Airport Master Plan Update, the alternatives were screened using specific objectives listed below:

1) Safety
2) Financial Feasibility
3) Avoid Impacts to Airport Businesses
4) Ability to Accommodate Existing and Future Demand
5) Ability of Facility Improvements to Remain on Airport-owned Property
6) Environmental Impacts
7) Offsite Impacts to Surrounding Environs
8) Eligibility for FAA Funding

4.1.2 Alternatives Rejected as Infeasible

Alternatives that were considered but not carried forward for analysis in this EIR were eliminated for a variety of reasons, including: (i) they did not meet project objectives, (ii) they did not reduce or avoid project impacts, or (iii) they were found to be infeasible for technical, environmental, or other reasons. This section provides an overview of the reasons why the alternatives were eliminated from further consideration.

4.1.2.1 Relocate Airport

This alternative considered relocating the Airport to an alternate location or transferring commercial services to another airport. As the only other commercial air service airport in San Diego County alongside San Diego International Airport, the closure of McClellan-Palomar Airport would create a passenger service deficiency and the County could violate its Airport Grant Assurances with the FAA. Forcing commercial passengers, general aviation pilots, and corporate users to other airports rather than their preferred origin or destination airport would result in negative system-wide surface transportation impacts, including increases in VMT, increases in related air pollutant emissions, and the loss of convenient air transportation services for North County residents and businesses. Existing airport businesses are under long-term tenant leases, some up to 50 years, and the County would have to negotiate termination of the agreements. Corporate and charter air services would be forced to relocate and install new infrastructure. Relocating the airport to an alternate location or transferring services to another airport fails to meet any of the project objectives as outlined in Section 1.1 and was not considered further.

4.2 Analysis of the No Project Alternative

4.2.1 No Project Alternative Description and Setting

The State CEQA Guidelines require that analysis of a No Project Alternative be included in all EIRs. Under the No Project Alternative, the existing conditions on the Proposed Project site would remain unchanged into the reasonably foreseeable future, and the Airport would retain the current airfield configuration, and the existing MALSR navigation lighting system on Eastern Parcel would not be relocated. Aircraft would continue utilizing the existing facilities, but as air traffic volumes and fleet mix naturally evolve and grow overtime, the Airport would maintain its existing runway, taxiways, and safety separation distances.

The No Project Alternative provides a benchmark, enabling decision makers to compare the magnitude of environmental effects of the action alternatives. Although the No Project Alternative does not satisfy the Proposed Project's objectives, its inclusion in the PEIR is intended as a basis for comparison with the Proposed Project and other reasonable alternatives. A comparison of the potentially significant environmental effects of this alternative follows.

4.2.2 Comparison of the Effects of the No Project Alternative to the Proposed Project

4.2.2.1 Aesthetics

The No Project Alternative would not result in any airport improvements identified under the Proposed Project, such as extension of Taxiway A that would necessitate a retaining wall visible along Palomar Airport Road. Consequently, the No Project Alternative would not result in impacts on aesthetics as identified under the Proposed Project. Therefore, the No Project Alternative would result in a substantial advantage in terms of impact avoidance.

4.2.2.2 Biological Resources

The No Project Alternative would not result in any airport improvements identified under the Proposed Project, such as relocation of the vehicle service road near vernal pools and habitat occupied by coastal California gnatcatcher. Consequently, the No Project Alternative would not result in impacts to biological resources as identified under the Proposed Project. Therefore, the No Project Alternative would result in a substantial advantage in terms of impact avoidance.

4.2.2.3 Hazards and Hazardous Materials

The No Project Alternative would not result in any airport improvements identified under the Proposed Project, including earthwork and extension of the runway through the inactive landfill. Consequently, the No Project Alternative would not result in impacts related to hazards and hazardous materials as identified under the Proposed Project. Therefore, the No Project Alternative would result in a substantial advantage in terms of impact avoidance.

4.2.2.4 Noise

The No Project Alternative would not result in any airport improvements identified under the Proposed Project, such as construction or demolition along the northern property boundary. Consequently, the No Project Alternative would not result in temporary construction noise impacts as identified under the Proposed Project. Therefore, the No Project Alternative would result in a substantial advantage in terms of impact avoidance.

4.2.2.5 Transportation and Traffic

As discussed in the Airport Master Plan Update and this PEIR, the forecasted increase in vehicle trips to and from the Airport is anticipated to occur regardless of whether or not the Proposed Project is constructed. Traffic associated with the Airport is expected to increase over time even under the No Project Alternative, and the areas of LOS deficiencies identified would need to be addressed as discussed by the City of Carlsbad's General Plan Mobility Element. The Airport Master Plan Update discusses a range of potential commercial air service use at the airport based on long-term forecasts and the PEIR considers its potential impact to traffic. With the No Project Alternative, commercial service would continue to operate at the airport, but in the absence of a cohesive long-term planning document to identify operational efficiencies. Under the No Project Alternative, traffic impacts and mitigation would be addressed incrementally and on an individual basis, but would not result in a substantial advantage in terms of impact avoidance.

4.3 Analysis of the B-II Enhanced Alternative

4.3.1 B-II Enhanced Alternative Description and Setting

The B-II Enhanced Alternative (Figure 4-1) proposes to maintain the safety and design standards for the current B-II classification at the Airport. Improvements include installation of EMAS on Runway End 24. A retaining wall wrapping around both the north and south edges of the existing runway would provide support for the fill required to install the EMAS and would allow for the relocation of the vehicle service road while remaining out of the RSA. Additionally, the existing ground to the north of the runway is proposed to be re-graded to achieve slope requirements outlined in FAA AC 150/5300-13A within the RSA. These modifications allow for a future 900-foot runway extension to the east. This extension would require an additional MALSR navigation lighting structure east of its current location. While this alternative succeeds in alleviating areas that currently exceed the grade limitations for B-II design standards, this alternative does not address the issue of meeting runway to taxiway separation standards to meet the long-term aviation forecast for airport.

The B-II Enhanced Alternative meets the objectives of the Proposed Project by the following:

- Constructing EMAS on Runway 24 to stop aircraft in runway overrun situations.
- Addresses B-II design standards only by relocating the vehicle service road out of the RSA and regrading areas within the RSA that do not meet slope requirements.

The Airport Master Plan Update analysis finds that improvements to the Airport should meet the FAA design standards of an Aircraft Approach Category and ADG of D-III since the critical design aircraft is forecasted to become D-III within the 20-year planning period. While this alternative succeeds in meeting the B-II design standards it fails to address the issue of the runway to taxiway separation. Maintaining B-II standards at a facility that regularly experiences operations conducted by aircraft with higher ADGs than B-II is contrary to FAA airport design standards, even with the implementation of a proposed EMAS and regardless of the pilot in command decision to operate at CRQ. This alternative allows for a feasible extension of up to 900 feet while keeping critical safety areas associated with B-II design requirements on airport property.

4.3.2 Comparison of the Effects of the B-II Enhanced Alternative to the Proposed Project

4.3.2.1 Aesthetics

The B-II Enhanced Alternative would introduce a retaining wall along the southern slope at the east end of the Airport to support the extension of Taxiway A and to support future general aviation parking. The retaining wall would be visible for motorists traveling along Palomar Airport Road and would contrast with the existing visual character and quality of the existing natural slope. Impacts to aesthetics resulting from the B-II Enhanced Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the B-II Enhanced Alternative would not result in a substantial advantage in terms of impact avoidance.

4.3.2.2 Biological Resources

The B-II Enhanced Alternative would reduce impacts to biological resources compared to the Proposed Project. The B-II Enhanced Alternative would not construct the vehicle service road or shift the runway to the north in the northwestern portion of the Airport as anticipated under the Proposed Project. Consequently, the B-II Enhanced Alternative would avoid potential impacts to Diegan coastal sage scrub (occupied by coastal California gnatcatcher), granitic chamise chaparral, and vernal pools. Avoidance of these impacts would also ensure that the B-II Enhanced Alternative would not impact areas identified as PAMA in the Draft NC MSCP Plan. Therefore, the B-II Enhanced Alternative would result in an advantage in terms of impact reduction.

4.3.2.3 Hazards and Hazardous Materials

The B-II Enhanced Alternative would include excavation in the inactive landfill that would have the potential to result in a significant impact to an open, abandoned, or closed landfill as defined by County Guidelines. Similarly, construction of the B-II Enhanced Alternative would have the potential to encounter VOCs and metals detected in groundwater. Impacts from hazards and hazardous materials resulting from the B-II Enhanced Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the B-II Enhanced Alternative would not result in a substantial advantage in terms of impact avoidance.

4.3.2.4 Noise

The B-II Enhanced Alternative would not require pavement crushing, and therefore would avoid noise related impacts associated with these activities identified under the Proposed Project. However, the B-II Enhanced Alternative would extend Taxiway N along the northern edge of the Airport, which would result in similar general construction noise impacts as those identified under the Proposed Project. Therefore, the B-II Enhanced Alternative would result in a slight advantage in terms of impact reduction, but would not eliminate significant noise impacts.

4.3.2.5 Transportation and Traffic

As discussed in the Master Plan Update and this PEIR, the forecasted increase in vehicle trips to and from the Airport is anticipated to occur regardless of whether or not the Proposed Project is constructed. As such, the B-II Enhanced Alternative is anticipated to result in the same number of enplanements as compared to the PAL 1 and PAL 2 scenarios analyzed under the Proposed Project. Consequently, the B-II Enhanced Alternative would generate the same number of vehicle trips and result in the same impacts to the existing circulation network as those identified under the Proposed Project. Therefore, the B-II Enhanced Alternative would not result in a substantial advantage in terms of impact avoidance.

4.4 Analysis of the D-III Full Compliance Alternative

4.4.1 D-III Full Compliance Alternative Description and Setting

The D-III Full Compliance Alternative (Figure 4-2) proposes implementing all FAA design standards applicable to the Airport and accommodates the needs for general aviation and both existing and future commercial activity at the airport by fully adhering to the ADG D-III design standards. Projects include shifting the runway 104 feet to the north while reducing its width to 100 feet. Taxiway A would remain in its existing location, while Taxiway N would be relocated approximately 200 feet north to establish 400 feet of separation between Runway 06-24 and Taxiway N. This results in the full removal of the existing aircraft parking on the north apron. 22 acres of land and 8 commercial buildings would need to be acquired to the north of the airport to allow room for the safety areas and to allow for the relocation of the parking lost on the north apron area. This alternative plans for a future 800-foot runway extension and the installation of a 350-foot-long EMAS installed at both runway ends. The EMAS systems would be sized for a D-III aircraft. Due to the larger safety areas associated with the D-III classification the maximum runway extension is 800 feet. The runway extension and shift to the north would require relocation of the existing MALSR navigational lighting system on the Eastern Parcel. A 900-foot extension to the east would require the relocation of El Camino Real, and any extension to the west would require additional grading and fill material as the topography drops steeply off the end of the Runway 06 blast pad.

The alternative meets the objectives of the Proposed Project by the following:

- Constructing EMAS on both runway ends to meet FAA RSA requirements.
- Relocating the runway and taxiways to achieve the correct separation.
- Accommodating aircraft parking needs by acquiring land north of the airport

The alternative fully implements the D-III safety requirements with the exception of the TOFA on the east end of Taxiway A. The Airport Master Plan Update shows that D-III aircraft are consistently operating at the Airport and their operations are forecasted to increase in the future. In addition to meeting the FAA standards for the larger aircraft, this alternative also maintains two parallel taxiways, relocates the north apron, and has no impact to the existing FBO leaseholds. However, with the cost associated with property acquisitions for other necessary improvements, this alternative is not anticipated to be economically viable.

4.4.2 Comparison of the Effects of the D-III Full Compliance Alternative to the Proposed Project

4.4.2.1 Aesthetics

The D-III Full Compliance Alternative would introduce a retaining wall along the southern slope at the east end of the Airport to support the extension of Taxiway A and to support future general aviation parking. The retaining wall would be visible for motorists traveling along Palomar Airport Road and would contrast with the existing visual character and quality of the existing natural slope. Impacts to aesthetics resulting from the B-II Enhanced Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the D-III Full Compliance Alternative would not result in a substantial advantage in terms of impact avoidance.

4.4.2.2 Biological Resources

The D-III Full Compliance Alternative would shift the runway and Taxiway N to the north. Consequently, the D-III Full Compliance Alternative would impact Diegan coastal sage scrub (occupied by coastal California gnatcatcher), granitic chamise chaparral, and vernal pools in the northwestern portion of the Airport as well as southern maritime chaparral and non-native grassland on the Eastern Parcel (due to relocation of existing MALSR). Construction of these project components would also impact areas identified as PAMA in the Draft NC MSCP Plan. Impacts to vernal pool habitat would also potentially result in an impact to wetlands. Impacts to biological resources resulting from the D-III Full Compliance Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the D-III Full Compliance Alternative would not result in a substantial advantage in terms of impact avoidance.

4.4.2.3 Hazards and Hazardous Materials

The D-III Full Compliance Alternative would include linear excavation near the individual inactive landfill that would have the potential to result in a significant impact to an open, abandoned, or closed landfill as defined by County Guidelines. Similarly, construction of the D-III Full Compliance Alternative would have the potential to encounter VOCs and metals detected in groundwater. Impacts from hazards and hazardous materials resulting from the D-III Full Compliance Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the D-III Full Compliance Alternative would not result in a substantial advantage in terms of impact avoidance.

4.4.2.4 Land Use

The D-III Full Compliance Alternative would require property acquisitions of approximately 22 acres of land and eight commercial buildings along the Airport's northern property boundary to accommodate the full FAA-required safety areas. Buildings and structures within RSAs/TSAs would have to be cleared and removed. Consequently, the D-III Full Compliance Alternative would introduce new impacts associated with land use that would not otherwise occur under the Proposed Project. As a result, this alternative would result in greater impacts as compared to the Proposed Project. This alternative would also necessitate new mitigation associated with land use impacts; however, it is anticipate these impacts associated with the property acquisitions would be mitigated to a level less than significant level through negotiations with the property owners to provide adequate compensation.

4.4.2.5 Noise

The D-III Full Compliance Alternative would shift Taxiway N northward and extend it along the Airport's northern property boundary resulting in similar general construction noise impacts (from pavement crushing and associated activities) as those identified under the Proposed Project. Noise-related impacts resulting from the D-III Full Compliance Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the D-III Full Compliance Alternative would not result in a substantial advantage in terms of impact avoidance.

4.4.2.6 Transportation and Traffic

As discussed in the Master Plan Update and this PEIR, the forecasted increase in vehicle trips to and from the Airport is anticipated to occur regardless of whether or not the Proposed Project is constructed. As such, the D-III Full Compliance Alternative is anticipated to result in the same number of enplanements as compared to the PAL 1 and PAL 2 scenarios analyzed under the Proposed Project. Consequently, the D-III Full Compliance Alternative would generate the same number of vehicle trips and result in the same impacts to the existing circulation network as those identified under the Proposed Project. Therefore, the D-III Full Compliance Alternative would not result in a substantial advantage in terms of impact avoidance.

4.5 Analysis of the D-III Modified Standards Alternative

4.5.1 D-III Modified Standards Alternative Description and Setting

The D-III Modified Standards Alternative (Figure 4-3) attempts to meet FAA safety criteria, specifically the RSA and ROFA while enhancing the separation between Runway 06-24 and Taxiway A. This option proposes limited modifications to design standard for ROFA length and runway-taxiway separation similar to modifications to standard currently in place at other airports where similar taxiway separation issues exist. Specifically, this alternative would shift the runway 75 feet to the north while reducing its width to 100 feet. Taxiway A would also shift four feet to the north. This would create a runway-taxiway separation distance of 367.5 feet (instead of the required 400 feet). The resulting ROFA would increase from 500 to 800 feet in width resulting in the full removal of the existing aircraft parking on the north apron area.

Because the TOFA would also increase, this would encroach into an existing leasehold by approximately 15 feet. Similar to the D-III Full Compliance Alternative, this alternative plans for a future 800-foot runway extension and the installation of a 350-foot-long EMAS installed at both runway ends. The EMAS systems would be sized for a D-III aircraft. Due to the larger safety areas associated with the D-III classification, the maximum runway extension is 800 feet. The runway extension and shift to the north would require relocation of the existing MALSR navigational lighting system on the Eastern Parcel.

The alternative meets the objectives of the Proposed Project by the following:

- Constructing EMAS on both runway ends to meet FAA RSA requirements.
- Relocating the runway and taxiways to achieve adequate separation.

The alternative fully implements D-III safety requirements. However, by not meeting the full 400-foot separation, simultaneous operation of Runway 06-24 and Taxiway A by D-III aircraft is not possible. As a solution, D-III aircraft may operate on the runway while D-II aircraft operate on the taxiway. Regarding operations, the Airport Master Plan Update shows that D-III aircraft are consistently operating at the Airport and their operations are forecasted to increase in the future. While this alternative would remain within the existing airport property, it would not accommodate forecasted aviation demand. In addition, portions of the existing FBO leaseholds would be impacted to accommodate the revised TOFA.

4.5.2 Comparison of the Effects of the D-III Modified Standards Alternative to the Proposed Project

4.5.2.1 Aesthetics

The D-III Modified Standards Alternative would introduce a retaining wall along the southern slope at the east end of the Airport to support the extension of Taxiway A and to support future general aviation parking. The retaining wall would be visible for motorists traveling along Palomar Airport Road and would contrast with the existing visual character and quality of the existing natural slope. Impacts to aesthetics resulting from the D-III Modified Standards Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the D-III Modified Standards Alternative would not result in a substantial advantage in terms of impact avoidance.

4.5.2.2 Biological Resources

The D-III Modified Standards Alternative would reduce impacts to biological resources compared to the Proposed Project. The D-III Modified Standards Alternative would not construct the vehicle service road or shift the runway to the north in the northwestern portion of the Airport as anticipated under the Proposed Project. Consequently, the D-III Modified Standards Alternative would avoid potential impacts to Diegan coastal sage scrub (occupied by coastal California gnatcatcher), granitic chamise chaparral, and vernal pools. Avoidance of these impacts would also ensure that the D-III Modified Standards Alternative would not impact areas identified as PAMA in the Draft NC MSCP Plan. However, relocation of the existing MALSR would continue to result in impacts to southern maritime chaparral and non-native grassland on

the Eastern Parcel. Therefore, the D-III Modified Standards Alternative would result in an advantage in terms of impact reduction on the active airfield.

4.5.2.3 Hazards and Hazardous Materials

The D-III Modified Standards Alternative would include excavation at the inactive landfill that would have the potential to result in a significant impact to an open, abandoned, or closed landfill as defined by County Guidelines. Similarly, construction of the D-III Modified Standards Alternative would have the potential to encounter VOCs and metals detected in groundwater. Impacts from hazards and hazardous materials resulting from the D-III Modified Standards Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the D-III Modified Standards Alternative would not result in a substantial advantage in terms of impact avoidance.

4.5.2.4 Noise

The D-III Modified Standards Alternative would require pavement crushing throughout the Airport, including removal on the north apron. Consequently, the D-III Modified Standards Alternative would result in similar noise impacts related to general construction and pavement crushing as those identified under the Proposed Project. Therefore, the D-III Modified Standards Alternative would not result in a substantial advantage in terms of impact avoidance.

4.5.2.5 Transportation and Traffic

As discussed in the Master Plan Update and this PEIR, the forecasted increase in vehicle trips to and from the Airport is anticipated to occur regardless of whether or not the Proposed Project is constructed. As such, the D-III Modified Standards Alternative is anticipated to result in the same number of enplanements as compared to the PAL 1 and PAL 2 scenarios analyzed under the Proposed Project. Consequently, the D-III Modified Standards Alternative would generate the same number of vehicle trips and result in the same impacts to the existing circulation network as those identified under the Proposed Project. Therefore, the D-III Modified Standards Alternative would not result in a substantial advantage in terms of impact avoidance.

4.6 Analysis of the D-III On Property Alternative

4.6.1 D-III On Property Alternative Description and Setting

The goal of the D-III On Property Alternative (Figure 4-4) is to adhere to the FAA D-III guidelines while keeping all improvements on existing airport property. It calls to shift the runway centerline 70 feet to the north and to shift Taxiway A 34 feet to the south, resulting in the required 400 feet of runway to taxiway separation. The width of the runway would be decreased to 100 feet. The shift of the runway places the north apron within the ROFA, which would require that it be removed. A new area would need to be determined to relocate more than 30 aircraft that used the north apron. This option plans for the installation of a 350-foot-long EMAS system on both runway ends and allows for an 800-foot extension to the east end of the runway. The EMAS systems would be sized for D-III aircraft. The relocation of Taxiway A to the south would reduce the leaseholds of the FBOs along the taxiway anywhere from 35 to 53 feet. The runway

extension and shift to the north would require relocation of the existing MALSR navigational lighting system on the Eastern Parcel.

The alternative meets the objectives of the Proposed Project by the following:

- Constructing EMAS on both runway ends to meet FAA RSA requirements.
- Shifting the Runway and Taxiway A to achieve the full D-III requirement of 400 feet.

This alternative is similar to the D-III Modified Standards Alternative in that it keeps all of the improvements on existing airport property; however, it proposes the full 400-foot separation of the future runway and taxiways. The result of increasing the separation to 400 feet while remaining on existing airport property is a significant impact to the FBO leaseholds on the south side of the runway.

4.6.2 Comparison of the Effects of the D-III On Property Alternative to the Proposed Project

4.6.2.1 Aesthetics

The D-III On Property Alternative would introduce a retaining wall along the southern slope at the east end of the Airport to support the extension of Taxiway A and to support future general aviation parking. The retaining wall would be visible for motorists traveling along Palomar Airport Road and would contrast with the existing visual character and quality of the existing natural slope. Impacts to aesthetics resulting from the D-III On Property Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the D-III On Property Alternative would not result in a substantial advantage in terms of impact avoidance.

4.6.2.2 Biological Resources

The D-III On Property Alternative would shift the runway and Taxiway N to the north. Consequently, the D-III On Property Alternative would impact Diegan coastal sage scrub (occupied by coastal California gnatcatcher), granitic chamise chaparral, and vernal pools as well as southern maritime chaparral and non-native grassland on the Eastern Parcel (due to relocation of existing MALSR). Construction of these project components would also impact areas identified as PAMA in the Draft NC MSCP Plan. Therefore, the D-III On Property Alternative would not result in a substantial advantage in terms of impact avoidance.

4.6.2.3 Hazards and Hazardous Materials

The D-III On Property Alternative would include excavation at the inactive landfill that would have the potential to result in a significant impact to an open, abandoned, or closed landfill as defined by County Guidelines. Similarly, construction of the D-III On Property Alternative would have the potential to encounter VOCs and metals detected in groundwater. Impacts from hazards and hazardous materials resulting from the D-III On Property Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project.

Therefore, the D-III On Property Alternative would not result in a substantial advantage in terms of impact avoidance.

4.6.2.4 Noise

The D-III On Property Alternative would shift Taxiway N northward and extend it along the Airport's northern property boundary resulting in similar general construction noise impacts (from pavement crushing and associated activities) as those identified under the Proposed Project. Noise-related impacts resulting from the D-III On Property Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the D-III On Property Alternative would not result in a substantial advantage in terms of impact avoidance.

4.6.2.5 Transportation and Traffic

As discussed in the Master Plan Update and this PEIR, the forecasted increase in vehicle trips to and from the Airport is anticipated to occur regardless of whether or not the Proposed Project is constructed. As such, the D-III On Property Alternative is anticipated to result in the same number of enplanements as compared to the PAL 1 and PAL 2 scenarios analyzed under the Proposed Project. Consequently, the D-III On Property Alternative would generate the same number of vehicle trips and result in the same impacts to the existing circulation network as those identified under the Proposed Project. Therefore, the D-III On Property Alternative would not result in a substantial advantage in terms of impact avoidance.

4.7 Analysis of the C-III Modified Standards Compliance Alternative

4.7.1 C-III Modified Standards Compliance Alternative Description and Setting

As discussed in the Airport Master Plan Update, and defined in FAA AC 150/5300-13A, runway design standards for C-III and D-III aircraft are identical. Accordingly, the C-III Modified Standards Compliance Alternative (Figure 4-5) provides separation distances and protection zones functionally equivalent to the Proposed Project, and generally follows the same airfield layout. The exact sizing of EMAS at the ends of the runway would be based on the designation of a design critical aircraft for the classification "C" aircraft, but would be very similar to the Proposed Project. This Alternative provides safety improvements to the airfield using the same FAA design standards as the long-term forecast but does not classify the airport as meeting the "D" standard. Because the runway safety improvements are identical between C-III and D-III, the airport would maximize safety to the current and future users. Accordingly, the physical improvements outlined in the Proposed Project would match this alternative.

4.7.2 Comparison of the Effects of the C-III Modified Standards Compliance Alternative to the Proposed Project

4.7.2.1 Aesthetics

The C-III Modified Standards Compliance Alternative would introduce a retaining wall along the southern slope at the east end of the Airport to support the extension of Taxiway A and to

support future general aviation parking. The retaining wall would be visible for motorists traveling along Palomar Airport Road and would contrast with the existing visual character and quality of the existing natural slope. Impacts to aesthetics resulting from the C-III Modified Standards Compliance Alternative, and associated mitigation measures, would be similar to the Proposed Project. Therefore, the C-III Modified Standards Compliance Alternative would not result in a substantial advantage in terms of impact avoidance.

4.7.2.2 Biological Resources

The C-III Modified Standards Compliance Alternative would shift the runway and Taxiway N to the north. Consequently, this alternative would impact Diegan coastal sage scrub (occupied by coastal California gnatcatcher), granitic chamise chaparral, and vernal pools in the northwestern portion of the Airport as well as southern maritime chaparral and non-native grassland on the Eastern Parcel (due to relocation of existing MALSR). Construction of these project components would also impact areas identified as PAMA in the Draft NC MSCP Plan. Impacts to vernal pool habitat would also potentially result in an impact to wetlands. Impacts to biological resources resulting from the C-III Modified Standards Compliance Alternative, and associated mitigation measures, would be similar to the Proposed Project. Therefore, this alternative would not result in a substantial advantage in terms of impact avoidance.

4.7.2.3 Hazards and Hazardous Materials

The C-III Modified Standards Compliance Alternative would include linear excavation near the individual inactive landfill that would have the potential to result in a significant impact to an open, abandoned, or closed landfill as defined by County Guidelines. Similarly, construction of this alternative would have the potential to encounter VOCs and metals detected in groundwater. Impacts from hazards and hazardous materials resulting from this alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the C-III Modified Standards Compliance Alternative would not result in a substantial advantage in terms of impact avoidance.

4.7.2.4 Noise

The C-III Modified Standards Compliance Alternative would shift Taxiway N northward and extend it along the Airport's northern property boundary resulting in similar general construction noise impacts (from pavement crushing and associated activities) as those identified under the Proposed Project. Noise-related impacts resulting from the C-III Modified Standards Compliance Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the C-III Modified Standards Compliance Alternative would not result in a substantial advantage in terms of impact avoidance.

4.7.2.5 Transportation and Traffic

The C-III Modified Standards Compliance Alternative would result in the same number of enplanements anticipated by the PAL 1 and PAL 2 scenarios analyzed under the Proposed Project. Consequently, this alternative would generate the same number of vehicle trips and result in the same impacts on existing circulation network as those identified under the

Proposed Project. Implementation of mitigation measures M-TR-1 and M-TR-2 identified in Section 2.5.6 would reduce impacts associated with this alternative to a level less than significant. Therefore, the C-III Modified Standards Compliance Alternative would not result in a substantial advantage in terms of impact avoidance.

4.8 Analysis of the Public Comment Alternative

4.8.1 Public Comment Alternative Description and Setting

The Public Comment Alternative (Figure 4-6) was presented by a member of the public during the NOP review period in response to the request for comments. It proposes shifting the runway approximately 300 feet to the east as well as 123 feet to the north. The goal of the shift to the east is to allow for the required 1,000-foot RSA and ROFA and therefore eliminate the need to re-install EMAS. The runway extension and shift to the north would require relocation of the existing MALSR navigational lighting system on the Eastern Parcel.

In order for the Runway 06 RSA and ROFA to meet full FAA design standards, these areas would require a significant amount of grading to meet the minimum slope as the difference in height from the end of the existing blast pad to the limit of the future RSA is approximately 70 feet. The shift of the runway to the east would also reduce the available length of the future runway extension by several hundred feet.

The alternative proposed by the public meets the objectives of the Proposed Project by the following:

- Shifting the runway to the north, increasing the separation from Taxiway to D-III standards.

- Constructing the newly shifted runway farther to the east, providing the full 1,000-foot RSA and ROFA.

While the shift of the runway to the east allows for a full 1,000-foot RSA and ROFA, the RSA would still not be in compliance due to the significant grade from runway's western end. Additionally, the shift of the runway to the east will reduce the potential for a future extension of the runway. Because the Public Comment Alternative does not satisfy projected demand in terms of aircraft operations of the existing and future fleet mix, it is not considered to be a viable alternative.

4.8.2 Comparison of the Effects of the Public Comment Alternative to the Proposed Project

4.8.2.1 Aesthetics

The Public Comment Alternative would not introduce a retaining wall along the southern slope at the east end of the Airport to support the extension of Taxiway A; however, it would still be needed to support future general aviation parking at the Airport's southern boundary. The retaining wall would be visible for motorists traveling along Palomar Airport Road and would contrast with the existing visual character and quality of the existing natural slope. Impacts to

aesthetics resulting from the Public Comment Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the Public Comment Alternative would not result in a substantial advantage in terms of impact avoidance.

4.8.2.2 Biological Resources

The Public Comment Alternative would reduce impacts to biological resources compared to the Proposed Project. The Public Comment Alternative would not construct the vehicle service road or shift the runway to the north in the northwestern portion of the Airport as anticipated under the Proposed Project. Consequently, the Public Comment Alternative would avoid potential impacts to Diegan coastal sage scrub (occupied by coastal California gnatcatcher), granitic chamise chaparral, and vernal pools. Avoidance of these impacts would also ensure that the Public Comment Alternative would not impact areas identified as PAMA in the Draft NC MSCP Plan. However, relocation of the existing MALSR would continue to result in impacts to southern maritime chaparral and non-native grassland on the Eastern Parcel. Therefore, the Public Comment Alternative would result in a slight advantage in terms of impact reduction on the active airfield.

4.8.2.3 Hazards and Hazardous Materials

Although the Public Comment Alternative would not include a potential extension of the runway, it would include linear excavation near the inactive landfill that would have the potential to result in a significant impact to an open, abandoned, or closed landfill as defined by County Guidelines. Similarly, construction of the Public Comment Alternative would have the potential to encounter VOCs and metals detected in groundwater. Impacts from hazards and hazardous materials resulting from the Public Comment Alternative, and associated mitigation measures, would be similar to those listed above for the Proposed Project. Therefore, the B-II Enhanced Alternative would not result in a substantial advantage in terms of impact avoidance.

4.8.2.4 Noise

The Public Comment Alternative would require pavement crushing throughout the Airport, including removal on the north apron. Consequently, the Public Comment Alternative would result in similar noise impacts related to general construction and pavement crushing as those identified under the Proposed Project. Therefore, the Public Comment Alternative would not result in a substantial advantage in terms of impact avoidance.

4.8.2.5 Transportation and Traffic

The Public Comment Alternative would result in the same number of enplanements anticipated by the PAL 1 and PAL 2 scenarios analyzed under the Proposed Project. Consequently, the Public Comment Alternative would generate the same number of vehicle trips and result in the same impacts on existing circulation network as those identified under the Proposed Project. Implementation of mitigation measures M-TR-1 and M-TR-2 identified in Section 2.5.6 would reduce impacts associated with the Public Comment Alternative to a level less than significant. Therefore, the Public Comment Alternative would not result in a substantial advantage in terms of impact avoidance.

4.9 Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative, which is the alternative having the potential for the fewest significant environmental impacts. The No Action/No Project is the environmentally superior alternative because there would be no physical changes to the Airport. It would have the fewest environmental impacts but would not meet any of the project objectives.

The CEQA Guidelines require that if the No Project Alternative is the environmentally superior alternative, another alternative must also be identified as the environmentally superior alternative. Of the remaining options, the B-II Enhanced Alternative maintains the existing B-II airport classification. Without the requirement to increase safety distances around aircraft movement areas in accordance with FAA airport design standards, the current runway and taxiways would not shift. This would require less earthwork and pavement construction. While this alternative would result in reduced impacts to Biological Resources and Noise, similar impacts would result to Aesthetics, Hazardous Materials, and Transportation/Traffic. Although this alternative reduces or avoids the most environmental impacts when compared to the Proposed Project, it would not meet or achieve the project objectives as outlined in Section 1.1 of this PEIR.

Table 4-1. Comparison of Project Alternatives to Project Objectives

Project Objective (Section 1.1)	Proposed Project (D-III Modified Standards Compliance Alternative)	No Project	B-II Enhanced Alternative	D-III Full Compliance Alternative	D-III Modified Standards Alternative	D-III On Property Alternative	C-III Modified Standards Compliance Alternative	Public Comment Alternative
1) Safety – The preferred alternative must preserve and/or enhance the safety of Airport users. Airport users include passengers, pilots, Airport staff, tenants, and other operators. Safety criteria encompass FAA airport design standards, State and local regulations, and account for the operational functionality of aircraft and Airport users.	☑	☑	☑	☑	☑	☑	☑	☑
2) Financial Feasibility – The preferred development alternative must address the near and long-term Airport needs in a manner that is financially achievable, financially responsible, and environmentally and operationally sustainable.	☑	☑	☑	✗	☑	✗	☑	☑
3) Avoid Impacts to Airport Businesses – Avoid operational or physical changes to airport tenants or leaseholds in order to avoid disruptions to airport businesses.	☑	☑	☑	☑	✗	✗	☑	☑
4) Ability to Accommodate Existing and Future Demand – Forecasts of aviation-related demand have been developed for this Airport Master Plan Update. These forecasts are used as a gauge to determine what Airport improvements will be required to maintain or expand service at the Airport and at what point in time improvements should be implemented. The preferred alternative should be able to accommodate projected levels of aviation demand as warranted.	☑	✗	✗	☑	☑	☑	✗	✗
5) Ability of Facility Improvements to Remain on Airport-owned Property – Despite existing physical constraints at the airport, it is desirable to keep all facility improvements within the existing airport fenceline. This minimizes project cost and the potential for environmental and land use impacts.	☑	☑	☑	✗	☑	☑	☑	☑
6) Environmental Impacts – A goal of recommended alternatives is to minimize impacts to the environment. This includes on-Airport and off-airport impacts.	☑	☑	☑	✗	☑	☑	☑	☑

Table 4-1. Comparison of Project Alternatives to Project Objectives (continued)

7) Offsite Impacts to surrounding environs including businesses and roadways – Major reconstruction of existing businesses, infrastructure, and transportation systems can have significant impacts on an airport and the surrounding area. Such projects add cost, impact operations, capacity, and can have unintended environmental impacts. The preferred alternative should minimize changes to the surrounding community and infrastructure.	☑	☑	☑	✖	☑	☑	☑	☑
8) Eligibility for FAA Funding – Proposed improvements should adhere to FAA design criteria and be financially reasonable in order to be eligible for FAA grant funding for design and construction.	☑	✖	☑	☑	☑	☑	☑	☑

☑ – denotes alternative meets objective

✖ – denotes alternative does not meet objective

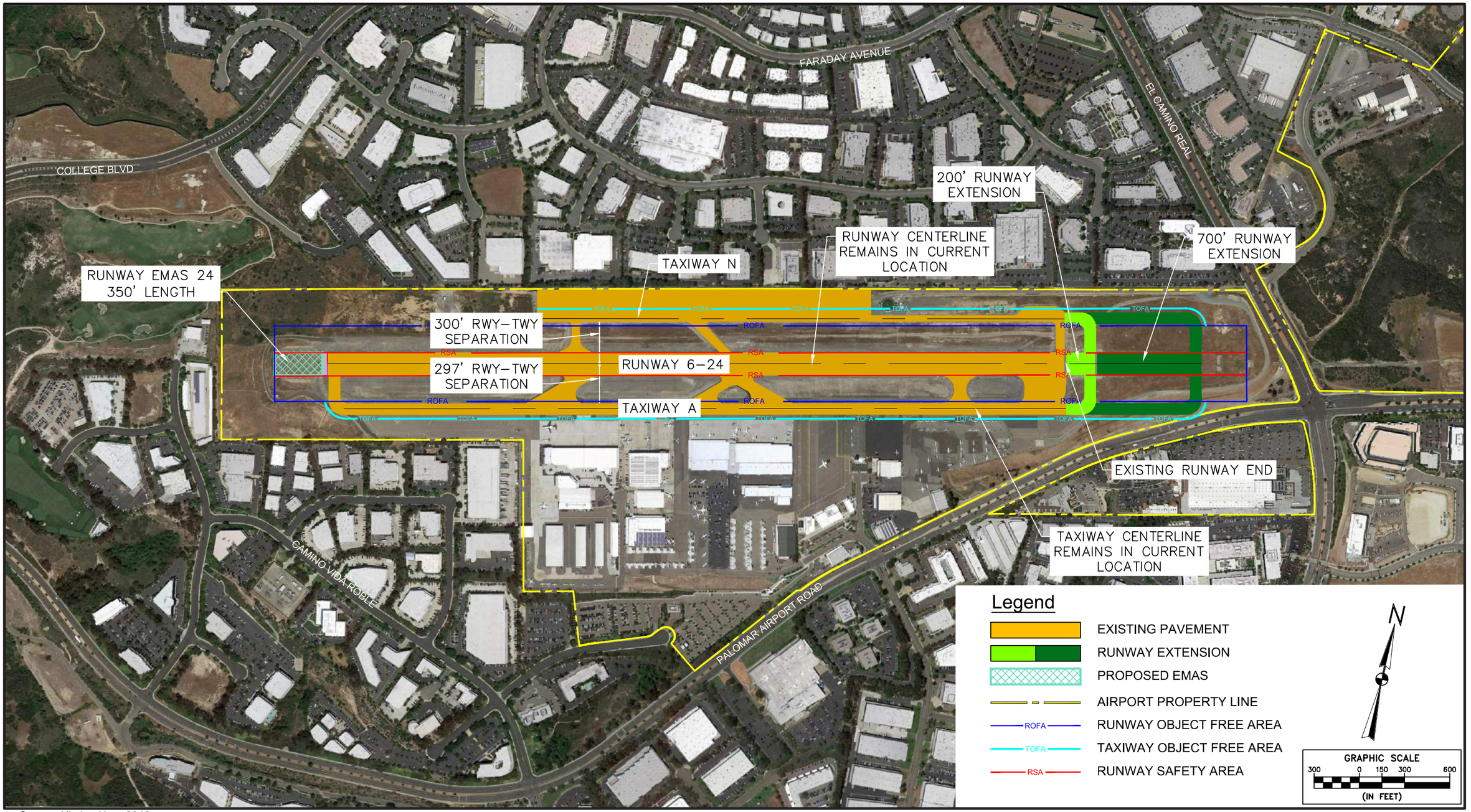
Note: as explained in Chapter 4 of this PEIR, some of the project alternatives would achieve different airport classifications (i.e., B-II, C-III, D-III). As such, this table analyzes whether the project objectives would be met for each alternative's respective airport classification.

Table 4-2. Comparison of Project Alternatives to Significant Proposed Project Impacts

Resource Area	Proposed Project (D-III Modified Standards Compliance Alternative)	No Project	B-II Enhanced Alternative	D-III Full Compliance Alternative	D-III Modified Standards Alternative	D-III On Property Alternative	C-III Modified Standards Compliance Alternative	Public Comment Alternative
Aesthetics	LTS	Less	Similar	Similar	Similar	Similar	Similar	Similar
Biological Resources	LTS	Less	Less	Similar	Less	Similar	Similar	Less
Hazards and Hazardous Materials	LTS	Less	Similar	Similar	Similar	Similar	Similar	Similar
Noise	LTS	Less	Less	Greater	Similar	Similar	Similar	Similar
Transportation/ Traffic	LTS	Similar	Similar	Similar	Similar	Similar	Similar	Similar

LTS – Less than Significant with Mitigation Incorporated
Similar – Alternative is likely to result in similar impacts when compared to Proposed Project.
Less – Alternative is likely to result in less impacts when compared to Proposed Project.
Greater – Alternative is likely to result in greater impacts when compared to Proposed Project.

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Source: Kimley-Horn 2018

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B-II Enhanced Alternative

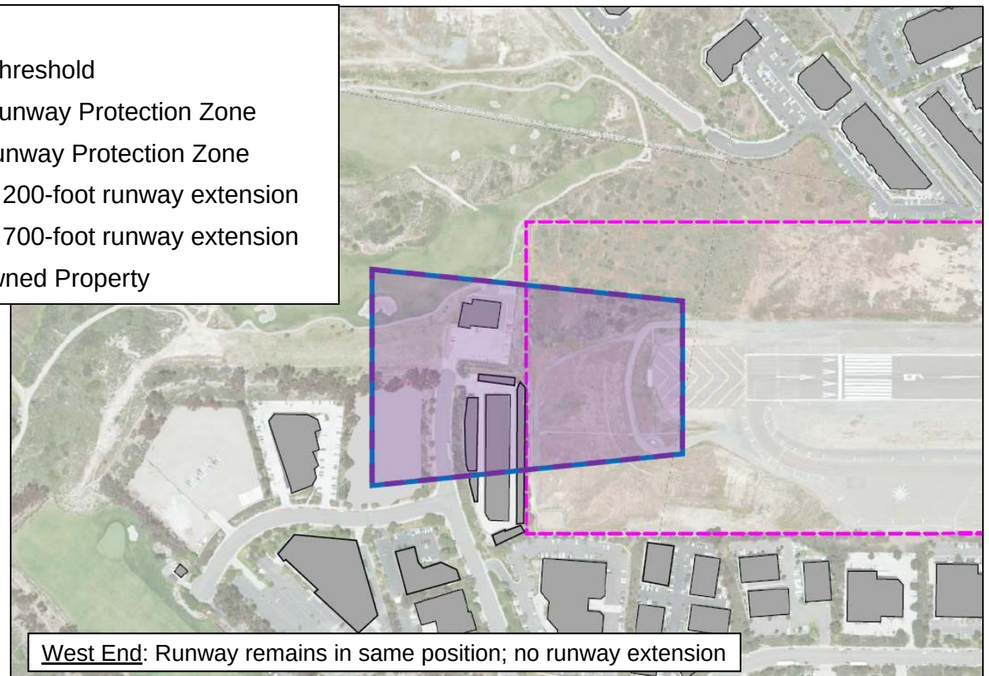
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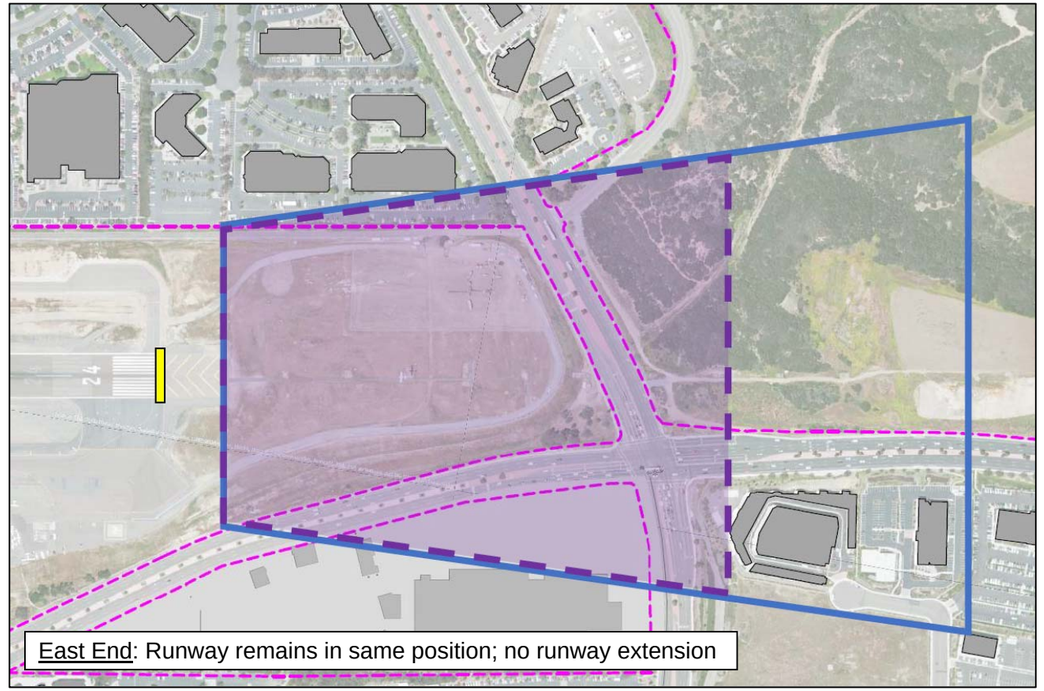
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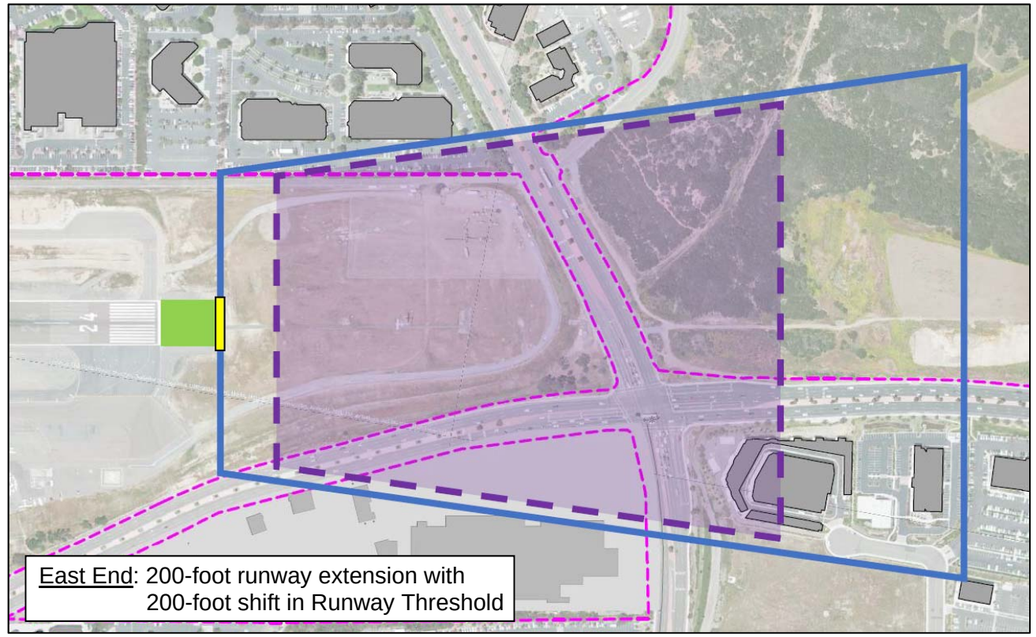
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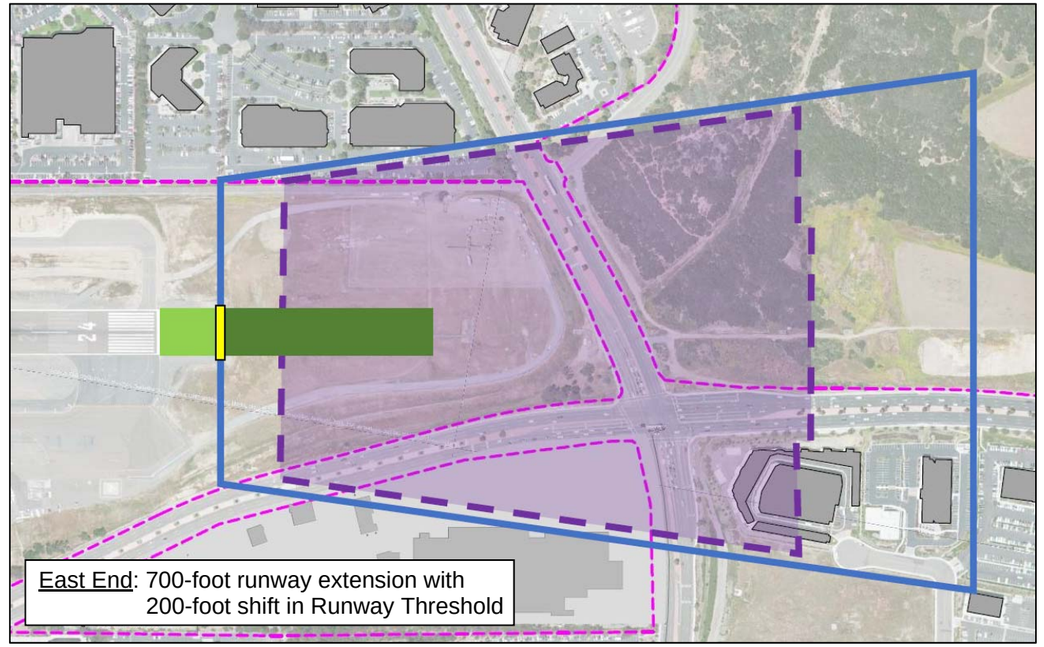
- Runway Threshold
- Existing Runway Protection Zone
- Area of Runway Protection Zone
- Option for 200-foot runway extension
- Option for 700-foot runway extension
- County-owned Property

*Not to scale









*For illustrative purposes only. Exhibits are not engineering drawings. Refer to Master Plan Update Exhibit 5.2b for more information.

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Program EIR

B-II Enhanced Alternative Runway Protection Zones

Figure 4-1b

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Source: Kimley-Horn 2018

D-III Full Compliance Alternative

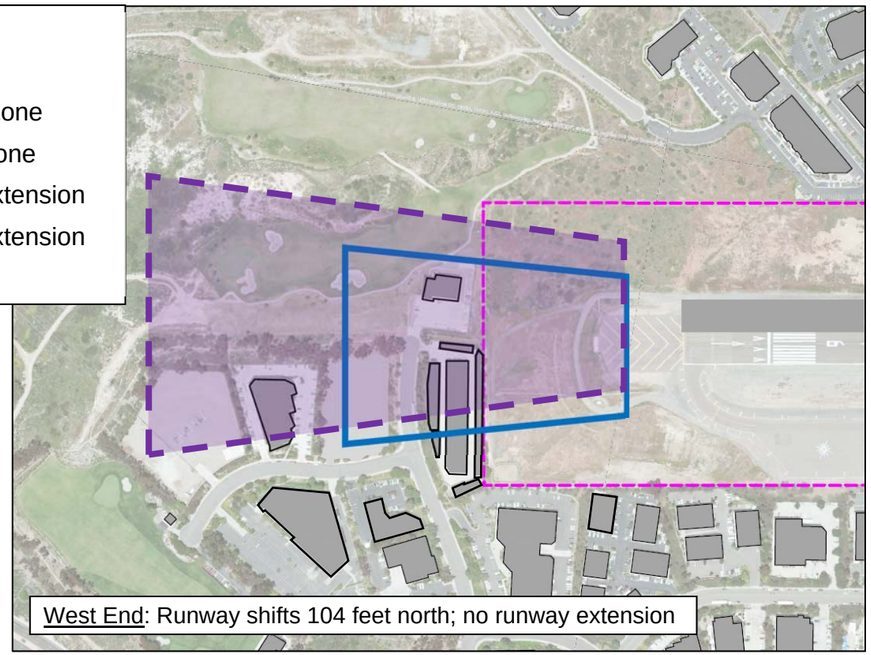
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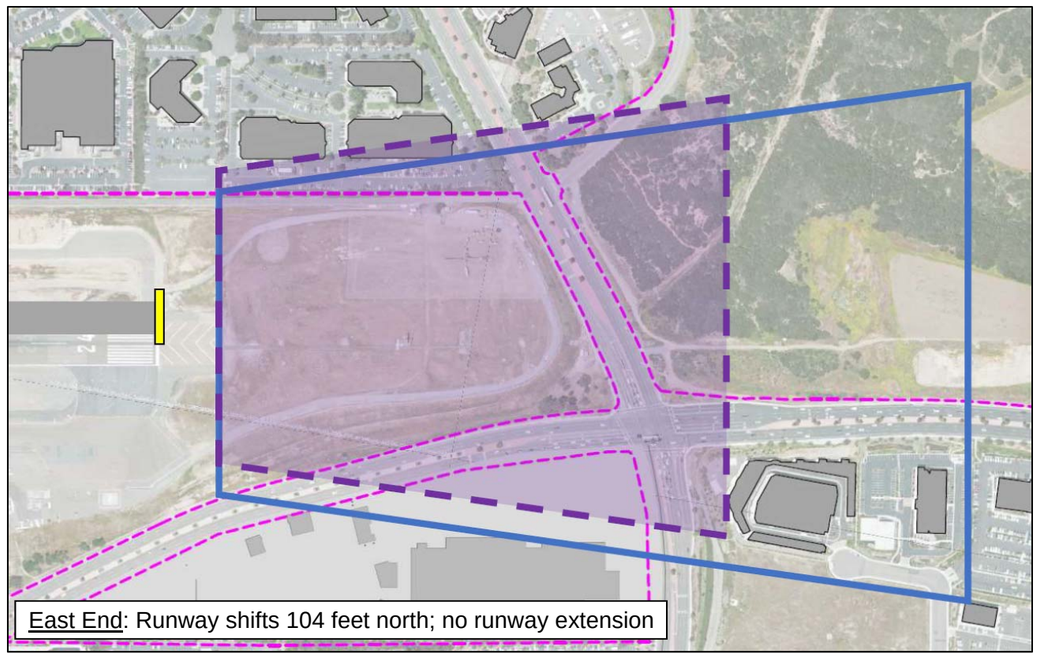
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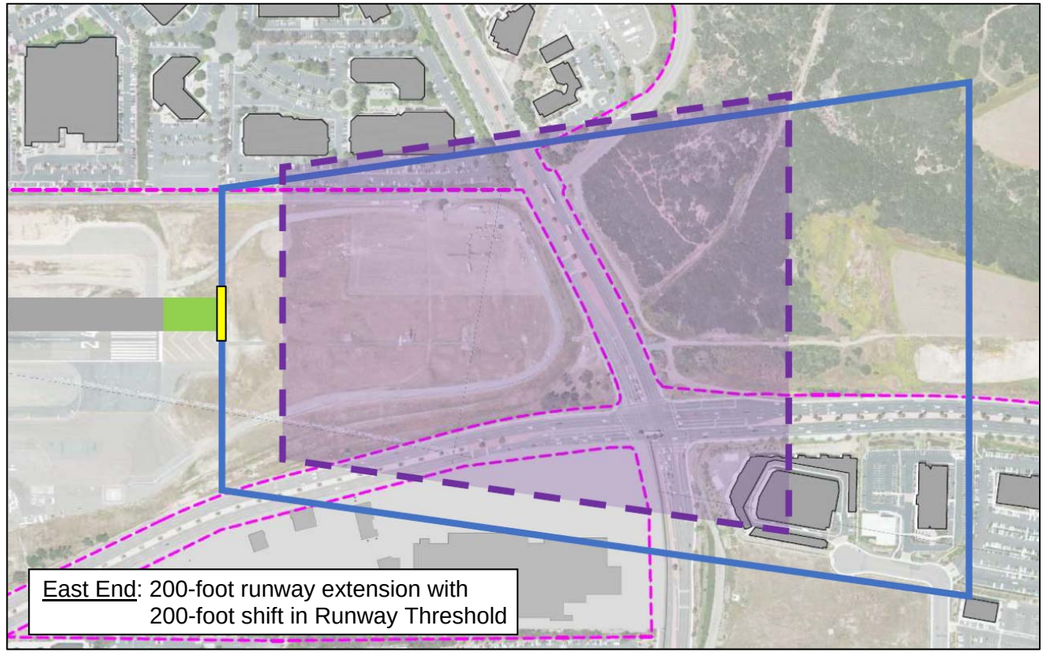
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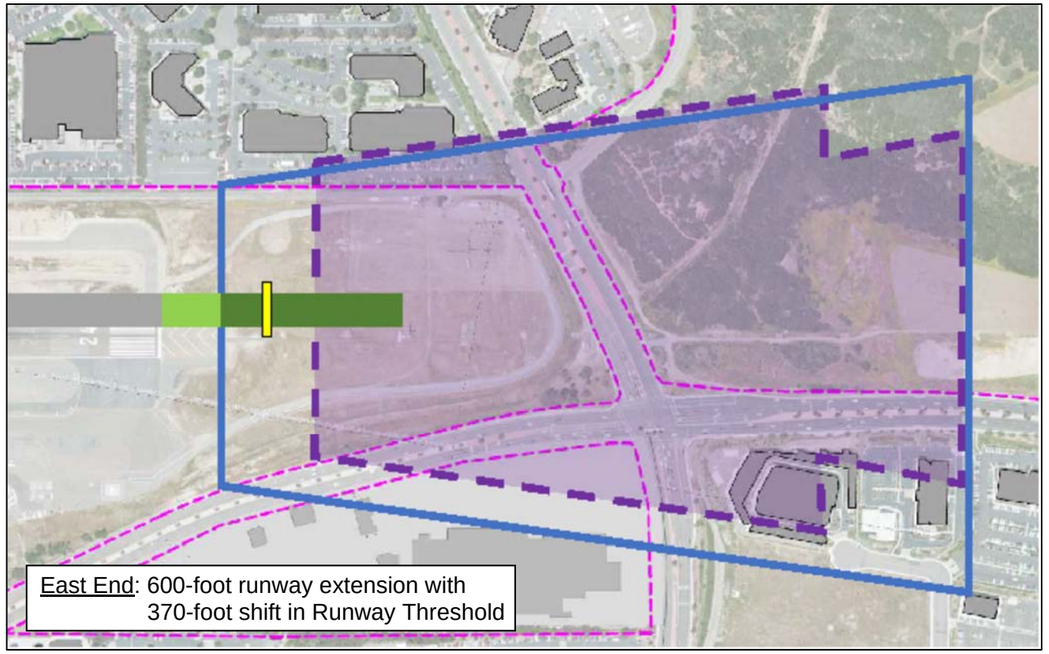
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- Area of Runway Protection Zone
- Option for 200-foot runway extension
- Option for 600-foot runway extension
- County-owned Property

*Not to scale







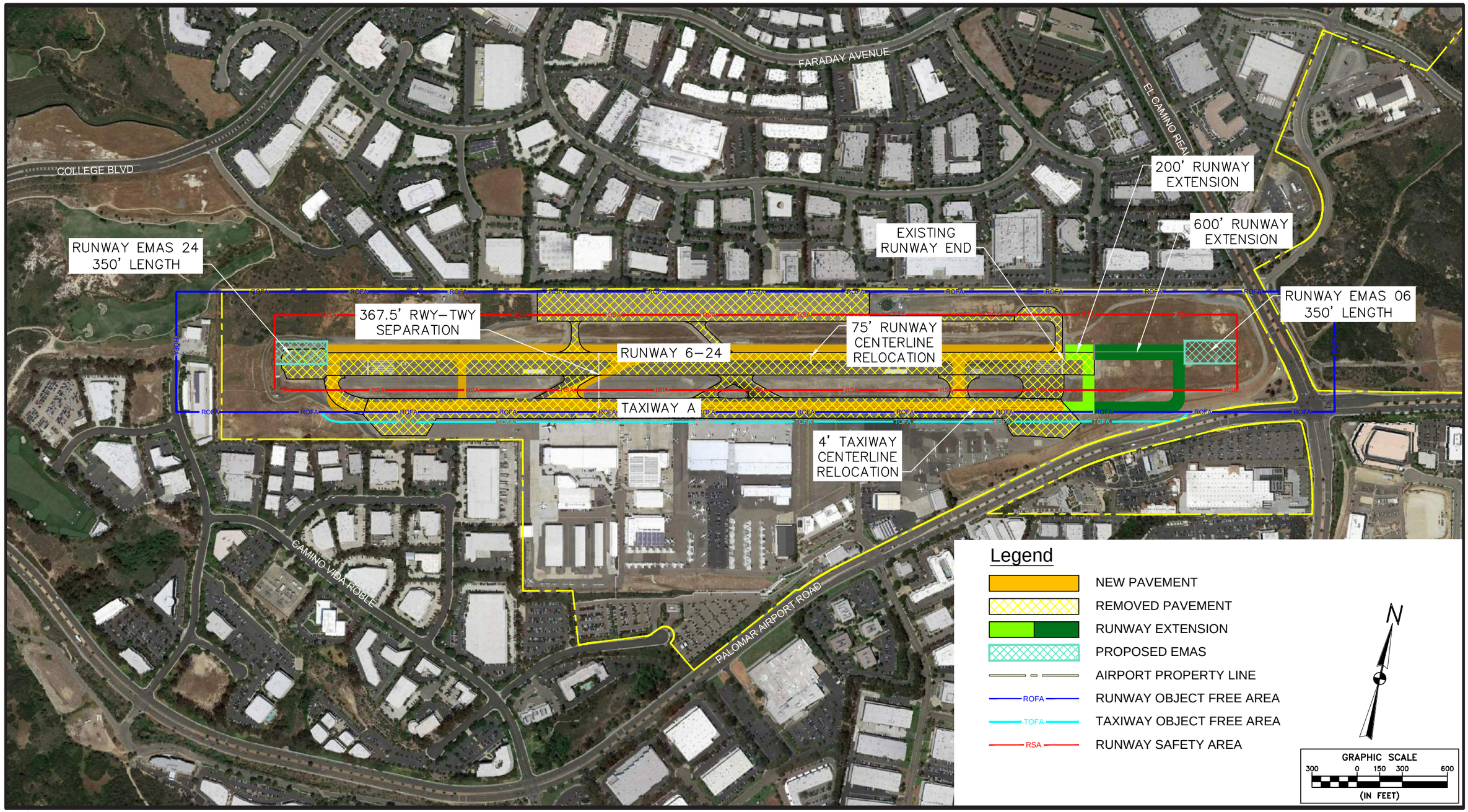


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D-III Full Compliance Alternative
Runway Protection Zones

Figure 4-2b

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Source: Kimley-Horn 2018

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Program EIR

D-III Modified Standards Alternative

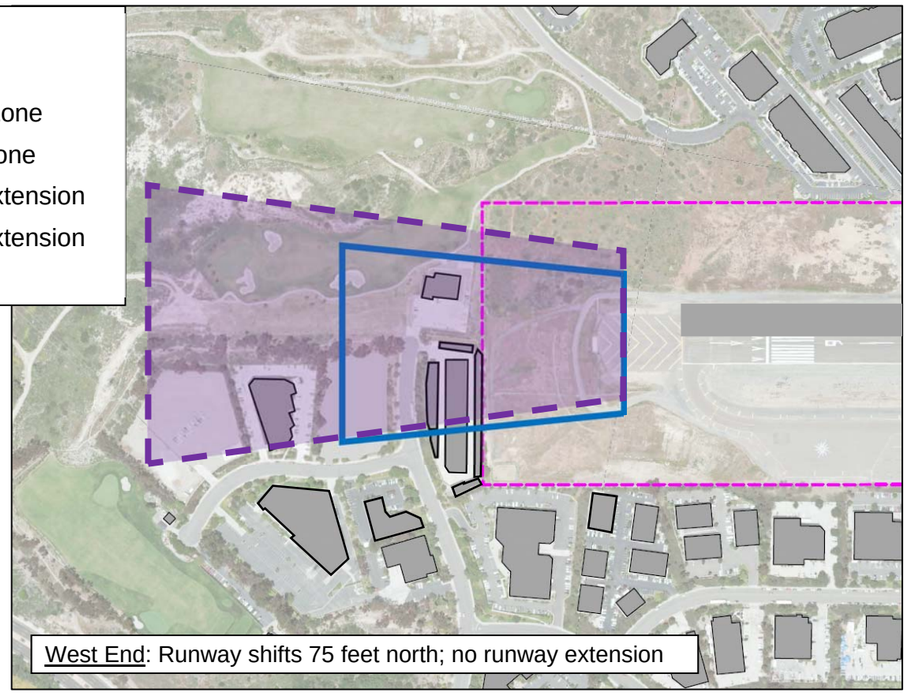
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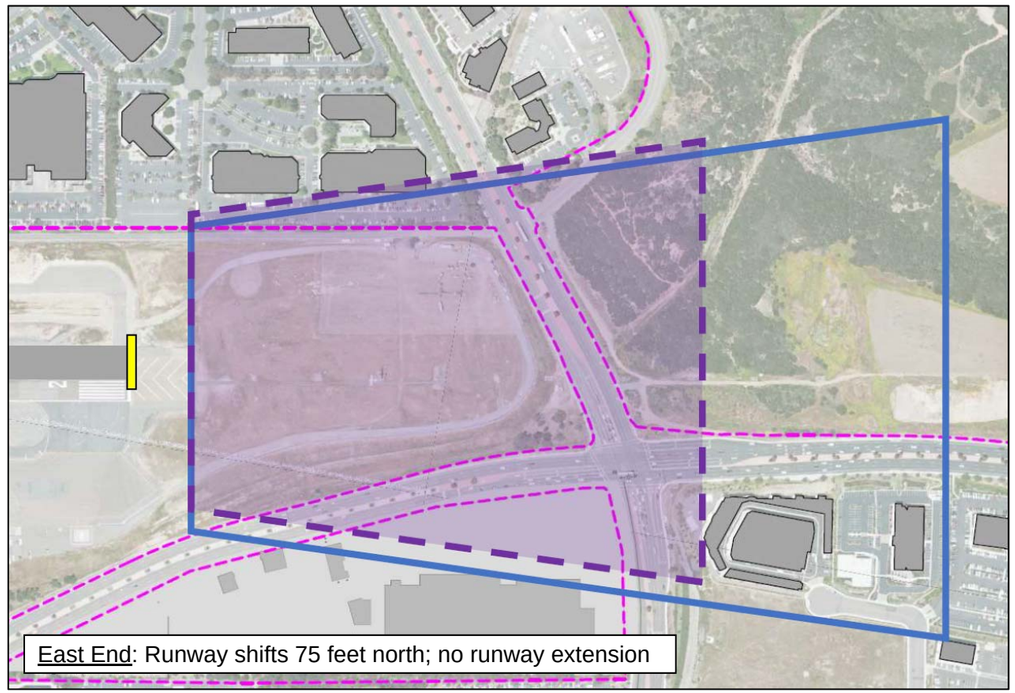
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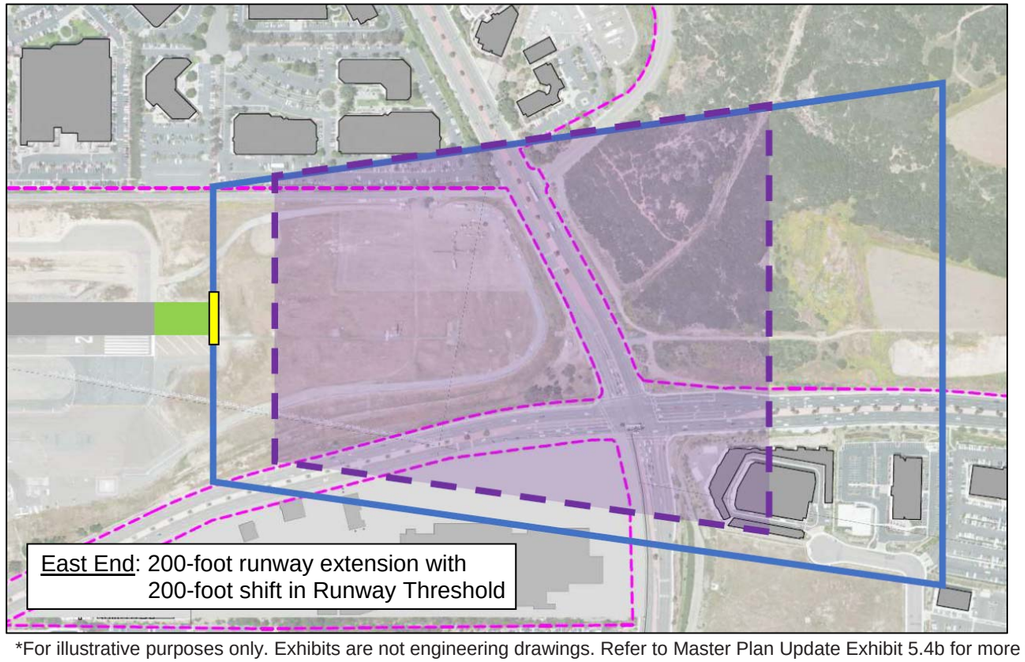
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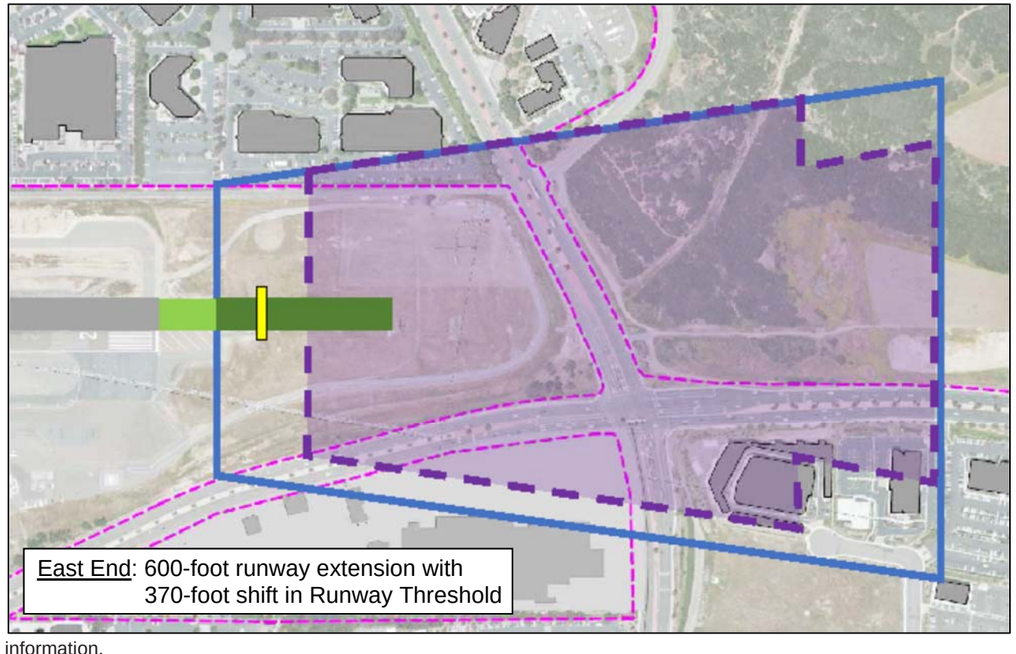
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- Area of Runway Protection Zone
- Option for 200-foot runway extension
- Option for 600-foot runway extension
- County-owned Property

*Not to scale









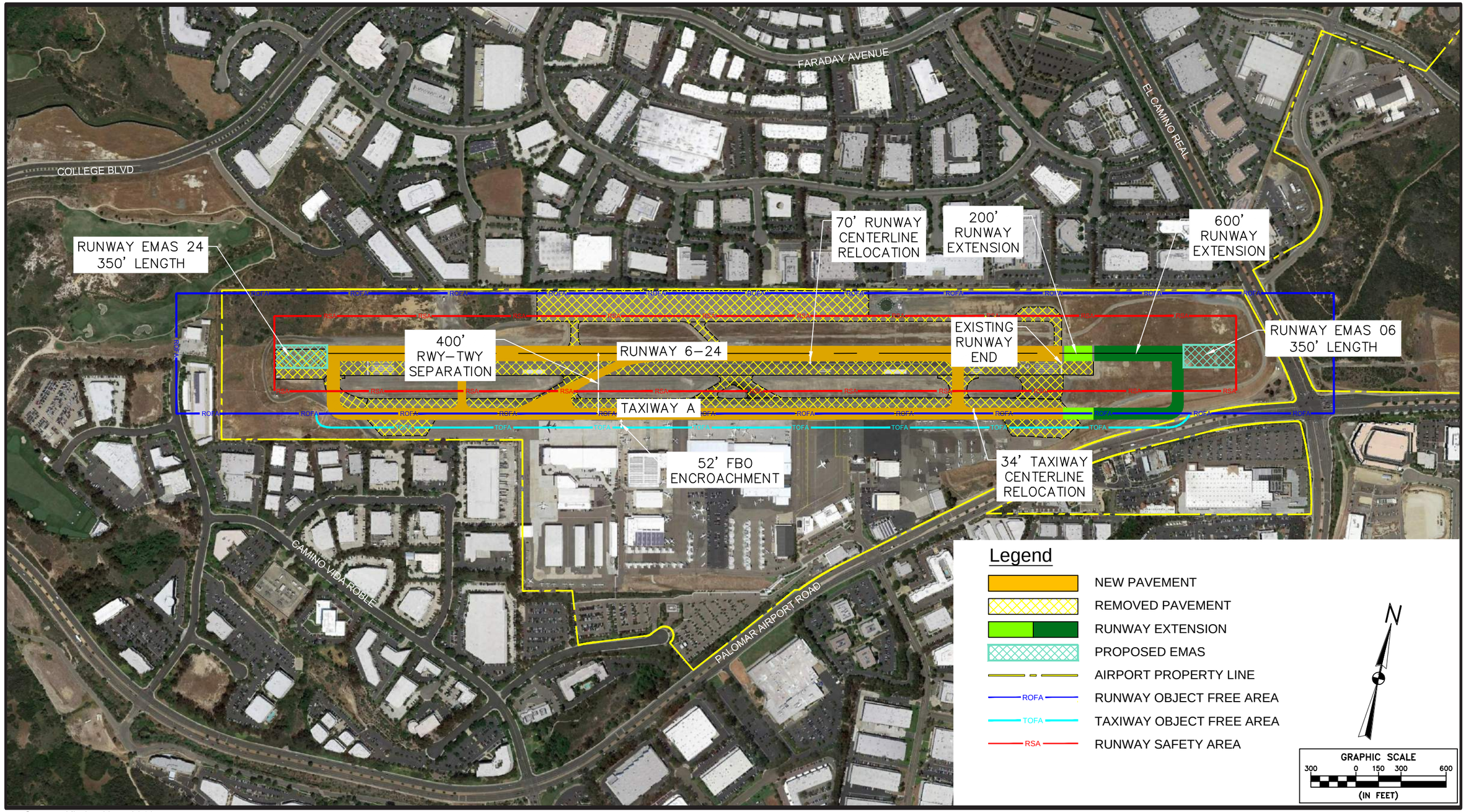
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D-III Modified Standards Alternative
Runway Protection Zones

Figure 4-3b

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Source: Kimley-Horn 2018

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Program EIR

D-III On Property Alternative

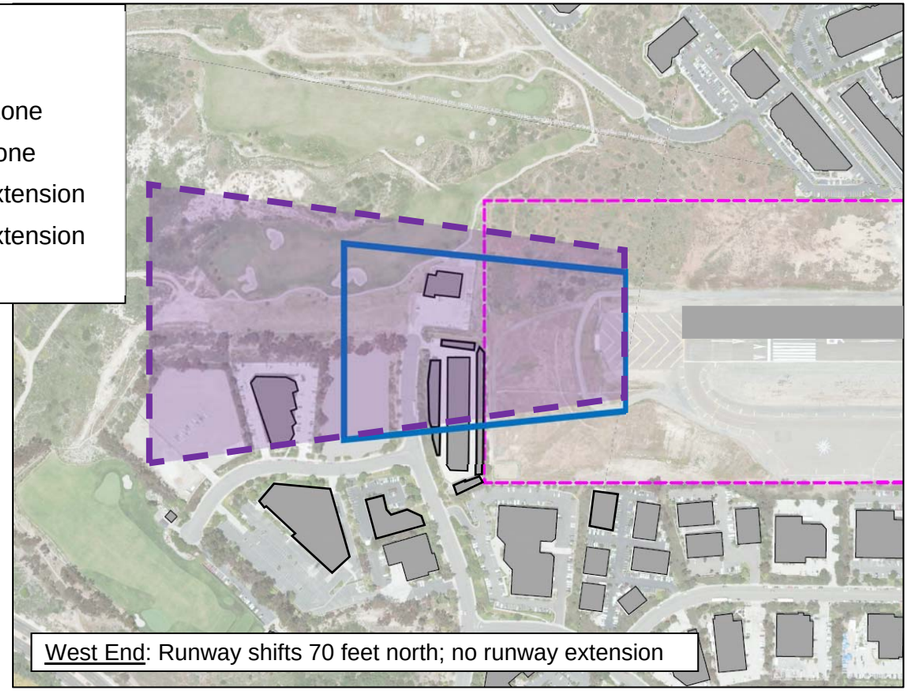
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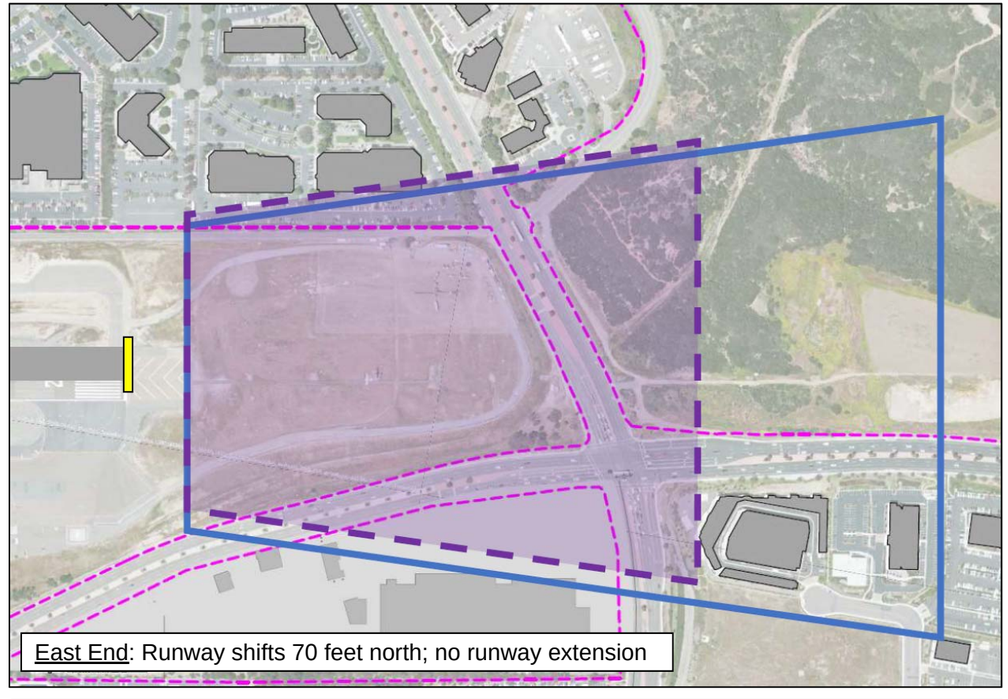
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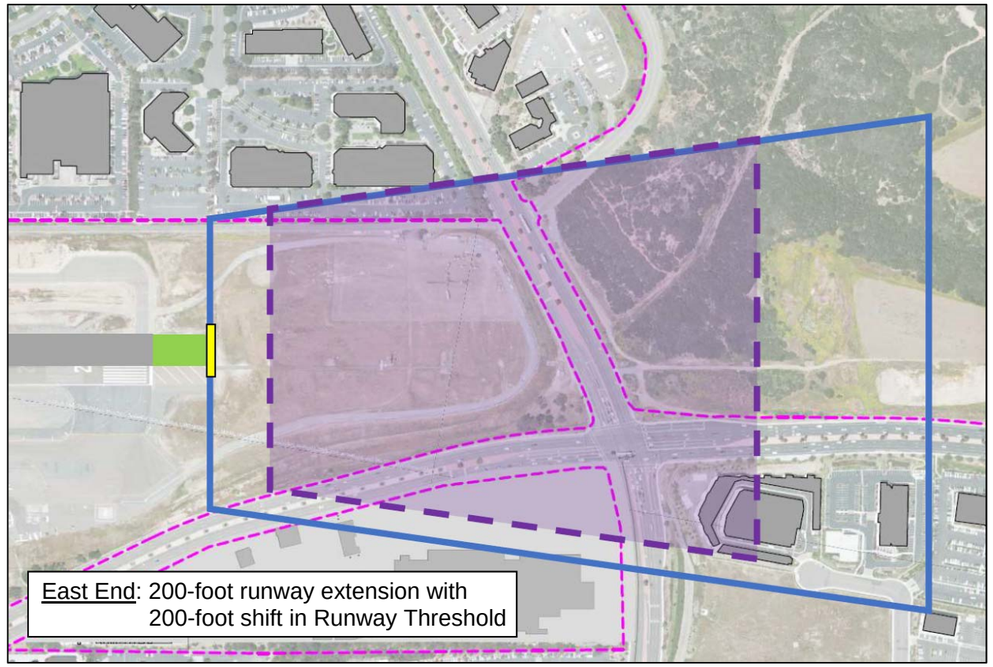
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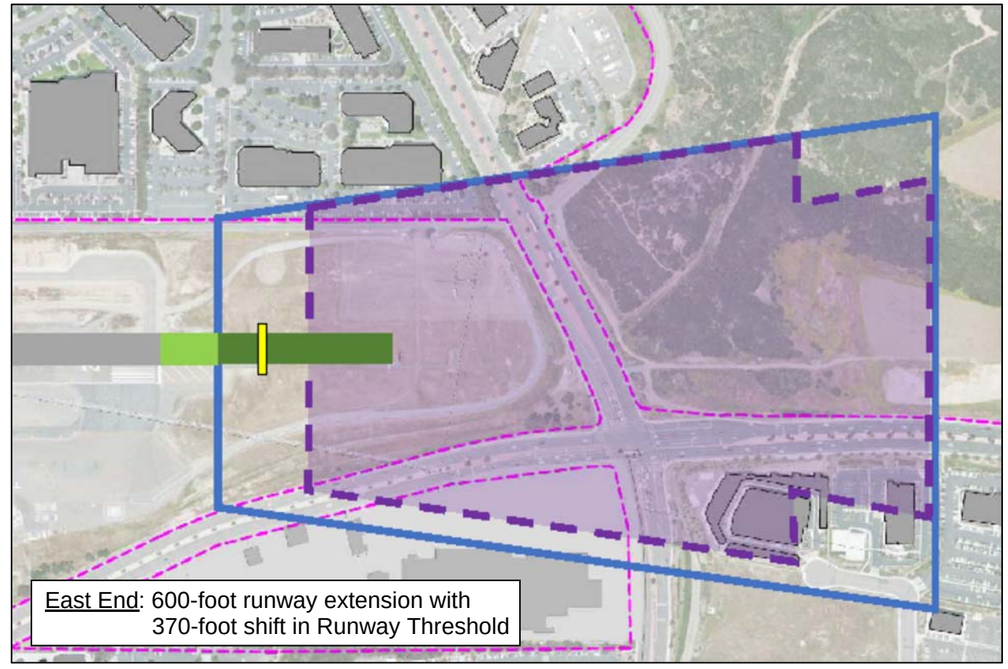
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- Area of Runway Protection Zone
- Option for 200-foot runway extension
- Option for 600-foot runway extension
- County-owned Property

*Not to scale









*For illustrative purposes only. Exhibits are not engineering drawings. Refer to Master Plan Update Exhibit 5.5b for more information.

D-III On Property Alternative Runway Protection Zones

Figure 4-4b

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Source: Kimley-Horn 2018

C-III Modified Standards Compliance Alternative

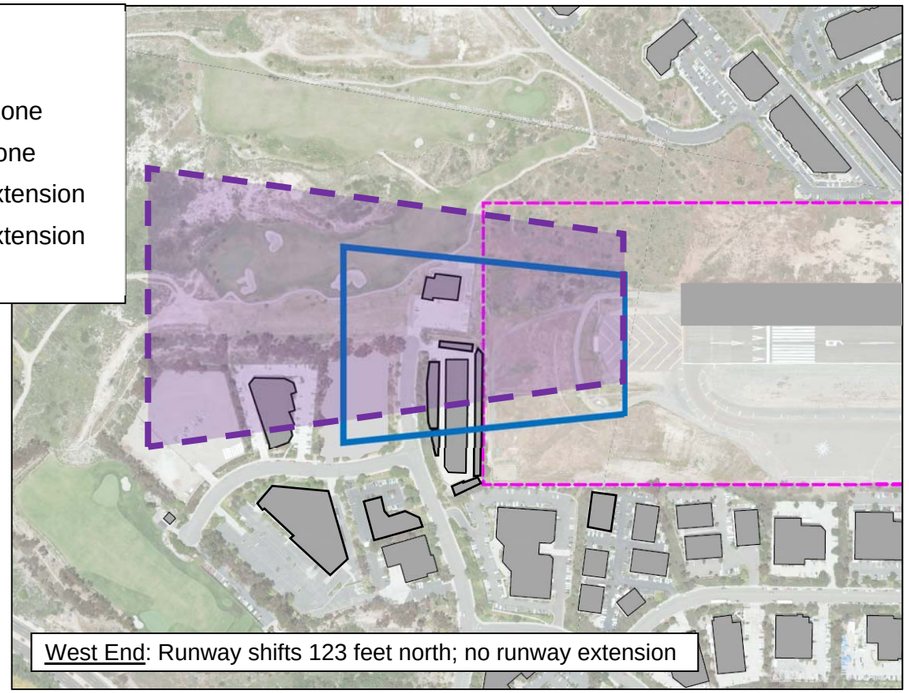
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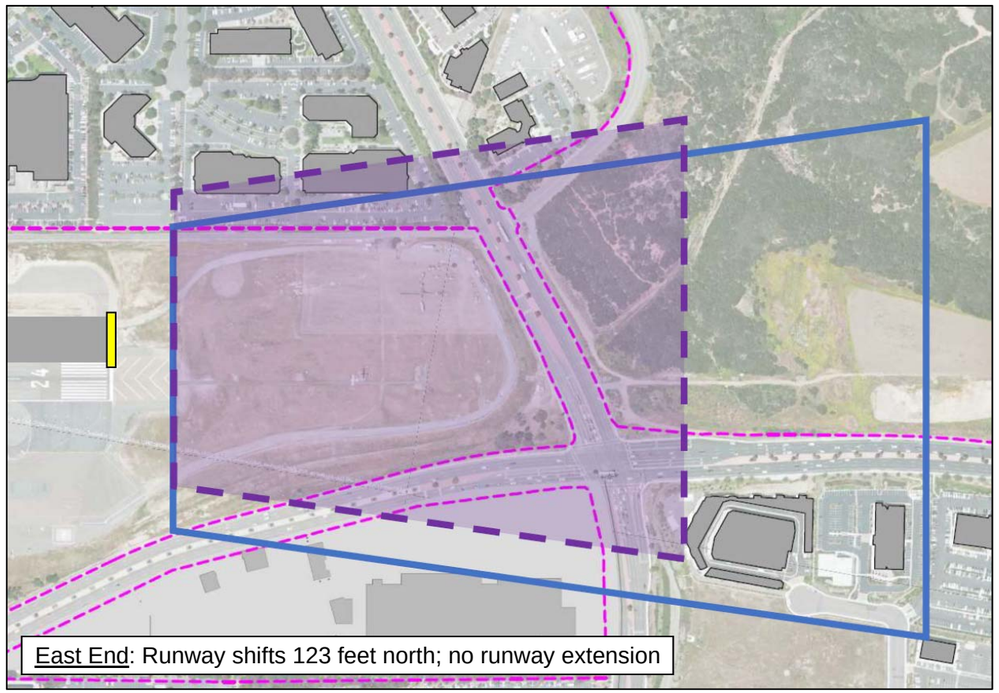
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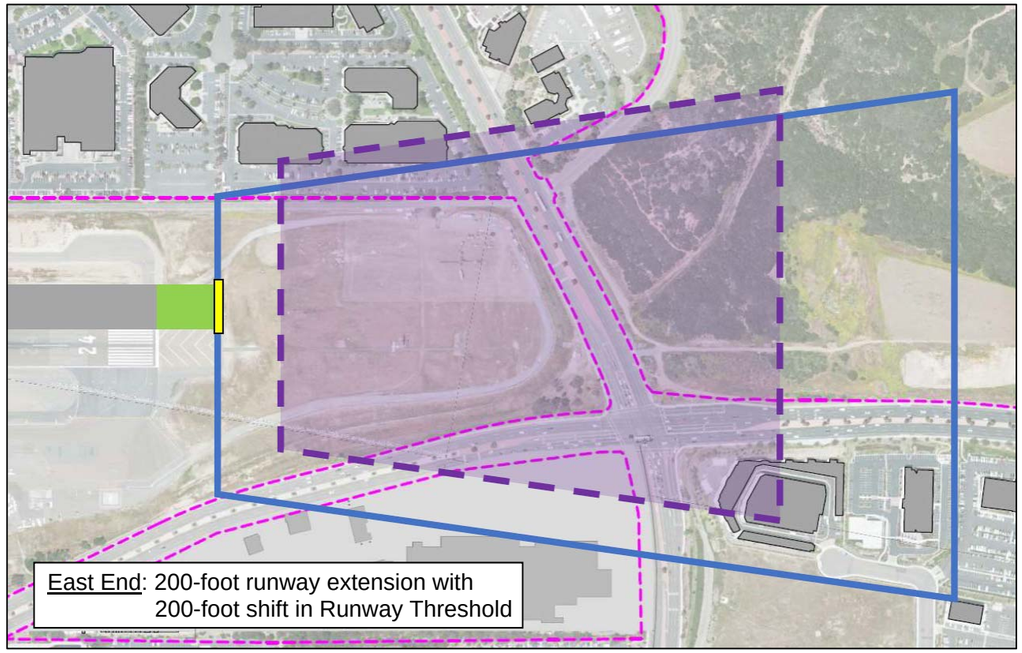
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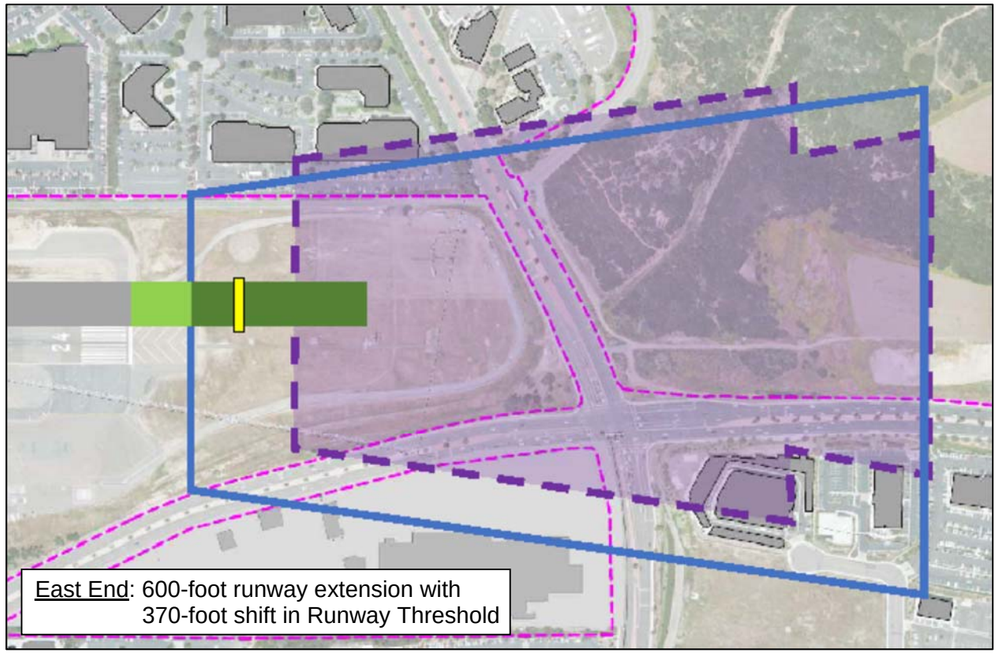
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- Option for 200-foot runway extension
- Option for 600-foot runway extension
- County-owned Property

*Not to scale









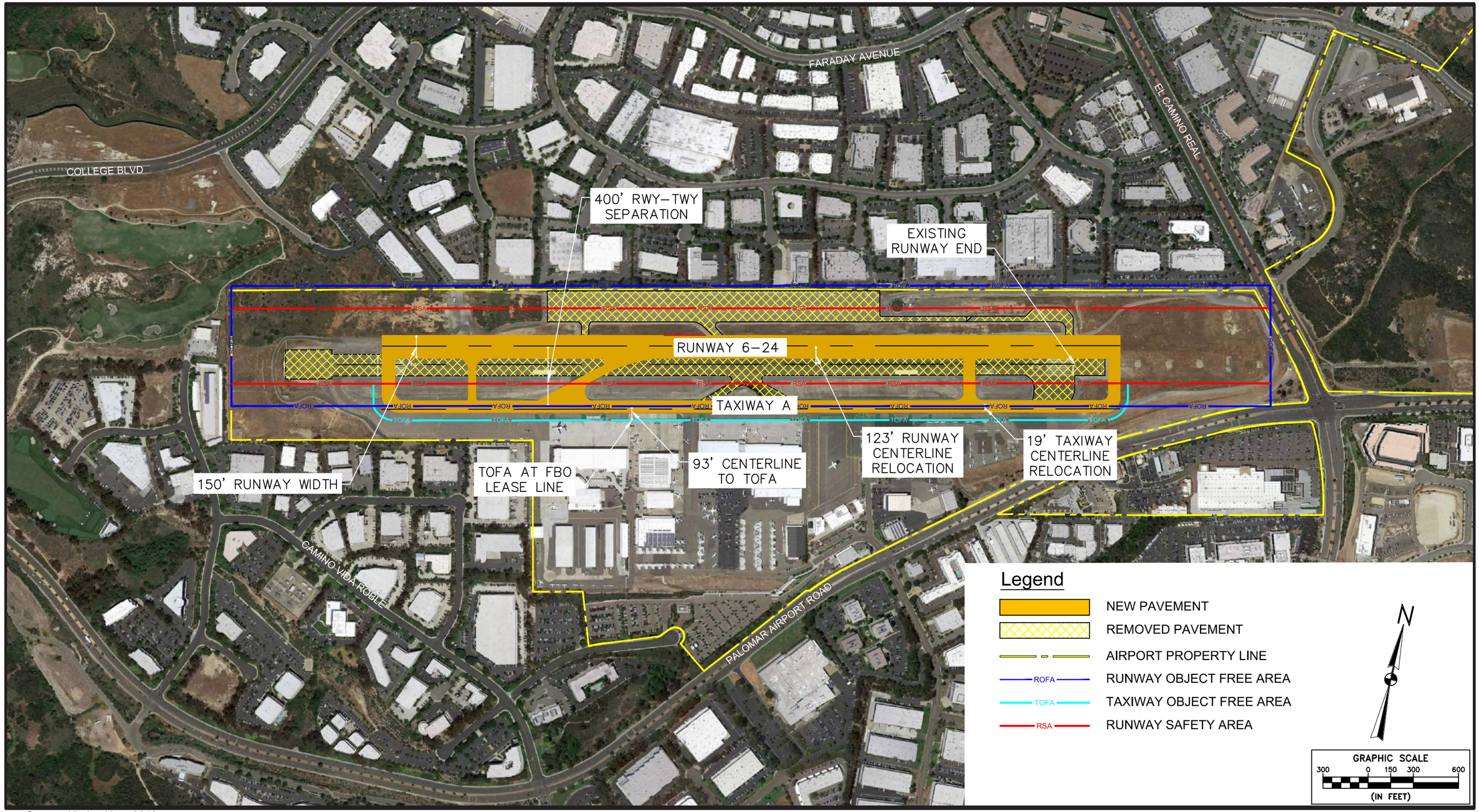
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C-III Modified Standards Compliance Alternative Runway Protection Zones

Figure 4-5b

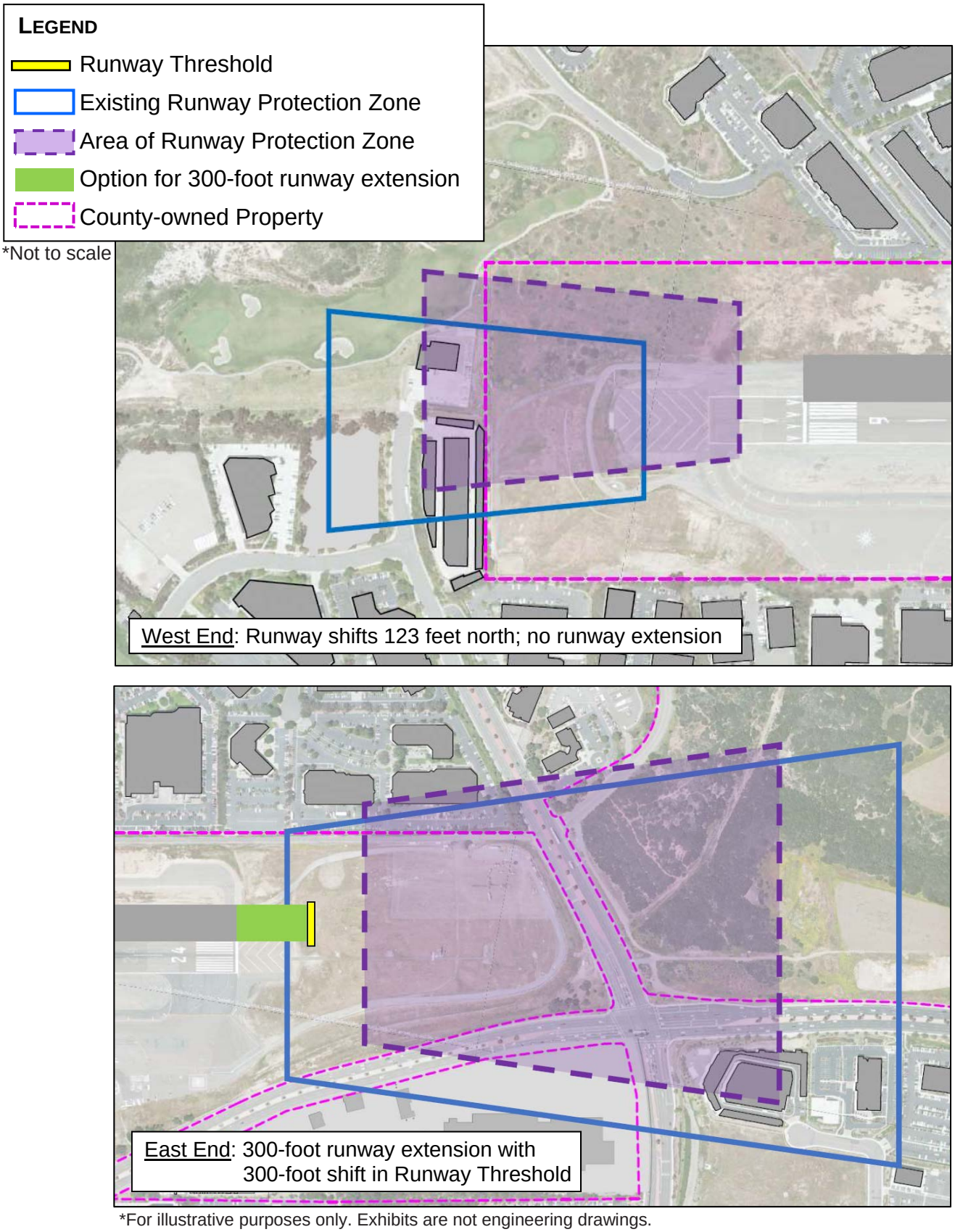
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Source: Kimley-Horn 2018

Public Comment Alternative
Figure 4-6a

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Public Comment Alternative
Runway Protection Zones

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Figure 4-6b

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CHAPTER 7 LIST OF MITIGATION MEASURES AND ENVIRONMENTAL DESIGN CONSIDERATIONS

This chapter provides a comprehensive list of all mitigation measures included in the Proposed Project as well as the project design measures that act to mitigate or reduce potentially significant environmental impacts.

7.1 Mitigation Measures

7.1.1 Aesthetics

M-AE-1: Detailed engineering design plans would be developed once funding is identified for the project-specific element regarding the extension of Taxiway A. The future retaining wall would be designed in consideration of the *City of Carlsbad Scenic Corridor Guidelines* to the degree feasible since any modification of the inactive landfill slopes would require coordination and oversight by applicable State and local agencies (i.e., County Landfills Management Unit, LEA, and RWQCB). Due to the rules and restrictions of these agencies, it is anticipated that future aesthetic treatments would be potentially limited to the façade of the future retaining wall.

7.1.2 Biological Resources

M-BI-1a: If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to coastal California gnatcatcher (*Polioptila californica californica*) habitat (Diegan coastal sage scrub) shall occur at a 2:1 ratio in accordance with the adopted NC MSCP and mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through the preservation of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel (Assessor's Parcel Number [APN] 209-050-25), 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 North County Multiple Species Conservation Program (NC MSCP).

If the NC MSCP is not adopted at the time project impacts would occur, 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.

If grubbing or clearing of occupied Diegan coastal sage scrub must occur during the breeding season of the coastal California gnatcatcher (February 15-August 31), 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 M-BI-1b for mitigation for indirect noise effects.)

M-BI-1b: 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 occur 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.

M-BI-2: If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to 3.1 acres of Diegan coastal sage scrub shall occur at a 2:1 ratio (if not otherwise mitigated as part of M-BI-1a) in accordance with the adopted NC MSCP and the mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through the preservation of 6.2 acres of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), or at another location deemed acceptable by the County and Wildlife Agencies.

If the NC MSCP is not adopted at the time project impacts would occur, mitigation for impacts to Diegan coastal sage scrub shall also occur at a 2:1 ratio pursuant to habitat mitigation ratios applied for areas outside of approved MSCP Plans as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010.

M-BI-3: If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts up to 0.36 acre of areas mapped as vernal pool habitat shall occur at a minimum 1:1 ratio in accordance with the adopted NC MSCP and mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through vernal pool creation/restoration 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 project impacts would occur, then mitigation for impacts to vernal pools shall occur at a 5:1 ratio pursuant to habitat mitigation ratios as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010. As required by the regulating agencies, including the USACE and RWQCB, impacts to vernal pools may require issuance of a CWA Section 404 permit and either a CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act WDRs. Federally listed species have not been detected in onsite vernal pools, thus take authorization under the ESA is not anticipated to be required.

M-BI-4: If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to 0.2 acre of chamise chaparral shall occur at a 2:1 ratio in accordance with the adopted NC MSCP and mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through the preservation of 0.4 acre of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), or at another location deemed acceptable by the County and Wildlife Agencies.

If the NC MSCP is not adopted at the time project impacts would occur, then mitigation for impacts to granitic chamise chaparral shall occur at a 0.5:1 ratio pursuant to habitat mitigation ratios applied for areas outside of approved MSCP Plans as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010.

M-BI-5: On-site vernal pools impacted by future individual projects would be mitigated at a minimum 1:1 ratio per mitigation measure M-BI-3. If the NC MSCP is not adopted at the time project impacts would occur, then mitigation for impacts to vernal pools shall occur at a 5:1 ratio pursuant to habitat mitigation ratios as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010. As required by the regulating agencies, including the USACE and RWQCB, impacts to vernal pools may require issuance of a CWA Section 404 permit and either a CWA Section 401 Water Quality Certification or State Porter-Cologne Water Quality Control Act WDRs. Federally listed species have not been detected in onsite vernal pools, thus take authorization under the ESA is not anticipated to be required.

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.

M-BI-7: If the NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to 0.3 acre of southern maritime chaparral shall occur at a 3:1 ratio in accordance with the adopted NC MSCP and mitigation strategy described in a joint letter from USFWS and CDFW (2011 Hardline letter). Mitigation will be provided through the preservation of 0.9 acre of southern maritime chaparral on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), or at another location deemed acceptable by the County and Wildlife Agencies.

If the NC MSCP is not adopted at the time project impacts would occur, mitigation for impacts to southern maritime chaparral shall also occur at a 3:1 ratio pursuant to habitat mitigation ratios applied for areas outside of approved MSCP Plans as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010.

M-BI-8: If NC MSCP is adopted at the time project impacts would occur, mitigation for impacts to non-native grassland shall occur at the applicable ratio defined in the NC MSCP. The aforementioned joint letter from USFWS and CDFW (2011 Hardline letter) did not identify impacts or mitigation to non-native grassland.

If the NC MSCP is not adopted at the time project impacts would occur, mitigation for impacts to non-native grassland shall occur at a 0.5:1 ratio pursuant to habitat mitigation ratios applied for areas outside of approved MSCP Plans as defined by the County Guidelines for Determining Significance for Biological Resources dated September 15, 2010. Mitigation for impacts to 0.3 acre of non-native grassland would occur through the preservation of 0.15 acre of non-native grassland on County-owned lands on or contiguous with the eastern parcel (APN 209-050-25), or at another location deemed acceptable by the County and Wildlife Agencies.

7.1.3 Hazardous Materials

M-HZ-1: Prior to grading or excavation over the inactive landfill units or other areas of known contaminated soil and/or groundwater, a Soil Management Plan (or equivalent remediation plan) shall be prepared in accordance with applicable federal, state, and local requirements for the purpose of removing, treating, or otherwise reducing potential contaminant concentrations to below human or ecological health risk thresholds. The Soil Management Plan (or equivalent remediation plan) shall outline methods for characterizing and classifying soil for off-site disposal, as needed, during site development. Due to a possible VEC at the Airport for petroleum, hydrocarbon and non-petroleum hydrocarbon contaminants, the Soil Management Plan (or equivalent remediation plan) shall

also include a Tier 2 VEC assessment according to ASTM E 2600-10. The timing of this mitigation measure's implementation will vary depending on the timing, funding, and priorities of individual project elements under the Airport Master Plan Update; however, this mitigation measure would be implemented prior to or at the time of impact.

M-HZ-2: Refer to M-HZ-1.

7.1.4 Noise

M-N-1 Noise levels from project-related demolition, grading, and construction activities shall not exceed the noise limit specified in San Diego County Code Sections 36.408 and 36.409 of 75 dBA (8-hour average), when measured at the boundary line of the property where the noise is located or any occupied property where noise is being received. A Demolition and Construction Management Plan that describes the measures included on the construction plans to ensure compliance with the noise limit shall be prepared. The following measures may be included to reduce construction/demolition noise:

- Construction equipment to be properly outfitted and maintained with manufacturer-recommended noise-reduction devices.
- Diesel equipment to be operated with closed engine doors and equipped with factory-recommended mufflers.
- Mobile or fixed "package" equipment (e.g., arc-welders and air compressors) to be equipped with shrouds and noise control features that are readily available for that type of equipment.
- Electrically powered equipment to be used instead of pneumatic or internal-combustion powered equipment, where feasible.
- Unnecessary idling of internal combustion engines (e.g., in excess of 5 minutes) to be prohibited.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas to be located as far as practicable from noise sensitive receptors.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.
- No project-related public address or music system shall be audible at any adjacent sensitive receptor.
- Temporary sound barriers or sound blankets may be installed between construction operations and adjacent noise-sensitive receptors. A sound

wall at least 10 feet in height above grade, located along the northern airport boundary line between the North Apron and neighboring offices would mitigate noise levels to within acceptable levels. To reduce noise levels effectively, the sound barrier should be constructed of a material with a minimum weight of two pounds per square foot with no gaps or perforations and remain in place until the conclusion of demolition, grading, and construction activities.

- The County shall notify businesses within 100 feet of the construction area in writing within one week of any construction activity such as demolition, hard rock handling, concrete sawing, asphalt removal, and/or heavy grading operations. The notification shall describe the activities anticipated, provide dates and hours, and provide contact information with a description of a complaint and response procedure.

- The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process for the affected resident shall be established prior to construction commencement to allow for resolution of noise problems that cannot be immediately solved by the site supervisor.

M-N-2 If an on-site use of a crusher at the north apron staging area is required, it should be located at the furthest safely feasible point from nearby offices and residences, where it will have minimal impact on occupied buildings. A temporary sound barrier shall be placed around the rock crusher to shield receivers to the north. All barriers should stand at least as tall as the highest part of the crusher, with a minimum of 8 feet. In addition to the construction hours mandated by the County Noise Ordinance, pavement crushing shall not occur Monday through Friday after 6 p.m., or on Saturday before 8 a.m. In the event construction is required at night or Sundays, County Airport staff shall consult with the County Noise Officer, who has the discretion to grant a Noise Variance Permit in accordance with the County Noise Ordinance Section 36.423.

7.1.5 Transportation & Traffic

M-TR-1: Cumulative impacts would be mitigated below the level of significance by financially contributing a fair-share payment to the City of Carlsbad towards the installation of signal improvements along Palomar Airport Road, alternative improvements such as adding a southbound right-turn overlap phase, or other Transportation System Management strategy to improve signal operations. Based on the Proposed Project's traffic contribution, this would equate to an estimated fair-share payment of 10.7 percent of the cost to implement signal improvements or other Transportation System Management strategy in consultation with the City.

Mitigation Measure M-TR-1 would not be required to be implemented until the number of Airport enplanements incrementally produce a cumulative traffic impact at the intersection of Palomar Airport Road/Camino Vida Roble.

M-TR-2: Cumulative impacts would be mitigated below the level of significance by financially contributing a fair-share payment to the City of Carlsbad towards the installation of signal improvements along Palomar Airport Road or other Transportation System Management strategy to improve signal operations. Based on the Proposed Project's traffic contribution, this would equate to an estimated fair-share payment of 7.5 percent of the cost to implement signal improvements or other Transportation System Management strategy in consultation with the City.

Mitigation Measure M-TR-2 would not be required to be implemented until the number of Airport enplanements incrementally produce a cumulative traffic impact at the intersection of Palomar Airport Road/El Camino Real.

7.2 Project Design Features for Reduction in Environmental Impacts

The County will ensure the project design features listed in this PEIR are implemented for the Proposed Project through standard construction contracts or other applicable methods.

7.2.1 Noise

Night construction is addressed in the County Noise Ordinance Section 36.423, which states that the County Noise Officer has the discretion to grant a Noise Variance Permit to allow construction to occur at night in conformance with County regulations. In the event night work is required for any individual components of the Proposed Project, County Airport staff would work with the Noise Officer in obtaining a Noise Variance Permit that demonstrates the Proposed Project would be completed in a manner that minimizes noise impacts to surrounding parcels in conformance to the provisions of the Noise Ordinance. The Noise Control Officer may impose time limitations on the activity and may include noise minimization measures that the applicant is required to adopt.

7.2.2 Air Quality

Air emissions resulting from construction equipment and fugitive dust may temporarily occur during construction of individual components of the Proposed Project. To minimize these temporary air emissions, standard construction practices would be utilized as outlined in FAA Advisory Circular 150/5370-10G (*Standards for Specifying Construction of Airports*) and would be compliant with SDAPCD Rule 55.

7.2.3 Hydrology and Water Quality

- Prior to any development, engineering design plans shall be prepared in accordance with the San Diego County Grading, Clearing, and Watercourse Ordinances and be consistent with the San Diego County Hydraulic Design Manual dated September 2014

(or current update) that will address all grading and drainage improvements necessary to accommodate the Proposed Project. This shall include any storm water detention system and outlet drainage facilities necessary to accommodate the improvements.

- The County shall implement permanent site design, storm water treatment, and/or hydromodification management techniques as applicable to reduce storm water runoff rates and duration consistent with County BMP Design Manual. This will provide a reduction in storm water runoff rates to achieve no net increase in flow rates discharged from the project site. Storm water runoff reduction shall be accomplished by strategic placement of storm water management techniques throughout the project site to mimic the natural flow regime and capture any net increase in runoff through increased infiltration.