
DRAFT
ENVIRONMENTAL ASSESSMENT

Concourse B Expansion

Sacramento International Airport
Sacramento, California

Prepared for

Sacramento County Department of Airports
and
U.S. Department of Transportation
Federal Aviation Administration

As lead Federal Agency pursuant to the National Environmental Policy Act of 1969

Prepared by:
RS&H California, Inc.

December 2024

**This Environmental Assessment becomes a federal document when
evaluated, signed and dated by the Responsible Federal Official.**

David M. Wickens

Responsible Federal Official

December 19, 2024

Date

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ABBREVIATIONS AND ACRONYMS

#

2024 CAP - Sacramento County's
July 2024 draft Climate Action Plan

A

AB - State Assembly Bill
AC - Advisory Circular
ACEIT - Airport Construction Emission
Inventory Tool
ACRP - Airport Cooperative Research
Program
AEDT - Aviation Environmental Design
Tool
AFFF - Aqueous film forming foam
Airport - Sacramento International Airport
ALP - Airport Layout Plan
ANAP - Aviation Noise Abatement Policy
AOA - air operations area
APE - Area of Potential Effect
APU - auxiliary power unit
ATCT - Airport Traffic Control Tower
Atlas - Atlas Disposal Industries LLC
Avgas - aviation gasoline

B

Basin Plan - Water Quality Control Plan for
the Sacramento River Basin and San
Joaquin River Basin
BCEPSs - Basic Construction Emission
Control Practices
BFE - base flood elevation
BGEPA - Bald Eagle and Golden Eagle
Protection Act
BMP - best management practice

C

CAA - Clean Air Act
CAAQS - California Ambient Air Quality
Standards
CAFE - Corporate Average Fuel Economy
CaIEMod - California Emission Estimator
Model

Caltrans - California State Department of
Transportation

CAP - Climate Action Plan

CAPCOA - California Air Pollution Control
Officers Association

CARB - California Air Resources Board
cause or contribute - threat to public
health and welfare

CBP - U.S. Customs and Border Protection

CCR - California Code of Regulations

CDFW - California Department of Fish and
Wildlife

CEQ - Council of Environmental Quality

CERCLA - Comprehensive Environmental
Response, Compensation, and Liability Act

CESA - California Endangered Species Act

CFR - Code of Federal Regulations

CGP - Construction Stormwater General
Permit

CH₄ - methane

CNDDDB - California Natural Diversity
Database

CNEL - Community Noise Equivalent Level

CO - carbon monoxide

CO₂ - carbon dioxide

CO_{2e} - carbon dioxide equivalent

CWA - Clean Water Act

D

dB - decibel

DNL - Day-Night Average Sound Level

DOI - U.S. Department of Interior

DOT - Department of Transportation

DPR - California Department of Pesticide
Regulation

DPS - Distinct Population Segment

E

EA - Environmental Assessment

EC - elevation certificate

endangerment - existing and projected threats to public health and welfare

EO - Executive Order

ESA - Federal Endangered Species Act

ESCP - Erosion and Sediment Control Plan

E

FAA - Federal Aviation Administration

FEMA - Federal Emergency Management Agency

FFRMS - Federal Flood Risk Management Standard

FIRM - Flood Insurance Rate Maps

flood elevation - vertical elevation of a floodplain

flood hazard area - horizontal extent of a floodplain

FPPA - Farmland Protection Policy Act

FR - Federal Register

FVA - Freeboard Value Approach

G

General Plan - Sacramento County 2023 General Plan

GHG - greenhouse gas

GSE - ground support equipment

GTC - Ground Transportation Center

GWP - global warming potential

GWPA - Groundwater Protection Areas

H

H₂S - hydrogen sulfide

HFC - hydrofluorocarbons

HSC - Health and Safety Code

I

I-5 - Interstate 5

IAM - integrated assessment model

IATA - International Air Transport Association

ICLEI - Local Governments for Sustainability

IPaC - Information for Planning and Consultation

IPCC - Intergovernmental Panel on Climate Change

IWG - Interagency Working Group

L

LF - linear feet

LOS- level of service

LSA - LSA Associates, Inc.

M

MBTA - Migratory Bird Treaty Act

MOVES - Motor Vehicle Emission Simulator

MSL - mean sea level

N

N₂O - nitrous oxide

NAAQS - National Ambient Air Quality Standards

NEPA - National Environmental Policy Act

NHPA - National Historic Preservation Act

NLR - Noise Level Reduction

NMFS - National Marine Fisheries Service

NO₂ - nitrogen dioxide

NO_x - nitrous oxides

NPDES - National Pollutant Discharge Elimination System

NRHP - National Register of Historic Places

O

O₃ - ozone

OHP - California Office of Historic Preservation

OSHA - Occupational Safety and Health Administration

P

PAL - Planning activity level

Pb - lead

PCB - Polychlorinated Biphenyls

PFAS - polyfluoroalkyl substances

PFC - passenger facility charge

PFCs - perfluorocarbons

PG&E - Pacific Gas and Electric Company

PM - particulate matter

PM_{2.5} - particulate matter with a diameter of 2.5 microns or less

PM₁₀ - particulate matter with a diameter of 10 microns or less

R

RCRA - Resource Conservation and Recovery Act

RON - remain overnight

RWQCB - Regional Water Quality Control Board

S

SAFE - Safer Affordable Fuel-Efficient

SB - Senate Bill

SCC - social climate cost

SC-CO₂ - social cost of carbon dioxide

SC-GHG - social costs of greenhouse gas emissions

SCDA - Sacramento County Departments of Airports

sf - square feet

SF₆ - sulfur hexafluoride

SGA - Sacramento Groundwater Authority

SHPO - State Historic Preservation Officer

SIP - State Implementation Plan

SMAQMD - Sacramento Metropolitan Air Quality Management District

SMF - Sacramento International Airport

SMUD - Sacramento Municipal Utility District

SO₂ - sulfur dioxide

SPCC - Spill Prevention Control and Countermeasure

sq ft - square feet

SR-99 - State Route 99

SWPPP - Stormwater Pollution Prevention Plan

SWRCB - California State Water Resources Control Board

T

THPO - Tribal Historic Preservation Officer

TMDL - Total Maximum Daily Loads

TNC - Transportation network company

TRB - Transportation Research Board

TSA - Transportation Security Administration

U

U.S. DOT - U.S. Department of Transportation

U.S.C. - United States Code

USACE - U.S. Army Corps of Engineers

USEPA - U.S. Environmental Protection Agency

USFWS - U.S. Fish and Wildlife Service

V

VMT - vehicle miles traveled

VOC - volatile organic compounds

CHAPTER 1
PURPOSE AND NEED /
PROJECT DESCRIPTION

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1.1 INTRODUCTION

This Environmental Assessment (EA) has been prepared to identify and evaluate potential environmental effects related to the proposed construction and operation of the Concourse B Expansion Project (Proposed Project) at Sacramento International Airport (SMF or Airport). The Sacramento County Department of Airports (SCDA) proposes to expand Concourse B to meet the existing and future needs of the Sacramento region and to ensure SMF provides facilities sized to efficiently accommodate the market-based passenger demand at industry-standard levels of service.

The Federal Aviation Administration (FAA) is the lead federal agency to ensure compliance with the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] §§ 4321-4335) for airport development actions. This EA is prepared in accordance with NEPA, as amended, Council of Environmental Quality (CEQ) *Regulations for Implementing the Procedural Provisions of NEPA*, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, guidance provided in the 1050.1F Desk Reference, and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, applicable Executive Orders (EOs), and other applicable federal, state, and local requirements. The FAA is the lead federal agency to ensure compliance with NEPA for the purpose of the Proposed Project.

This chapter provides a description of the Airport and aviation activities; a description of the Proposed Project; a discussion of the purpose and need for the Proposed Project; and a description of the requested federal actions.

1.2 AIRPORT INFORMATION

SMF is a public-use primary¹ commercial service airport owned and operated by the SCDA. SMF is located in a semi-rural area approximately 10 miles northwest of downtown Sacramento in unincorporated Sacramento County, California.

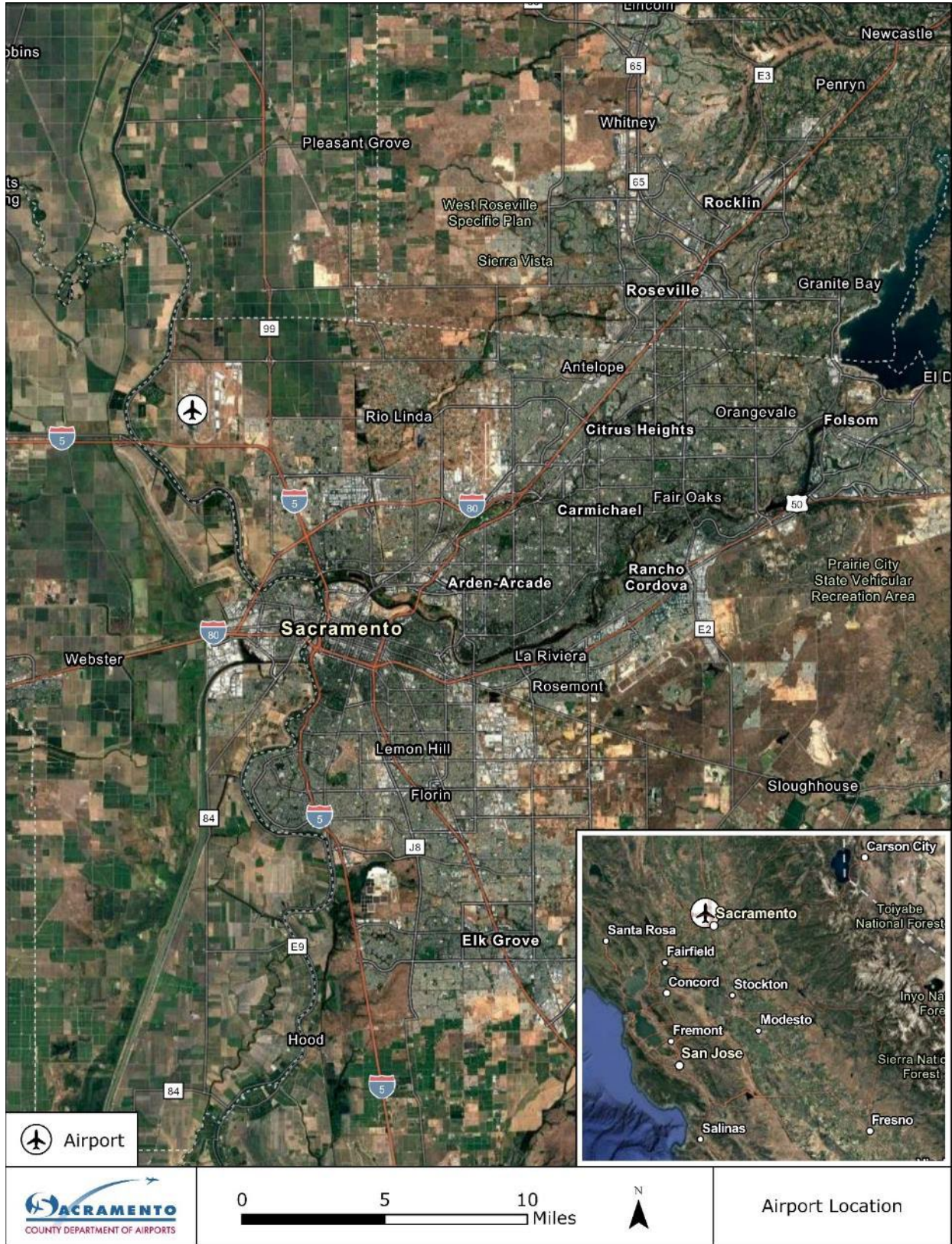
Exhibit 1-1 shows the location of the Airport.

1.2.1 Description of Existing Airport

SMF property consists of approximately 5,900 acres and is generally bounded by Power Line Road to the east, Garden Highway to the west, the Sacramento River to the west and south, and West Riego Road to the north.

¹ A primary airport is defined by the Federal Aviation Administration as a commercial service airport that has more than 10,000 passenger boardings each year. See https://www.faa.gov/airports/planning_capacity/categories.

**EXHIBIT 1-1
REGIONAL LOCATION OF SACRAMENTO INTERNATIONAL AIRPORT**



Source: ESRI, 2024; RS&H, 2024

1.2.2 Existing Facilities

1.2.2.1 Existing Runways

Two parallel runways exist at SMF: Runway 17L-34R and Runway 17R-34L. The runways are served by multiple taxiways and taxilanes that provide access to and from the runways and aircraft parking positions. The existing runways and taxiways are shown on **Exhibit 1-2**.

1.2.2.2 Existing Passenger Terminals

The Airport has 32 contact aircraft gates in two terminals (Terminal A and Terminal B) and their associated concourses. Each of the terminals includes a ticketing lobby, a concourse with holdrooms and concessions, outbound baggage handling areas, baggage claim, passenger airline operations space, a passenger security checkpoint area, Transportation Security Administration (TSA) checkpoint support, TSA baggage screening areas, public restrooms, offices, public and non-public circulation, and mechanical, electrical, and plumbing facilities. U.S. Customs and Border Protection (CBP) inspection and support facilities are located within Concourse B. **Exhibit 1-3** shows the locations of the gates within Terminals A and B.

1.2.2.3 Existing Landside and Support Facilities

Primary access to the Airport is provided via Interstate 5 (I-5). Access to the Airport terminals and other Airport facilities south of Taxiway W is provided via I-5 and Airport Boulevard, with alternate routes provided via Elkhorn Boulevard and Bayou Way. Access to Airport facilities north of Taxiway W is via West Elverta Road and Earhart Drive.

Terminal A is accessed via Airport Boulevard East and Terminal B is accessed via Airport Boulevard West (see **Exhibit 1-2**). Airport Boulevard East is a single-level, one-way loop roadway. Airport Boulevard West is a two-level, one-way loop roadway. The curbside and parallel islands in front of Terminals A and B provide for private vehicles and commercial operators (shuttle buses, transit, and taxicab) to drop off and pick up departing and arriving passengers. The upper level of the Terminal B loop consists of a curbside drop-off. Transportation network companies (TNCs) are able to pick up passengers at Terminal A on the curbside abutting the terminal building. At Terminal B, the TNC pickup area is accessible via a path to the Hourly B Parking Lot. Parking Garage A and a public daily parking lot are located within the Airport Boulevard East loop. Economy public parking is provided off Aviation Drive and Lindbergh Drive. Hourly public parking is available between Lindbergh Drive and Airport Boulevard West.

The Airport also includes cargo facilities, which are located on the west side of Lindbergh Drive. FedEx and passenger airlines carrying belly cargo² operate out of these facilities.

Other support facilities at the Airport include the fuel farm, a catering building, storage facilities, offices, hangars, a rental car facility, a gas station, general aviation facilities, and other support functions such as aircraft and ground service equipment maintenance.

1.2.3 Aviation Activity

To assist the Airport’s planning efforts, an updated aviation activity forecast was developed and approved by the FAA in March 2023 that includes passenger and operations activity for commercial airline, cargo, and general aviation at SMF. The following primary factors were considered to prepare the 2023 aviation activity forecast:

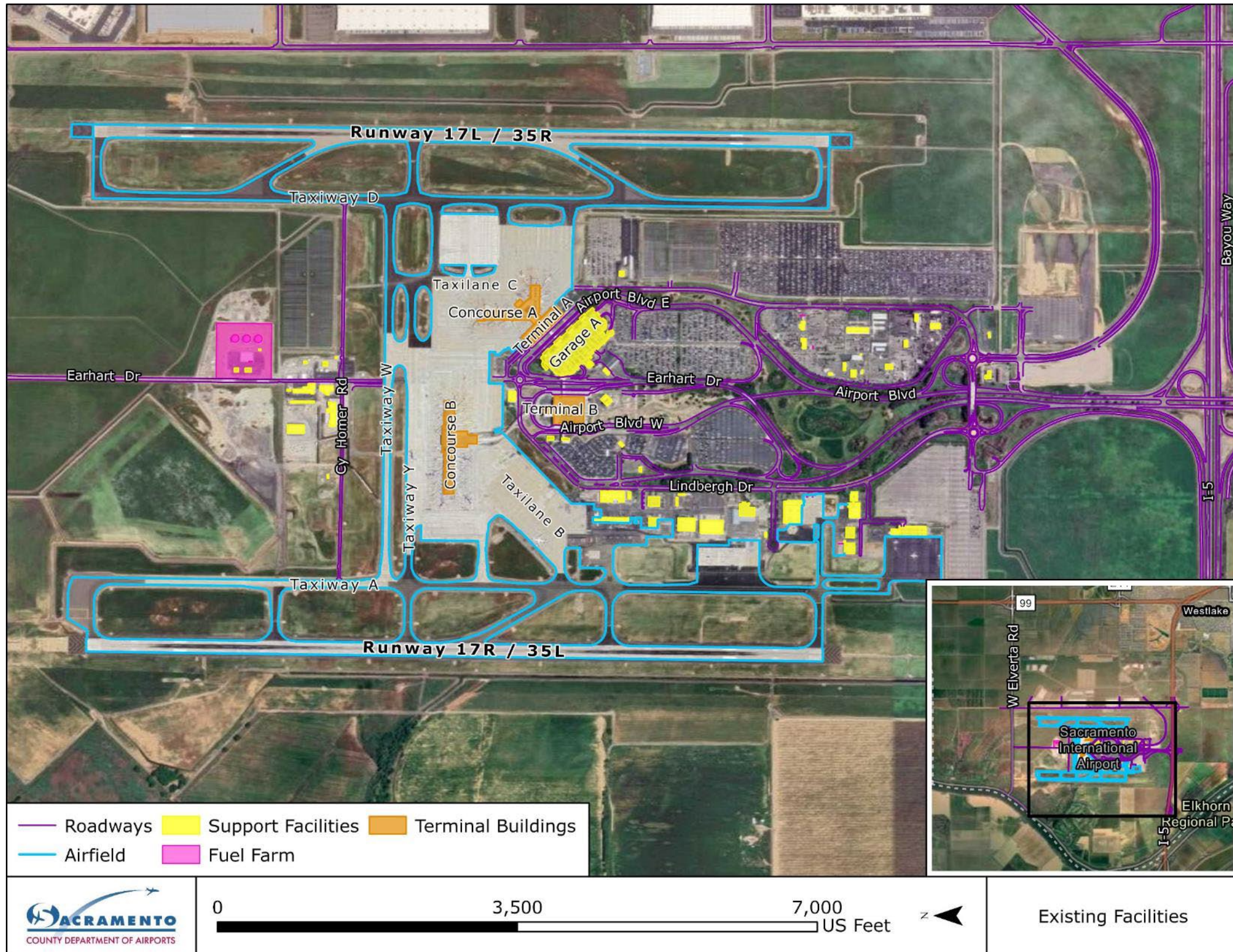
- Historic aviation traffic at SMF;
- Review of previous forecasts and studies at SMF;
- Factors that affect aviation demand;
- Forecast development for passenger enplanements, air cargo tonnage, and aircraft operations; and
- Socioeconomic data for the region.

The forecast, which is presented in **Table 1-1**, was developed to quantify future facility requirements based on demand for passengers, aircraft operations, and cargo tonnage at planning activity levels (PALs) within a reasonable planning horizon. As shown in **Table 1-2**, the 2020 SMF Master Plan Update identified PALs that indicate demand for services that if exceeded would lower the level of service provided by the Airport below industry standards³ if no improvements are made (SCDA, 2020). Advisory Circular (AC) 150/5360-13A, which references Airport Cooperative Research Program (ACRP) Report 55, encourages airport owners to strive for a balanced level of service. Section 5.2.2 of the advisory circular specifically encourages airport owners to strive for a balanced level of service resulting in a facility neither overbuilt nor underbuilt for its purpose.

² Belly cargo is the freight that passenger airlines transport on scheduled passenger flights.

³ According to Airport Cooperative Research Program (ACRP) Report 55, *Passenger Level of Service and Spatial Planning for Airport Terminals*, airports should design to a condition of stable flow with brief, but acceptable, delays resulting in a good level of comfort. The report further recommends that facilities be designed to maintain this condition by the end of the planning horizon. As a result, the passenger experience will initially exceed this baseline level of service when the facility opens and gradually decline to the target condition as demand increases over time.

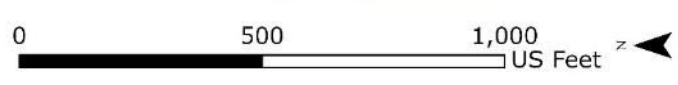
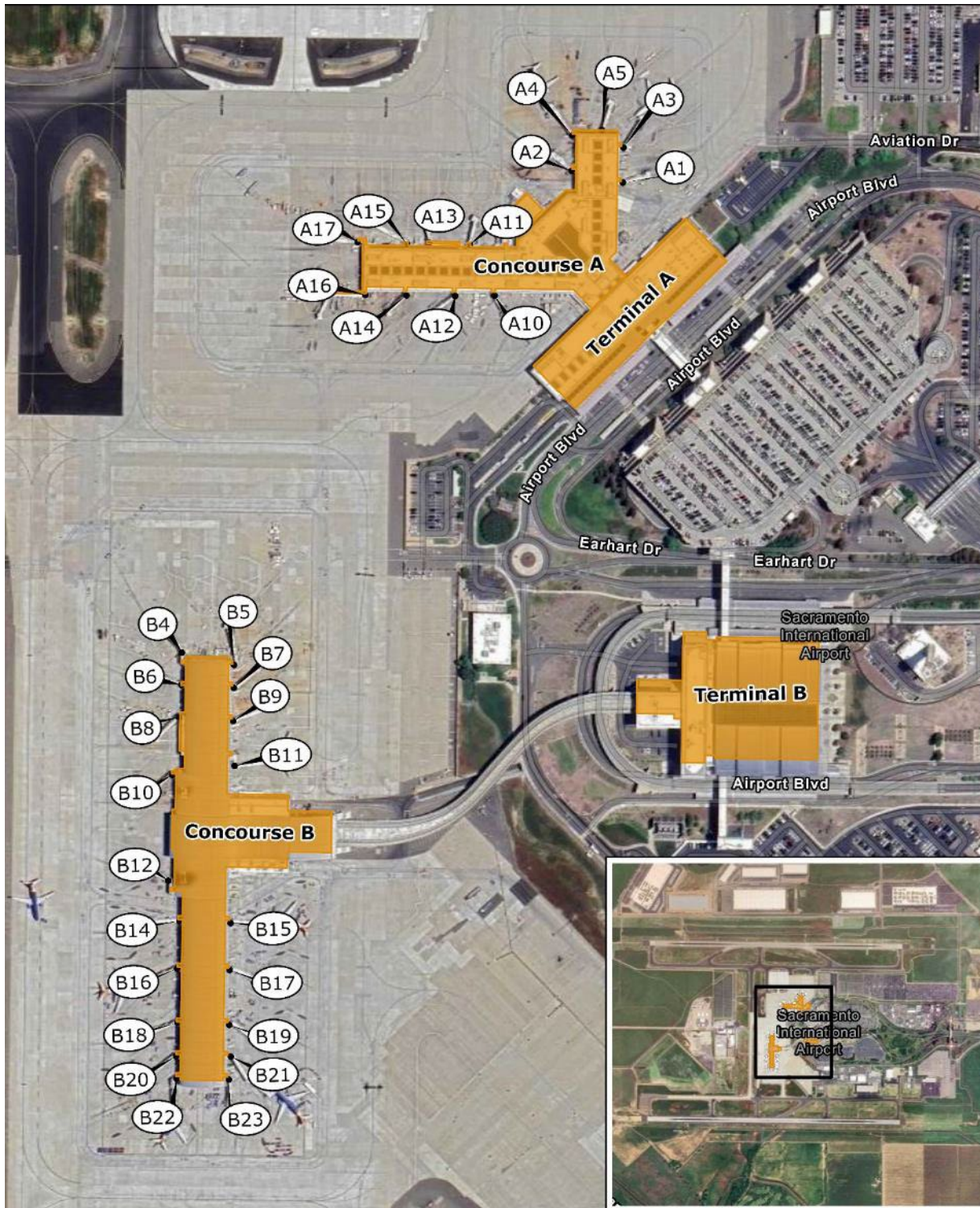
**EXHIBIT 1-2
EXISTING FACILITIES AT SACRAMENTO INTERNATIONAL AIRPORT**



Source: RS&H, 2024; SCDA, 2024

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**EXHIBIT 1-3
EXISTING TERMINALS A AND B AT SACRAMENTO INTERNATIONAL AIRPORT**



Existing Gates Layout

Source: RS&H, 2024; SCDA, 2024

**TABLE 1-1
SACRAMENTO INTERNATIONAL AIRPORT ENPLANEMENT FORECAST**

Forecast Year	Passenger Enplanements
2023 ^{/a/} (Base Year)	6,490,000
2024	7,122,142
2025	7,314,757
2026	7,513,613
2027	7,718,681
2028	7,930,328
2029	8,148,409
2030	8,372,670
2031	8,603,262
2032	8,840,805
2033	9,085,089
2034	9,336,925

/a/ - 2023 data is the actualized data for that year, not the forecast data
Source: SCDA 2024

**TABLE 1-2
PLANNING ACTIVITY LEVELS (PALS) FOR SACRAMENTO INTERNATIONAL AIRPORT**

	Planning Activity Level (PAL)			
	2023 (Base Year)	PAL 1	PAL 2	PAL 3
Passenger Activity				
Passenger Enplanements	6,490,798	7,360,000	8,200,000	9,150,000
Aircraft Operations				
Passenger Airline Operations	115,449	129,333	142,002	156,190
Cargo Airline Operations	8,150	10,685	13,494	16,132
Business/ General Aviation	17,109	11,515	11,651	11,789
Military	2,199	2,300	2,300	2,300
Total Aircraft Operations	142,907	153,833	169,447	186,402

Source: SCDA 2020

PALs were established at 7.4 million annual enplaned passengers (PAL 1), 8.2 million annual enplaned passengers (PAL 2), 9.2 million annual enplaned passengers (PAL 3), and 10.2 million annual enplaned passengers (PAL 4). The PALs represent the maximum passenger volume that facilities can accommodate while maintaining industry standard levels of service. The forecast is used in conjunction with the PALs to predict how quickly the Airport will approach a PAL and can help determine what projects would bridge any facility gaps or correct any operational issues and when the project(s) are needed to be in operation to maintain industry standard levels of service. As indicated in **Table 1-1** and **Table 1-2**, the forecast predicts that SMF operations will reach PAL 2 levels between 2029 and 2030. Therefore, a gap analysis was prepared (see **Table 1-3**) that determined what facilities would be necessary to maintain industry standard levels of service by the time PAL 2 is reached. Based on the facilities identified in the gap analysis, the Proposed Project was developed.

1.3 PROPOSED PROJECT PURPOSE AND NEED

The following section discusses the purpose and need for the Proposed Project.

1.3.1 Purpose and Need Statement

The Airport is forecast to experience continued growth. To meet the existing and future needs of the Sacramento region and to ensure SMF functions at industry standard levels of service, SCDA is proposing improvements at SMF that would provide terminal facilities sized to efficiently accommodate the market-based passenger demand at industry standard levels of service through PAL 2, which is estimated to be reached by 2030. Improvements to the fuel hydrant system would also increase safety via reduced potential for taxiway/taxilane incursions by alleviating the need for fuel trucks to cross the airfield to get between the fuel farm and Concourse B.

1.3.2 Need

The existing terminals at SMF can accommodate an estimated 7.4 million annual enplaned passengers (PAL 1) and maintain industry standard levels of service. However, anticipated passenger growth is expected to reach 8.2 million annual enplaned passengers by 2030 (PAL 2). This means the existing terminal facilities (gates, holdrooms, passenger security screening checkpoint, baggage claim, restrooms, concessions) at SMF will not meet industry standard levels of service by 2030 (see **Table 1-3**). **Table 1-3** illustrates the capacity of existing facilities at SMF and compares it to the capacity need based on the forecast and PALs to identify the gaps, or capacity needs, of the SMF facilities. As shown in **Table 1-3**, SMF will have a capacity need of six additional aircraft gates once PAL 2 is reached, which is anticipated to be 2030.

Concourse B is currently surrounded by an underground hydrant fueling system that is isolated and has not been plumbed to the fuel farm facility. Because of the

location of the fuel farm in relation to the airfield and aircraft gates, fueling truck trips require crossing active taxiways and taxilanes, including Taxiway W and Taxilane Y, which provide cross-airfield access to the two runways (see **Exhibit 1-2**). Each crossing of these taxiways/taxilanes results in the potential for incursion of fueling trucks into the path of aircraft. In 2022, there were a total of eight incursions on Taxiway W and Taxilane Y. In 2023, there were twelve incursions on Taxiway W and Taxilane Y. As of May 2024, there have been six incursions on Taxiway W and Taxilane Y. Connection of the hydrant system to the fuel farm facility would allow for the future activation of the hydrant fueling system to reduce fueling truck trips across Taxiway W and Taxilane Y, reducing the opportunities for incursions.

1.3.3 Purpose

The purpose of the Proposed Project is to:

1. Provide facilities that are sized to efficiently accommodate the market-based demand at industry standard levels of service; and
2. Reduce the potential for incursions of fueling trucks or other vehicles into the path of aircraft on taxiways and taxilanes.

1.4 DESCRIPTION OF THE PROPOSED PROJECT

The Proposed Project includes expanding Concourse B to accommodate six additional aircraft gates and associated holdrooms at the west end, constructing additional concessions facilities, modifying the Concourse B security checkpoint to add two new lanes, adding two new baggage carousels at Terminal B baggage claim, and extending the hydrant fuel line system around the expanded concourse and connecting the hydrant fuel line system to the fuel farm. Project components are shown in **Exhibit 1-4** and described below. The additional six aircraft gates were identified from the facility gap analysis shown in **Table 1-3** and are the minimum number of additional aircraft gates needed for SMF to continue to operate at industry standard levels of service.

1.4.1 Passenger Concourse Improvements

1.4.1.1 Project Component C-1: Relocate Operations from Gates B22 and B23⁴

Operations out of existing gates B22 and B23 would be relocated to gates B02 and B03 for the duration of construction of the Proposed Project.

1.4.1.2 *Project Component C-2: Expansion of Concourse B*

The existing west wall of Concourse B would be demolished in order to construct an expansion of approximately 70,000 square feet (sf) to accommodate six new

⁴ Project Component C-1 is not shown in Exhibit 1-4 as it is an operational change and not a physical change.

**TABLE 1-3
GAP ANALYSIS FOR EXISTING TERMINAL A AND TERMINAL B FACILITIES AT SACRAMENTO INTERNATIONAL AIRPORT**

Facility	Facility Needs/Gap Analysis Compared to Industry Standards ^{/a/}										
	Existing Terminal A	Existing Terminal B	Existing Total	Base Year (2023) Requirements	Base Year (2023) Gap	PAL 1 (2026) ^{/c/} Requirements	PAL 1 Gap	PAL 2 (2030) ^{/c/} Requirements	PAL 2 Gap	PAL 3 (2034) ^{/c/} Requirements	PAL 3 Gap
Total Aircraft Gates	13	19	32	31	1	34	-2	38	-6	41	-9
Holdroom Areas (sq ft)	22,615	43,089	65,704	91,936	-26,232	97,862	-31,978	109,174	-43,470	117,793	-52,089
Baggage Claim Carousels	3	4	7	7	0	7	0	9	-2	9	-2
Security Screening Checkpoint (lanes)	7	10	17	17	0	19	-2	21	-4	24	-7
Security Screening Checkpoint Queueing (sq ft)	7,400	4,870	12,270	10,200	2,070	11,400	870	12,600	-330	14,400	-2,130
Baggage Screening (bags/hr)	1,100	2,750	3,850	1,892	1,958	2,779	1,071	3,133	717	3,557	-293
Baggage Claim (LF)	495	720	1,215	942	273	1,179	36	1,254	-39	1,430	-215
Concessions Space (sq ft)	22,957	27,897	50,854	60,297	-9,443	74,289	-23,435	82,786	-31,932	92,400	-41,546

MAP: million annual passengers

PAL: planning activity level

sq ft: square feet

hr: hour

LF: linear feet

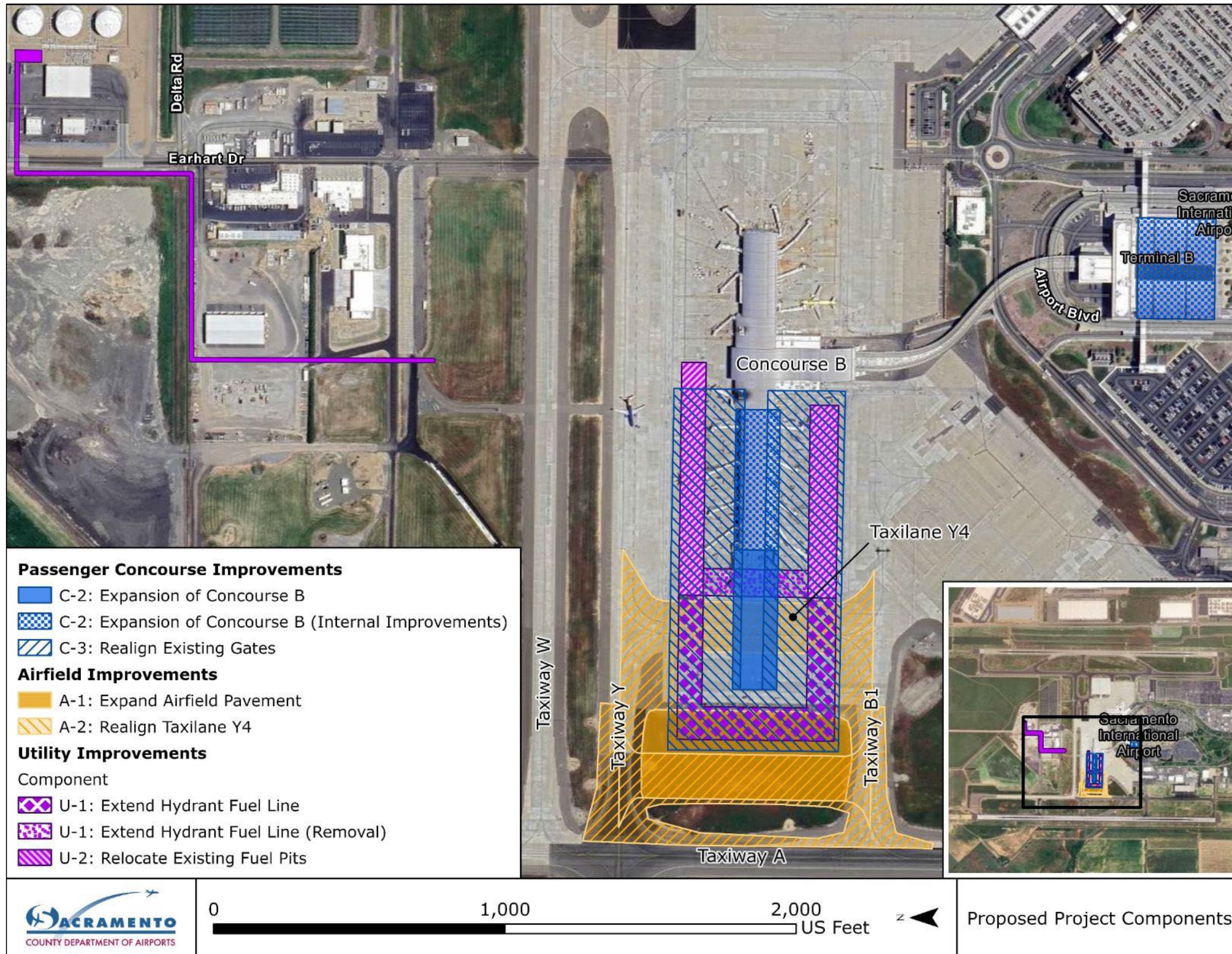
/a/ International Air Transport Association (IATA), *Airport Development Reference Manual*, 11th edition, March 2019; Transportation Research Board (TRB), *Airport Passenger Terminal Planning and Design, Volume 1: Guidebook*, 2010; U.S. Customs and Border Patrol, *Airport Technical Design Standards: Passenger Processing Facilities*, 2006; BNP Associates, *Planning Guidelines and Design Standards for Checked Baggage Inspection Systems*, 2017; Transportation Security Administration (TSA), *Recommended Security Guidelines for Airport Planning, Design, and Construction*, 2011; and TSA, *Checkpoint Design Guide, Revision 4.0*, 2012.

/b/ This number is the square footage of a building and not the square footage of the building footprint. In addition, this number does not represent a summation of the square footage above. The square footage associated with the total building area includes all components of the terminal building, including bathrooms, office space, concession space, hallways, etc.

/c/ The years assigned to the PALs are estimates based on the latest forecast, as shown in **Table 1-1**.

Source: SCDA, 2024

**EXHIBIT 1-4
PROPOSED PROJECT COMPONENTS**



Source: RS&H, 2024; SCDA, 2024

aircraft gates and associated passenger holdrooms. Key elements of the expansion include:

- six new aircraft gates (gates B24, B25, B26, B27, B28, B29)
- internal improvements in Concourse B and Terminal B:
 - approximately 24,000 sf of holdroom space
 - approximately 39,000 sf of additional concessions facilities
 - two new restroom banks (5,000 sf total)
 - two new lanes at the Concourse B security checkpoint
 - two new baggage carousels at Terminal B baggage claim

1.4.1.3 Project Component C-3: Realign Existing Gates

Existing gates B14, B15, B16, B17, B18, B19, and B20 would be realigned to better accommodate the six additional gates at Concourse B.

1.4.2 Airfield Improvements

1.4.2.1 Project Component A-1: Expand Airfield Pavement

To accommodate the expansion of Concourse B to the west, the airfield pavement west of Concourse B would be expanded further west by approximately 308 feet toward Taxiway A for a total of 230,100 sf of new impervious surface area. Portions of Taxiways A, Y, and B1 would be reconstructed so that the connections between Taxiway A and Taxiways Y and B1 would conform to existing FAA design standards.

1.4.2.2 Project Component A-2: Realign Taxilane Y4

Taxilane Y4, located west of Concourse B, would be realigned onto the new airfield pavement constructed under Project Component A-1.

1.4.3 Utility Improvements

1.4.3.1 Project Component U-1: Extend and Connect Hydrant Fuel Line

The existing hydrant fuel line would be extended to encompass the expanded concourse, providing a continuous circuit around the expanded concourse (Project Component C-2). The hydrant fuel line and associated pits currently along the west end of Concourse B would be removed to accommodate the expansion of Concourse B.

1.4.3.2 Project Component U-2: Relocate Existing Fuel Pits

The existing fuel pits along the western half of Concourse B would be relocated at the locations in which gates would be realigned (Project Component C-3).

1.4.3.3 Project Component U-3: Connect Hydrant Fuel Line to Fuel Farm

The hydrant fuel line would be extended from its current terminus west of Earhart Road and south of Cy Homer Road to reach the existing fuel farm. The hydrant fuel line would then be connected to the fuel farm.

1.5 STAGES OF THE PROPOSED PROJECT

If approved, the Proposed Project would be implemented in five stages between 2025 and 2029 (see **Table 1-4**). The stages are general in nature and could be modified once approval for the Proposed Project is provided and detailed design of project components occurs.

**TABLE 1-4
STAGING OF THE PROPOSED PROJECT**

STAGE	ACTIVITIES	TIMEFRAME	AREA (SQ FT)
Stage 1	Taxiway and Taxilane Improvements	August 2025-April 2026	
	Demolish Portions of Existing Taxiways A, Y, and B1 Pavement	August 2025-October 2025	576,500
	Reconstruct Portions of Taxiways A, Y, and B1	November 2025-April 2026	908,200
Stage 2	West Apron, New Concourse, and North Fuel and Fiber Extension	April 2026-April 2028	
	Demolish Existing Apron and Taxilane Y4 Pavement	April 2026-May 2026	236,400
	Construct Concourse Expansion	June 2026-April 2028	66,500
	Reconstruct West Apron and Taxilane Y4	October 2027-April 2028	460,000
Stage 3	South Apron Fuel Pits Reconfiguration, Striping, and Passenger Boarding Bridge Adjustments	April 2028-October 2028	
	South Apron Fuel Pit Reconfiguration and Passenger Boarding Bridge Adjustments	April 2028-September 2028	-
	South Apron Striping	September 2028-October 2028	-
Stage 4	North Apron Fuel Pits Reconfiguration, Striping, and Passenger Boarding Bridge Adjustments	October 2028-May 2029	

STAGE	ACTIVITIES	TIMEFRAME	AREA (SQ FT)
	North Apron Fuel Pit Reconfiguration and Passenger Boarding Bridge Adjustments	October 2028-April 2029	-
	North Apron Striping	April 2029-May 2029	-
Stage 5	Fuel and Fiberoptic Tie-Ins	October 2027-April 2028	
	North Fuel Line Extension and Termination	October 2027-April 2028	3,472 (for pad at fuel farm)
	North Fiberoptic Extension and Termination	November 2027-April 2028	-

Notes: sq ft = square feet
 Source: SCDA, 2024

1.6 REQUESTED FEDERAL ACTIONS

The following federal actions and approvals from the FAA are subject to NEPA review.

- Unconditional approval of portions of the Airport Layout Plan (ALP) that depict those components of the Proposed Project subject to FAA review and approval pursuant to 49 USC § 47107(a)(16);
- Determinations under 49 USC §§ 47106 and 47107 that are associated with the eligibility of the Proposed Project for federal funding under the Airport Improvement Program; and
- Determinations under 49 USC § 40117, as implemented by Title 14 CFR § 158.25, to impose and use passenger facility charges (PFCs) collected at the Airport to assist with construction of potentially eligible development items shown on the Airport Layout Plan.

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CHAPTER 2
ALTERNATIVES

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2.1 INTRODUCTION

This chapter describes alternatives to the proposed Concourse B Expansion Project at Sacramento International Airport (SMF). This Environmental Assessment (EA) discloses the environmental impacts that would result from implementation of the Proposed Project, the reasonable alternatives to the Proposed Project, and the No Action Alternative. The Federal Aviation Administration (FAA) has the responsibility to:

- Identify a range of reasonable alternatives that fulfill the purpose and need for the Proposed Project, as described in Title 40, of the Code of Federal Regulations (CFR), § 1502.14, and FAA Order 1050.1F, paragraph 7-1.1(e). At a minimum, the range of reasonable alternatives will include the Proposed Project and the No Action Alternative.
- Rigorously explore and objectively evaluate all reasonable alternatives, and—for alternatives that were eliminated from detailed study—briefly discuss the reasons for their elimination (40 CFR § 1502.14[a]) (1978).
- Identify the FAA’s preferred alternative, unless an applicable law prohibits the expression of such a preference (40 CFR § 1502.14[e]) (1978).

This chapter of the EA lists the reasonable alternatives and also describes the process for screening the alternatives and the results of the process.

2.2 IDENTIFICATION OF POTENTIAL ALTERNATIVES

This section provides a brief description of potential alternatives that are subject to the screening process described in **Section 2.3**. The focus of these alternatives is on the terminals and concourses, including directly related airfield components (i.e., expanding the airfield apron and realigning Taxiway Y4). The other components of the project, such as utilities (i.e., extending the hydrant fuel line) can be accommodated with each of the terminal and concourse alternatives, so these components are not included in the alternatives screening process. The following potential alternatives are evaluated in this EA:

2.2.1 Alternative 1: Expand Concourse B to the West (Proposed Project)

Alternative 1 would expand Concourse B to the west in order to accommodate six additional aircraft gates and associated holdrooms (see **Exhibit 2-1**). Under this alternative, the airfield pavement west of Concourse B would be expanded further west toward Taxiway A and Taxiway Y4 would be realigned onto the new airfield pavement. This alternative was evaluated in the SMF Master Plan Update (2020) under a 13-gate alternative, Alternative 1, that included 10 additional gates at Concourse B and three additional gates at Concourse A. The Master Plan Update recommended that future gate expansion at SMF be focused on Concourse B due to the physical constraints associated with Terminal A. The Master Plan Update indicated that while Alternative 1 would result in the loss of four remain overnight

(RON) aircraft positions, it would ultimately maintain the most Concourse B RON parking and would use the existing apron geometry.

2.2.2 Alternative 2: Expand Concourse B to the Southwest

Alternative 2 would expand Concourse B at an angle to the southwest in order to accommodate six additional gates and associated holdrooms (see **Exhibit 2-2**). Under this alternative, the airfield pavement would be expanded to the west and southwest toward Taxiway A and Taxilane B. Taxilane Y4 would be realigned and a new taxilane would be constructed off the southwest end of the expanded Concourse B that would connect between Taxilanes B and Y4 and Taxiway A. This alternative was evaluated in the Master Plan Update under a 13-gate alternative, Alternative 2, that included expanding Concourse B to the southwest as well as to the east. While the Master Plan Update recommended that future gate expansion at SMF be focused on Concourse B, it indicated that Alternative 2 would result in two or three gates becoming inoperable during construction and that eight RON positions would be lost.

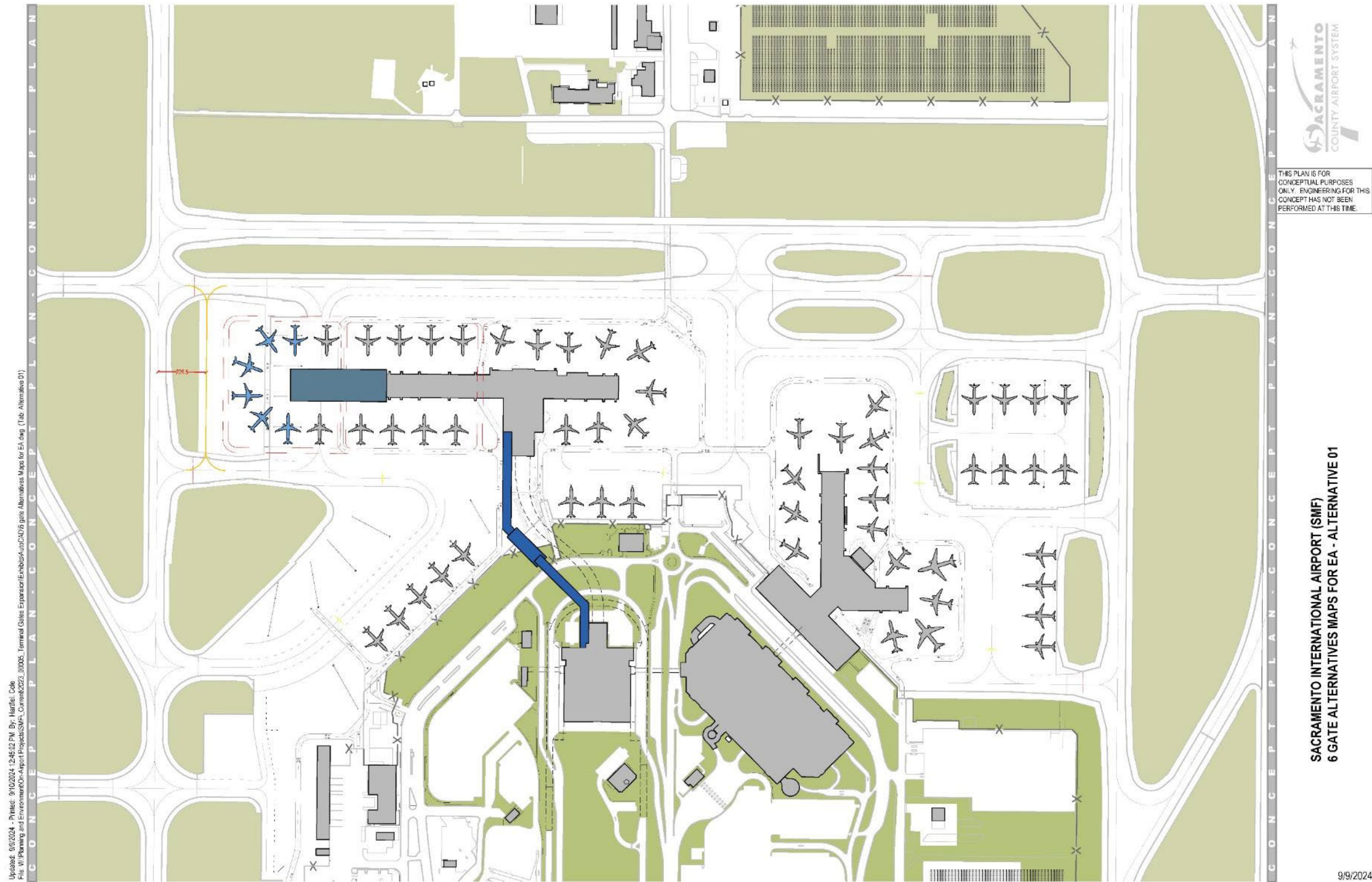
2.2.3 Alternative 3: Construct New Concourse Parallel to Concourse B

Alternative 3 would construct a new concourse with six gates south of and parallel to Concourse B and northwest of Terminal B (see **Exhibit 2-3**), partially within a landscaped area between Taxilane B and Lindbergh Drive, and then crossing onto Taxilane B. The new concourse building would connect to Terminal B via the pedestrian walkway using the vertical transition core of the walkway. Existing RON locations would be removed to accommodate the new gates. This alternative was evaluated in the Master Plan Update as a 13-gate alternative, Alternative 3, that would construct a new, but larger, concourse at the same location shown in **Exhibit 2-3**. Although this alternative would result in 10 RON positions being lost, would reduce aircraft compatibility on the existing cargo ramp, and would require the most capital cost out of the three alternatives, the Master Plan Update recommended that Alternative 3 be carried forward because it provided the most flexibility for phasing construction without affecting existing gates and would provide the space and versatility afforded by an additional concourse.

2.2.4 Alternative 4: Construct New Concourse Parallel to Lindbergh Drive

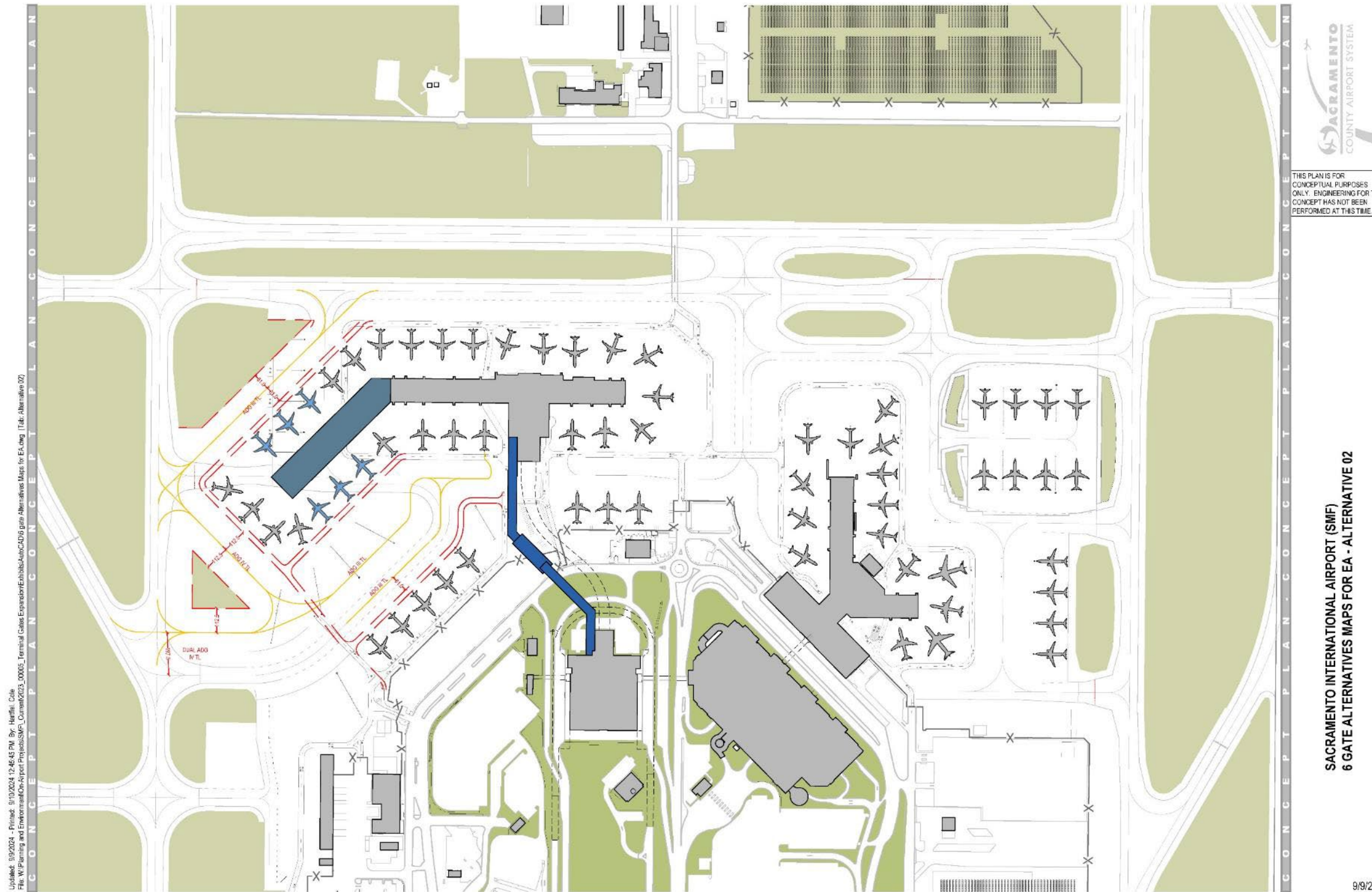
Alternative 4 would construct a new concourse with six gates parallel to Lindbergh Drive (see **Exhibit 2-4**). The new concourse would be constructed within a landscaped area between Taxilane B and Lindbergh Drive, south of Concourse B and northwest of Terminal B. The new concourse would connect to Terminal B via the pedestrian walkway using the vertical transition core of the walkway.

**EXHIBIT 2-1
ALTERNATIVE 1: EXPAND CONCOURSE B TO THE WEST (PROPOSED PROJECT)**



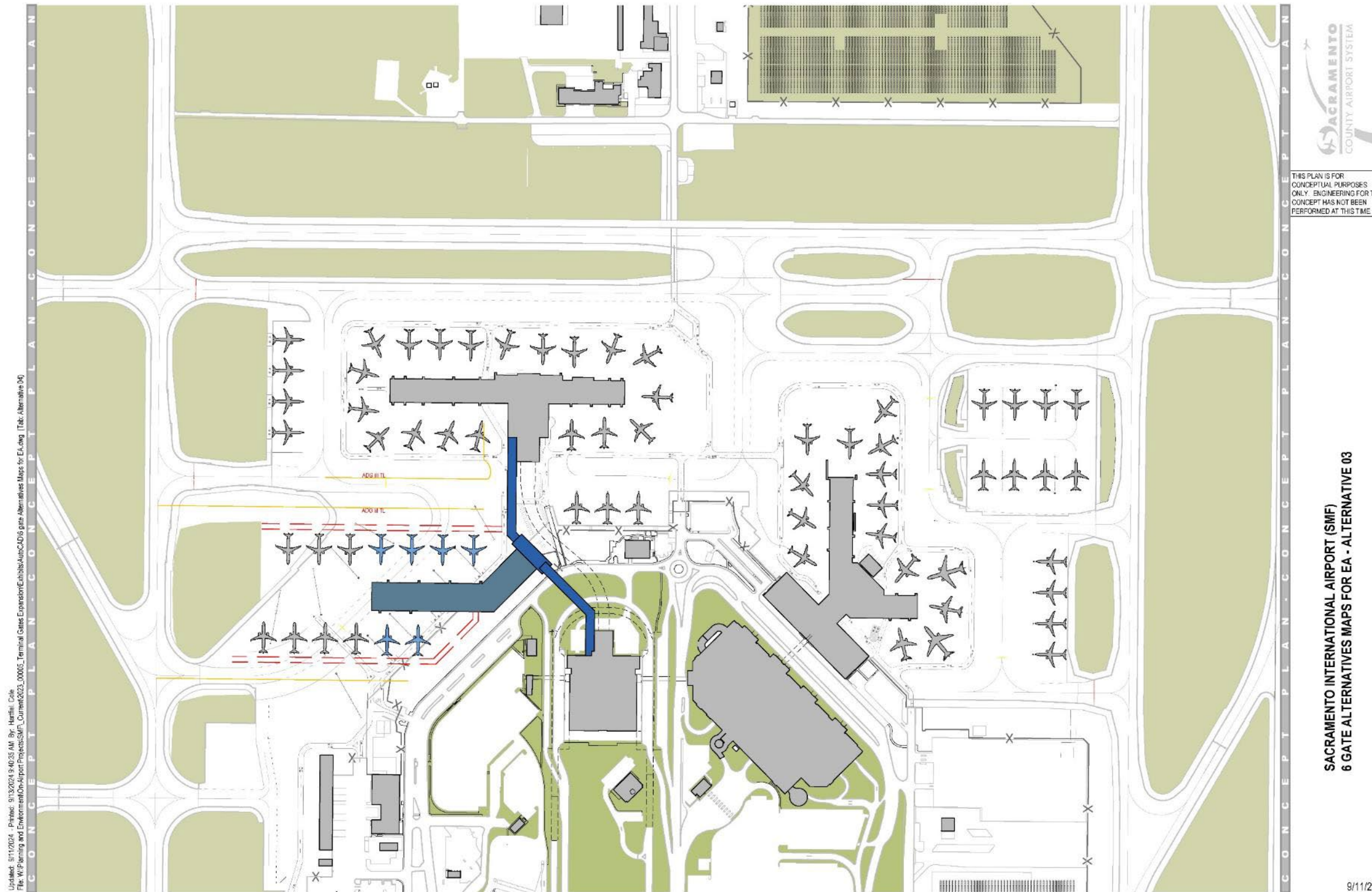
Source: SCDA, 2024

**EXHIBIT 2-2
ALTERNATIVE 2: EXPAND CONCOURSE B TO THE SOUTHWEST**



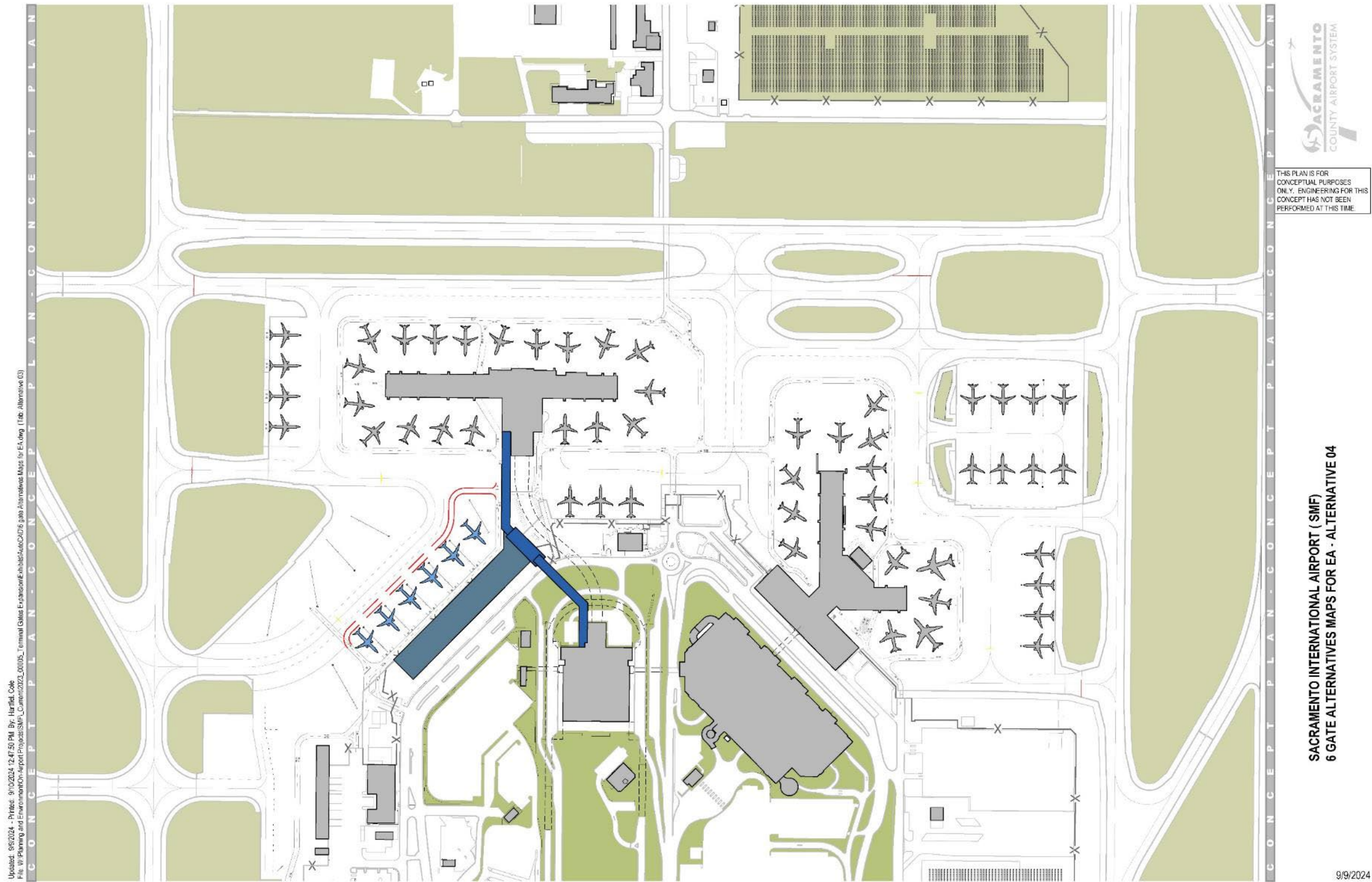
Source: SCDA, 2024

**EXHIBIT 2-3
ALTERNATIVE 3: CONSTRUCT NEW CONCOURSE PARALLEL TO CONCOURSE B**



Source: SCDA, 2024

EXHIBIT 2-4
ALTERNATIVE 4: CONSTRUCT NEW CONCOURSE PARALLEL TO LINDBERGH DRIVE



Source: SCDA, 2024

2.2.5 Alternative 5: Expand Concourse A to the East

Alternative 5 would expand the eastern portion of Concourse A to the east toward Taxiway D in order to accommodate six additional gates (see **Exhibit 2-5**). The expanded concourse would encroach on existing Taxilane Y1, which would then end north of the expansion at Taxilane C2.

2.2.6 Alternative 6: Expand Concourse A to the North

Alternative 6 would expand the northern portion of Concourse A to the north toward Taxilane C1 in order to accommodate six additional gates (see **Exhibit 2-6**). The pavement of Taxilane Y1 would be expanded to the east and Taxilane Y1 would be realigned onto the new pavement.

2.2.7 Alternative 7: Construct New Concourse North of Concourse B

Alternative 7 would construct a new concourse north of Concourse B, on an unpaved area north of Taxiway W (see **Exhibit 2-7**). Taxiways W and Y would require modifications, and because the new concourse would be outside the existing airfield, a new taxiway would be constructed north of the new concourse. The new concourse would use an underground tunnel, which would be constructed under Alternative 7, to access the new concourse.

2.2.8 No Action Alternative

Under the No Action Alternative, SCDA would not expand Concourse B and no physical changes to the terminals at SMF would occur.

In order to accommodate future forecast growth at SMF, this alternative would result in the use of up to 24 hardstands for remote passenger operations (remote gates). These remote gates would be located west, south, and southwest of Concourse B and east and northeast of Concourse A (see **Exhibit 2-8**). Passengers on aircraft using the remote gates would be processed through either Terminal B and Concourse B or Terminal A and Concourse A, depending on the location of the hardstand, and would access the remote gates via a shuttle bus operation. Each flight from each hardstand location would require multiple shuttle bus trips to and from the concourse due to the total passenger limit of shuttle buses and the size restrictions required for the shuttle buses to limit disturbance to other airfield traffic. Assuming that each shuttle bus could accommodate from 60 to 110 passengers with carry-on luggage⁵, each flight would typically require from two to five shuttle bus trips.

For the seven hardstand locations located west and southwest of Concourse B, passengers would exit Concourse B using the public elevator/escalator or stairwell

⁵ The assumption that a shuttle bus could accommodate from 60 to 110 passengers with carry-on luggage comes from the passenger capacity limits of a COBUS (<https://www.cobus-industries.com>), a common shuttle bus used by airports to shuttle passengers to hardstands.

near Gate B8 to access the buses. The buses would travel northward to the vehicle service road that encircles Concourse B. The buses would then travel west around the concourse toward Taxilane Y4. For the hardstands located west of Concourse B, the buses would cross Taxilane Y4 to reach the hardstands. For the hardstands southwest of Concourse B, the buses would continue south around the concourse and along the pedestrian walkway to the existing security fence.

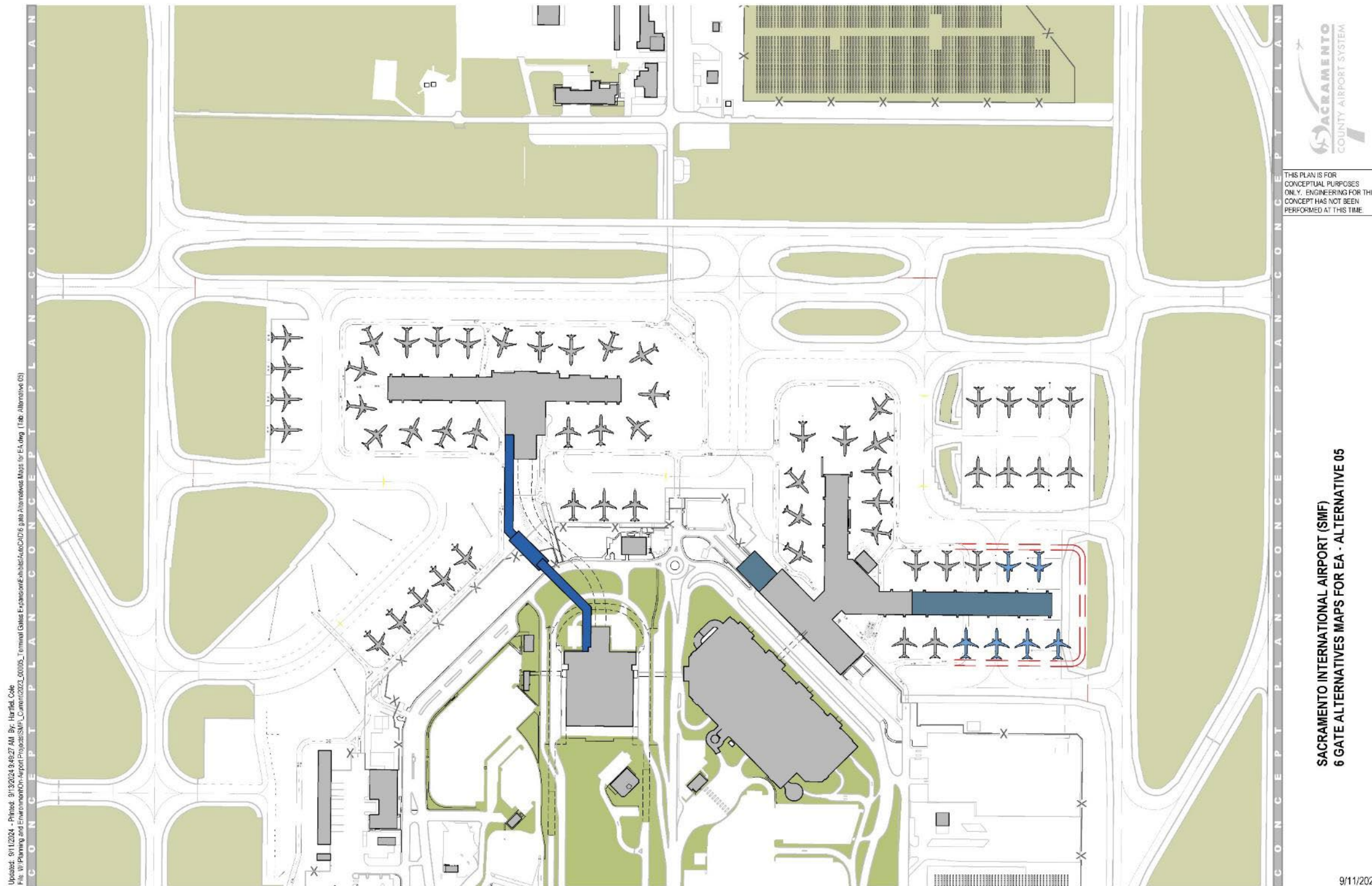
For the three hardstand locations south of concourse B, passengers would exit Concourse B using the public elevator/escalator or stairwell near Gate B8 to access the buses. The buses would travel northward to the vehicle service road that encircles Concourse B. The buses would then travel east around the concourse toward Taxilane Y2 and would continue south around the concourse and along the baggage handling transport route to the three remote hardstands.

For the 14 hardstand locations east and northeast of Concourse A, passengers would exit Concourse A from elevators that are located at either end of the concourse. From the north end of Concourse A, passengers would use either the elevators located between Gates A16 and A17, or an external stairway via the vestibule at Gate A16, to access the buses. The buses would travel northward to the vehicle service road and turn east towards the existing East RON Apron. The buses would cross Taxilane Y1 and enter the East RON Apron via the taxilane entrance/exit. From the east end of Concourse A, passengers would use the elevators or stairs located between Gates A4 and A5 to access the buses. The buses would maneuver between the safety envelopes and cross Taxilane Y1 to access the four hardstands east of Concourse A. The buses may also follow the vehicle service road northward to access the East RON Apron.

For 2028 (opening year), it was assumed each contact gate at SMF would have the same number of enplanements as that which occurred in 2023, which was approximately 107 enplanements per departure (determined by the total passenger enplanements [6,490,798] divided by the combined air carrier and air taxi departures [121,668 air carrier and air taxi operations divided by 2 to get departures = 60,834] in 2023). It also was assumed that each remote gate would have three departures per day. **Table 2-1** provides the number of enplanements that could be accommodated under the No Action Alternative in 2028, which is 1,372,430 enplanements more than the enplanements forecast for 2028.

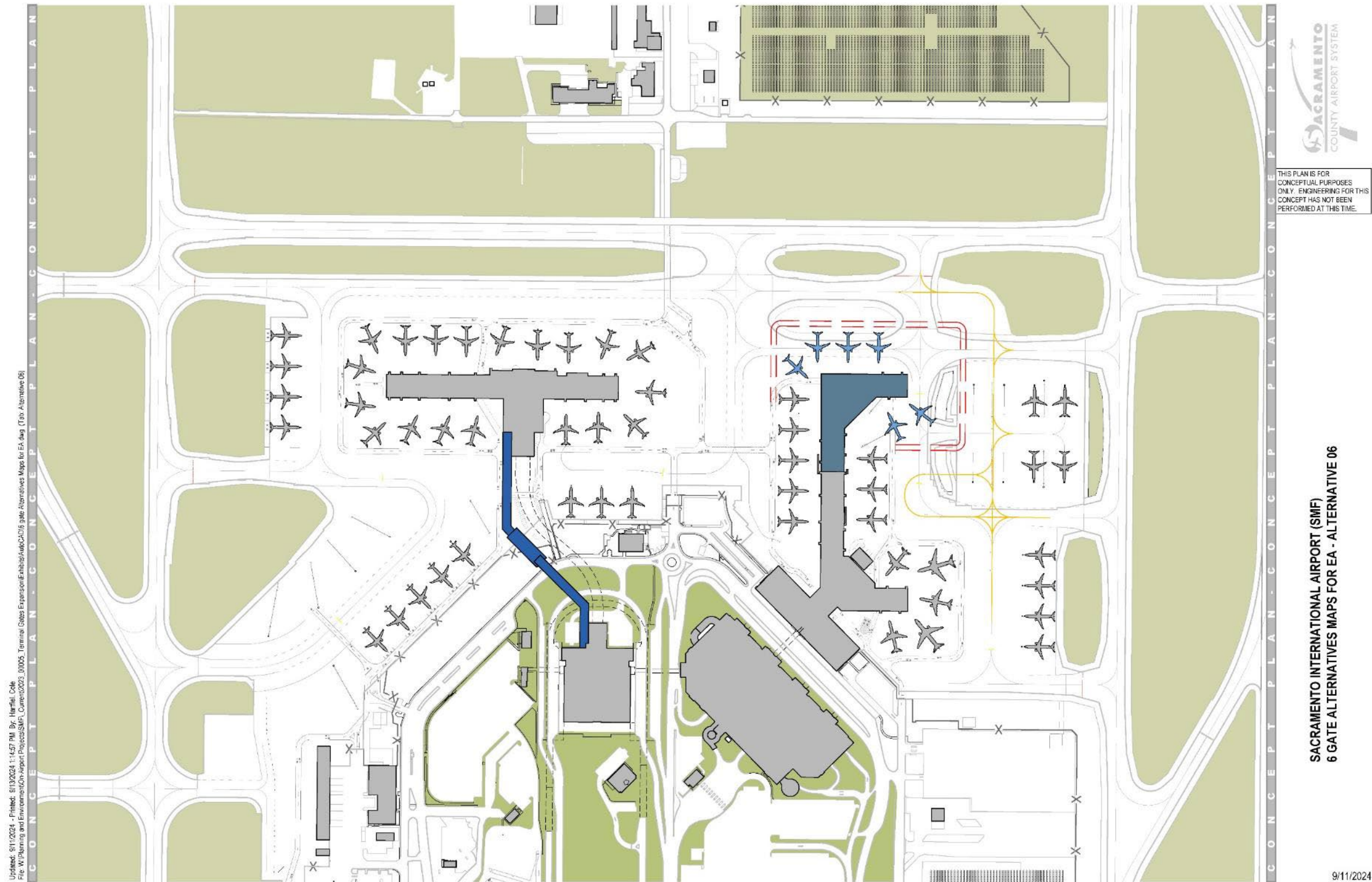
For 2033 (opening year + 5 years), it was assumed that each contact gate at SMF would have the same number of enplanements as that which occurred in 2023 which was approximately 107 enplanements per departure, as detailed above. It also was assumed that each remote gate would have three departures per day. **Table 2-2** provides the number of enplanements that could be accommodated under the No Action Alternative in 2033, which is 217,669 enplanements more than the enplanements forecast for 2033.

**EXHIBIT 2-5
ALTERNATIVE 5: EXPAND CONCOURSE A TO THE EAST**



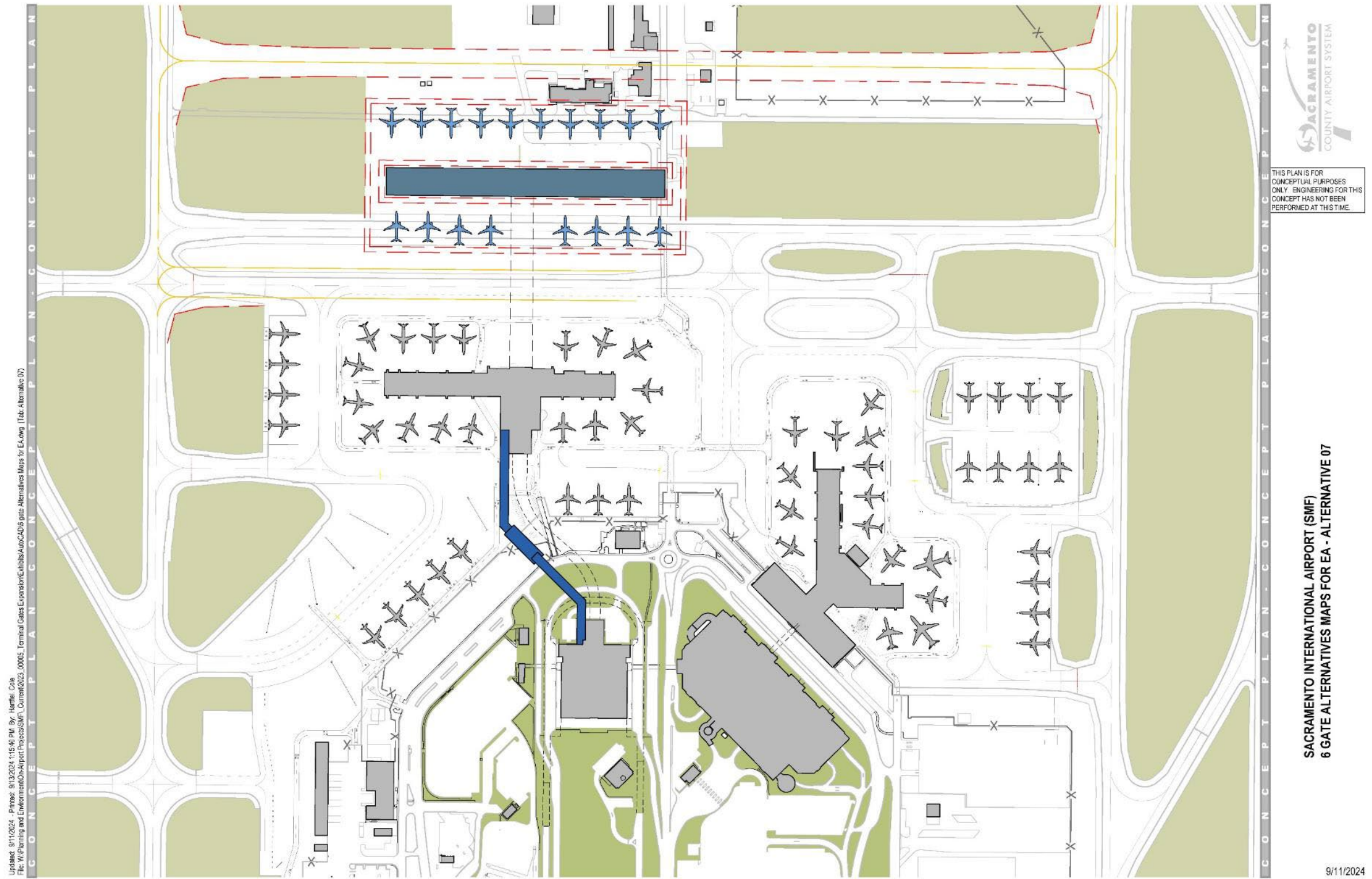
Source: SCDA, 2024

**EXHIBIT 2-6
ALTERNATIVE 6: EXPAND CONCOURSE A TO THE NORTH**



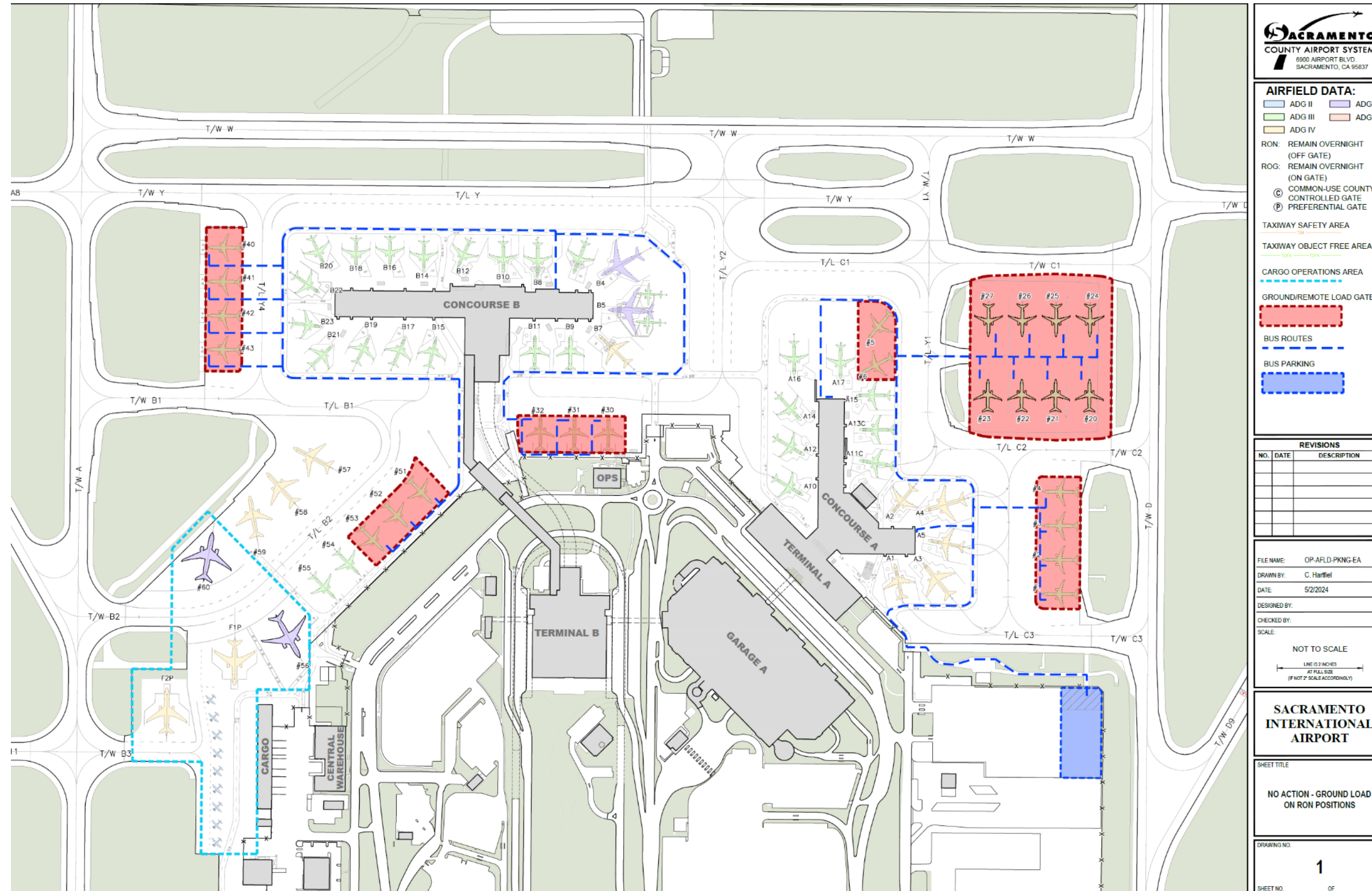
Source: SCDA, 2024

**EXHIBIT 2-7
ALTERNATIVE 7: CONSTRUCT NEW CONCOURSE NORTH OF CONCOURSE B**



Source: SCDA, 2024

**EXHIBIT 2-8
NO ACTION ALTERNATIVE HARDSTAND LOCATIONS**



Source: SCDA, 2024

**TABLE 2-1
AIRCRAFT ENPLANEMENTS UNDER THE NO ACTION ALTERNATIVE IN 2028**

2028 (Opening Year)	Terminal A	Terminal B	TOTAL
Annual Enplanements at Contact Gates	1,878,248 ^{/a/}	4,612,550 ^{/b/}	6,490,798
Annual Enplanements at Remote Gates ^{/c/}	1,640,310	1,171,650	2,811,960
TOTAL	3,518,558	5,784,200	9,302,758
Total Forecast Annual Enplanements	-	-	7,930,328

/a/ - Actual number of enplanements in 2023 in Terminal A.

/b/ - Actual number of enplanements in 2023 in Terminal B.

/c/ - Assumes an average of 107 enplanements per departure and 3 departures per day per hardstand. Hardstand distribution is assumed to be 14 remote gates out of Terminal A and 10 remote gates out of Terminal B for a total of 24 remote gates.

Source: SCDA, 2024.

**TABLE 2-2
AIRCRAFT ENPLANEMENTS UNDER THE NO ACTION ALTERNATIVE IN 2033**

2033 (Opening Year+5 Years)	Terminal A	Terminal B	TOTAL
Annual Enplanements at Contact Gates	1,878,248 ^{/a/}	4,612,550 ^{/b/}	6,490,798
Annual Enplanements at Remote Gates ^{/c/}	1,640,310	1,171,650	2,811,960
TOTAL	3,518,558	5,784,200	9,302,758
Total Forecast Annual Enplanements	-	-	9,085,089

/a/ - Actual number of enplanements in 2023 in Terminal A.

/b/ - Actual number of enplanements in 2023 in Terminal B.

/c/ - Assumes an average of 107 enplanements per departure and 3 departures per day per hardstand. Hardstand distribution is assumed to be 14 remote gates out of Terminal A and 10 remote gates out of Terminal B for a total of 24 remote gates.

Source: SCDA, 2024

2.3 SCREENING PROCESS

For this EA, a two-step screening process was used to identify and evaluate a range of reasonable alternatives. In Step 1, each alternative was analyzed to determine whether the alternative could achieve the objectives of the Purpose and Need to: 1) accommodate the forecast increase in passengers by meeting requirements for the number of aircraft gates, the space for passenger security screening, the space and facilities for baggage handling, the space for gate holdrooms, the space for concessions, and the space for restrooms; and 2) to reduce the potential for incursions of fueling trucks or other vehicles into the path of aircraft on taxiways and taxilanes. Alternatives that would not meet these objectives were eliminated from further consideration.

In Step 2, alternatives were eliminated if they would not be practical or feasible to implement from a technical or economic standpoint. This screening criteria includes

whether the alternative would have a material effect on airfield operations, a material effect on landside operations, or would be reasonable to construct. Identification of a material effect on airfield operations uses federal advisory circulars, orders, regulations, and design guidelines to determine whether an alternative would introduce conflicts for the movement of aircraft or create safety hazards for aircraft, employees, or passengers. Alternatives that would not introduce potential conflicts or hazards are considered to be more viable than those that would. A material effect on landside operations would occur if a redundancy of services and facilities (i.e., a new building requiring a separate passenger security screening checkpoint, concessions, and new utility connections from an existing facility) is required to support landside operations or if operational inefficiencies would occur for airline operations. “Reasonable to construct” is defined as an alternative that could be implemented using sound engineering judgment, with costs that would not be disproportionately greater than the costs of other alternatives. For example, disproportionately higher costs could be associated with the construction of a new building compared to the expansion of an existing building because a new building could result in unavoidable complex site conditions (grading, excavation, foundation work, utility relocations, etc.), higher regulatory or compliance costs, higher costs due to construction methods or materials, and a longer construction duration. Similarly, construction of a larger area of airfield pavement would have higher construction costs compared to a smaller area of airfield pavement because of the cost of additional materials and a longer construction duration.

Any alternatives that were not eliminated through this screening process were retained for a detailed evaluation of their environmental impacts. The screening process is portrayed conceptually in **Exhibit 2-9**.

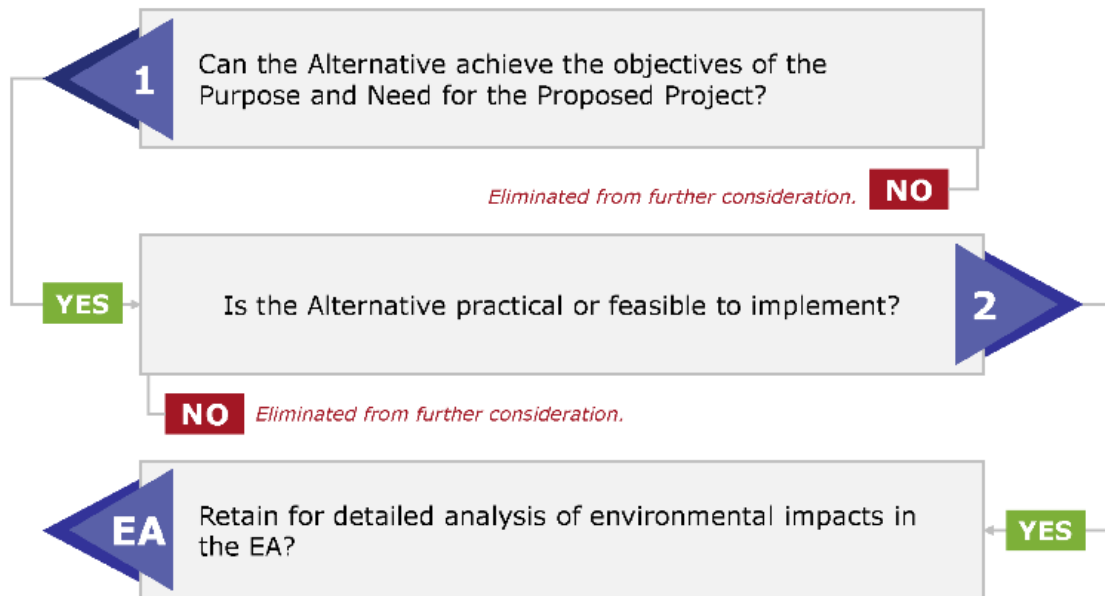
2.4 SCREENING STEP 1: CAN THE ALTERNATIVE ACHIEVE THE OBJECTIVES OF THE PURPOSE AND NEED FOR THE PROPOSED PROJECT?

Each potential alternative was evaluated to determine its ability to achieve the objectives of the Purpose and Need of the Proposed Project.

2.4.1 Alternatives 1 through 7

Alternatives 1 through 7 would accommodate the forecast increase in passengers by providing adequate space and facilities associated with aircraft gates, holdrooms, concessions, passenger security screening, and baggage handling. Additionally, each of these alternatives would allow for the connection of the fuel hydrant line to the fuel farm. As a result, each of these seven alternatives meet the Purpose and Need of the Proposed Project. Therefore, Alternatives 1 through 7 achieve the Purpose and Need of the Proposed Project and each alternative will be considered in Step 2 Screening.

**EXHIBIT 2-9
ALTERNATIVES SCREENING PROCESS**



Source: RS&H, 2024

2.4.2 No Action Alternative

This alternative would keep the Airport in its existing configuration. In 2028 and 2033 the Airport would be able to accommodate the forecast increase in passengers with the use of 24 hardstands but would not provide adequate space for holdrooms, concessions, passenger security screening, and baggage handling. The annual operations and number of aircraft served at SMF would be the same under the No Action Alternative as the Proposed Project. However, under the No Action Alternative, the forecast increase in operations would be served by the existing facilities, resulting in less efficient operations and diminished passenger service and experience levels. As a result, airlines would have to adjust scheduling, which would result in issues related to the availability of existing gates, and in turn creating inefficient operations. It is anticipated that additional inefficiencies would compound over the projected timeframe as operations increase. This results in more turns per gate per day as well as during the peak periods. It also would result in increased hold times on the aircraft apron while aircraft wait for gates or hardstands to become available. Airlines may have to use non-contiguous gates throughout the Airport, which would require a shuffling of staff and airline operations on a daily basis. This could also lead to increased inefficiencies as staff travel time between aircraft gates increases. In addition, gate holdrooms and other terminal support facilities would continue to become more constrained, resulting in a decrease in passenger service and experience. There would be a noticeable deficiency in passenger services, resulting in increasing congestion and crowding. Airlines also would have to use remote (hardstand) parking/loading supported by a bussing

operation for the passengers to access the parked aircraft. To access the hardstands, fueling trucks and buses would have to cross active taxiways and taxilanes, which would result in the potential for incursions with aircraft during each crossing.

The No Action Alternative fails to fulfill the stated Purpose and Need for the Proposed Project and would exacerbate existing operational constraints at SMF. However, the No Action Alternative must be carried forward in the assessment of environmental impacts as required by 40 CFR § 1502.14(d) (1978). The No Action Alternative serves as the basis for comparison of the impacts of the other reasonable alternatives that are carried forward for analysis.

2.4.3 Summary of Step 1 Screening Process

Table 2-3 provides a summary of the Step 1 screening process for the potential alternatives. Alternatives 1 through 7 achieved the objectives of the Purpose and Need of the Proposed Project. These seven potential alternatives and the No Action Alternative will be considered in the Step 2 Screening process.

2.5 SCREENING STEP 2: IS THIS ALTERNATIVE PRACTICAL AND FEASIBLE TO IMPLEMENT?

Each potential alternative was evaluated to determine whether the potential alternative would have an effect on airfield operations, an effect on landside operations, or would be reasonable to construct.

2.5.1 Alternative 1: Expand Concourse B to the West (Proposed Project)

Alternative 1 would require the expansion of airfield pavement and the realignment of Taxilane Y4. The relocation of Taxilane Y4 would ensure that the operation of the airfield would not be materially affected by the expansion of Concourse B to the west. As a result, Alternative 1 would not have a material effect on airfield operations. In addition, Alternative 1 would not have a material effect on landside operations and would be reasonable to construct. Thus, Alternative 1 would be practical and feasible to implement. Therefore, this alternative has been retained for detailed evaluation in the EA.

2.5.2 Alternative 2: Expand Concourse B to the Southwest

Alternative 2 would require the expansion of airfield pavement, the realignment of Taxilane Y4, and the construction of a new taxilane that would connect between Taxilanes B and Y4 and Taxiway A. Due to the angle of the expansion proposed under this alternative, it does not maximize apron space and available pavement. This alternative also would create sharp angles between the new taxilane and the realigned Taxilane Y4 and Taxiway A in order to access gates, leading to complicated maneuvers for aircraft and sightline issues for pilots as well as providing a less efficient taxilane system to the gates. This would result in a material effect on airfield operations. In terms of landside operations, an expansion

**TABLE 2-3
SUMMARY OF STEP 1 SCREENING PROCESS**

Screening Criteria	Alternative 1: Expand Concourse B to the West (Proposed Project)	Alternative 2: Expand Concourse B to the Southwest	Alternative 3: Construct New Concourse Parallel to Concourse B	Alternative 4: Construct New Concourse Parallel to Lindbergh Drive	Alternative 5: Expand Concourse A to the East	Alternative 6: Expand Concourse A to the North	Alternative 7: Construct New Concourse North of Concourse B	No Action Alternative
Meets Aircraft Gate Requirements	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Meets Holdroom Requirements	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Meets Concessions Requirements	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Meets Passenger Screening Requirements	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Meets Baggage Handling System Requirements	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Meets Reduction in Potential for Incursion	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Move to Screening Level 2?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes ^{/a/}

/a/ - Required to be included in the EA by 40 CFR § 1502.14(d) (1978)

Source: RS&H, 2024; SCDA, 2024

of Concourse B would not result in redundant operations and would not have a material effect on landside operations. However, this alternative also would be unreasonable to construct because the cost to construct a new taxiway would be disproportionately greater than that of Alternative 1. As a result, Alternative 2 is not practical and feasible to implement and has been eliminated from further consideration.

2.5.3 Alternative 3: Construct New Concourse Parallel to Concourse B

Alternative 3 proposes to construct an entirely new concourse building that would include six gates, which is the same number of gates included in the alternatives that would expand on the existing concourse. This alternative would not have a material effect on airfield operations. However, Alternative 3 would require redundancy of landside facilities in terms of a passenger screening checkpoint, concessions, and utilities. Finally, Alternative 3 would be unreasonable to construct because the additional cost, effort, and time to construct a new concourse would be disproportionately greater than that of Alternative 1. As a result, Alternative 3 is not practical and feasible to implement and has been eliminated from further consideration.

2.5.4 Alternative 4: Construct New Concourse Parallel to Lindbergh Drive

Alternative 4 proposes to construct an entirely new concourse building that would include six gates, which is the same number of gates included in the alternatives that would expand on the existing concourse. This alternative would not have a material effect on airfield operations. However, Alternative 4 would require redundancy of landside facilities in terms of a passenger screening checkpoint, concessions, and utilities. Finally, Alternative 4 would be unreasonable to construct based on the additional cost, effort, and time to construct a new concourse would be disproportionately greater than that of Alternative 1. As a result, Alternative 4 is not practical and feasible to implement and has been eliminated from further consideration.

2.5.5 Alternative 5: Expand Concourse A to the East

Alternative 5 proposes to expand Concourse A to the east. The expanded concourse would encroach on existing Taxiway Y1, which would then end north of the expansion at Taxiway C2. Additionally, the location of this expansion would preclude the proposed location of a future airport traffic control tower (ATCT) as it would block the view of Taxiway D. This would result in a material effect on airfield operations. Expanding Concourse A to the north would not have a material effect on landside operations and the cost to construct an expanded Concourse A would be similar to that of Alternative 1. However, because this alternative would result in a material effect on airfield operations, it is not practical and feasible to implement and has been eliminated from further consideration.

2.5.6 Alternative 6: Expand Concourse A to the North

Alternative 6 proposes to expand Concourse A to the north and would require the expansion of pavement and the realignment of Taxiway Y1. This alternative does not support long-term airport development plans as identified in the SMF Master Plan Update (2020). Additionally, the location of this expansion would preclude the proposed location of a future ATCT as it would block the view of Taxiway D. This would result in a material effect on airfield operations. Expanding Concourse A to the north would not have a material effect on landside operations and the cost to construct an expanded Concourse A would be similar to that of Alternative 1. However, because this alternative would result in a material effect on airfield operations, it is not practical and feasible to implement and has been eliminated from further consideration.

2.5.7 Alternative 7: Construct New Concourse North of Concourse B

Alternative 7 proposes to construct an entirely new concourse north of Concourse B and the existing airfield. This alternative would require the realignment of two taxiways realignment and the construction of a new taxiway, which would result in a material effect on airfield operations. This alternative would require redundancy of landside facilities in terms of a passenger screening checkpoint, concessions, and utilities. Finally, this alternative would also require the construction of an underground tunnel in order to access the new concourse from Terminal B. As such, Alternative 7 would be unreasonable to construct based on the additional cost, effort, and time to construct a new concourse would be disproportionately greater than that of Alternative 1. As a result, Alternative 7 is not practical or feasible to implement and has been eliminated from further consideration.

2.5.8 No Action Alternative

The No Action Alternative would result in the continued use of the existing terminals and concourses at SMF. This alternative would have no effect on airfield operations as no construction would occur as part of the No Action Alternative. However, because the number of aircraft gates would not be sufficient and 24 RON parking spaces would need to be utilized as hardstands, this alternative would result in the increased potential for incursions with aircraft due to passenger shuttle buses and fueling trucks crossing active taxiways/taxilanes to access the hardstands. Without expanding holdroom capacity, passengers waiting to board shuttle buses to access the remote hardstands would create severe congestion within the concourse. In addition, the No Action Alternative would have an effect on landside operations as the existing terminals cannot accommodate the forecast increase in passengers while maintaining acceptable levels of service. Although the No Action Alternative would not meet the Step 2 Screening criteria, it is carried forward into the Environmental Consequences Chapter as required by 40 CFR § 1502.14(d) (1978).

2.5.9 Summary of Step 2 Screening Process

Table 2-4 provides a summary of the Step 2 screening process for the seven potential build alternatives that were carried forward from Step 1 Screening and the No Action Alternative.

2.6 ALTERNATIVES RETAINED FOR ANALYSIS IN THIS EA

Based on the two-step screening process, the No Action Alternative and Alternative 1 (Expand Concourse B to the West) have been retained for detailed evaluation in this EA. This EA assesses the No Action Alternative and Alternative 1 for potential impacts under the projected future conditions. Specific study years were broken out for certain resources (air quality, climate, noise, and socioeconomics [surface traffic]) in order to assess the near-term and long-term impacts.

2.7 FEDERAL LAWS AND REGULATIONS CONSIDERED IN THIS ANALYSIS

Table 2-5 lists the federal laws, statutes, executive orders, U.S. Department of Transportation (U.S. DOT) and FAA orders, FAA Advisory Circulars (AC), and other federal guidance considered during the preparation of this EA.

**TABLE 2-4
SUMMARY OF STEP 2 SCREENING PROCESS**

Screening Criteria	Alternative 1: Expand Concourse B to the West (Proposed Project)	Alternative 2: Expand Concourse B to the Southwest	Alternative 3: Construct New Concourse Parallel to Concourse B	Alternative 4: Construct New Concourse Parallel to Lindbergh Drive	Alternative 5: Expand Concourse A to the East	Alternative 6: Expand Concourse A to the North	Alternative 7: Construct New Concourse North of Concourse B	No Action Alternative
Minimal Effect on Airfield Operations	Yes	No	Yes	Yes	No	No	No	No
Minimal Effect on Landside Operations	Yes	Yes	No	No	Yes	Yes	No	No
Reasonable to Construct	Yes	No	No	No	Yes	Yes	No	Yes
Retain for Detailed Evaluation in the EA?	Yes	No	No	No	No	No	No	Yes ^{/a/}

/a/ - Required to be included in the EIS by 40 CFR § 1502.14(d) (1978)

Source: RS&H, 2024; SCDA, 2024

**TABLE 2-5
FEDERAL LAWS AND REGULATIONS CONSIDERED IN THIS ANALYSIS**

Federal	Airport and Airway Improvement Act of 1982, as amended (49 USC [United States Code] 47101 et seq.)
	American Indian Religious Freedom Act (42 USC 1996)
	Antiquities Act of 1906 (54 USC 320301 et seq.)
	Archaeological and Historic Preservation Act (54 USC 312501 et seq.)
	Archaeological Resources Protection Act (16 USC 470 et seq.)
	Aviation Safety and Noise Abatement Act of 1979 (49 USC 47501 et seq.)
	Bald and Golden Eagle Protection Act of 1940 (16 USC 668 et seq.)
	Clean Air Act of 1970, as amended (42 USC 7401 et seq.)
	Clean Water Act (33 USC 1251 et seq.)
	Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Community Environmental Response Facilitation Act of 1992 (42 USC 9601 et seq.)
	Endangered Species Act of 1973 (16 USC 1531 et seq.)
	FAA Reauthorization Act of 2018 (Public Law No. 115-254)
	Farmland Protection Policy Act (7 USC 4201 et seq.)
	Federal Aviation Act of 1958, as amended (49 USC 40101 et seq.)
	Hazardous Materials Transportation Act of 1975 (49 USC 5101 et seq.)
	Land and Water Conservation Fund Act of 1965 (16 USC 4601 et seq.)
	Migratory Bird Treaty Act (16 USC 703 et seq.)
	National Environmental Policy Act of 1969 (42 USC 4321 et seq.)
	National Flood Insurance Act (42 USC 4001 et seq.)
	National Historic Preservation Act (54 USC 300101 et seq.)
	Native American Graves Protection and Repatriation Act (25 USC 3001 et seq.)
	Pollution Prevention Act (42 USC 13101 et seq.)
	Protection of Historic and Cultural Properties (36 CFR Part 800)
	Resource Conservation and Recovery Act of 1976, as amended by the Solid Waste Disposal Act of 1980 (42 USC 6901 et seq.)
	Rivers and Harbors Act of 1899 (33 USC 401 et seq.)
	Safe Drinking Water Act of 1974 (42 USC 300 et seq.)
Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC 61 et seq.)	
U.S. Department of Transportation Act, Section 4(f) (49 USC 303[c])	
Wild and Scenic Rivers Act (16 USC 1271 et seq.)	
Executive Orders	E.O. 11593, Protection and Enhancement of the Cultural Environment (36 FR [Federal Register] 8921 et seq., May 13, 1971)
	E.O. 11988, Floodplain Management (42 FR 26951 et seq., May 25, 1977)
	E.O. 11990, Protection of Wetlands (42 FR 26961 et seq., May 24, 1977)
	E.O. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (59 FR 7629 et seq., February 11, 1994)

	E.O. 13045, Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885 et seq., April 23, 1997)
	E.O. 13175, Consultation and Coordination with Indian Tribal Governments (65 FR 67249, November 9, 2000)
	E.O. 13186, Responsibilities of Federal Agencies to Protect Migratory Birds (66 FR 3853, January 17, 2001)
U.S. Department of Transportation and FAA Orders	FAA Order 1050.1F: <i>Environmental Impacts: Policies and Procedures</i> (July 1, 2015) (See also <i>1050.1F Desk Reference</i>)
	FAA Order 5050.4B: <i>National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions</i> (April 28, 2006)
	FAA Order 1050.10D: <i>Environmental Pollution Control and Abatement at FAA Facilities</i> (September 13, 2004)
	FAA Order 1210.20; <i>American Indian and Alaska Native Tribal Consultation Policy and Procedures</i> . (January 28, 2004)
	FAA Order 5100.38D, Change 1, Airport Improvement Program Handbook (February 26, 2019)
	U.S. DOT Order 5650.2: <i>Floodplain Management and Protection</i> (April 23, 1979)
	U.S. DOT Order 5610: Environmental Justice and Minority and Low-Income Populations (May 2, 2012)
	U.S DOT Order 5650.1: Protection and Enhancement of the Cultural Environment (November 20, 1972)
FAA Advisory Circulars	FAA AC 150/5020-1: Noise Control and Compatibility Planning for Airports
	FAA AC 150/5060-5: Airport Capacity and Delay
	FAA AC 150/5070-6B: Airport Master Plans
	FAA AC 150/5300-13A: Airport Design
	FAA AC 150/5360-13A – Airport Terminal Planning.
	FAA AC 150/5370-10G: Standards for Specifying Construction of Airports
Code of Federal Regulations	Title 14, CFR Part 77, Safe, Efficient Use, and Preservation of Navigable Airspace
	Title 14, CFR Part 150, Airport Noise Compatibility Planning
	Title 14, CFR Part 158, Passenger Facility Charges
	Title 33, CFR § 328.3, Navigation and Navigable Waters
	Title 40, CFR Part 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions
	Title 40, CFR Parts 1500–1508, President’s Council on Environmental Quality

Source: RS&H, 2024.

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CHAPTER 3
AFFECTED ENVIRONMENT,
ENVIRONMENTAL CONSEQUENCES,
AND MITIGATION MEASURES

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3.1 INTRODUCTION

This chapter provides an overview of potential impacts related to the Proposed Project and No Action Alternative on each resource category identified in Federal Aviation Administration (FAA) Order 1050.1F, *Environmental Impacts: Policies and Procedures* (FAA, 2015) and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* (FAA, 2006). The analysis of each resource category includes the following:

- **Affected Environment** describes the existing natural, ecological, cultural, social, and economic conditions that could be affected by the Proposed Project. Data used to determine the affected environment was collected by reviewing existing documentation provided by the Sacramento County Department of Airports (SCDA), reviewing public databases, conducting onsite field surveys, and consulting with agencies with specific knowledge of a resource category.
- **Significance Threshold** provides the significance threshold for each resource category outlined in FAA Order 1050.1F to aid in the environmental impacts analysis.
- **Environmental Consequences** evaluates the human and environmental consequences of the No Action Alternative and the Proposed Project. The environmental impacts associated with the Proposed Project is compared to the No Action Alternative based on the information known at the time of this EA's preparation. The No Action Alternative is required in the assessment of environmental impacts per 40 Code of Federal Regulations (CFR) Part 1502.14 (40 CFR Part 1502.14) to provide a baseline comparison for potential impacts from the Proposed Project.
- **Mitigation Measures** describes mitigation measures related to anticipated impacts.

Regulations associated with each environmental resource category are located in **Appendix A**.

3.2 STUDY AREAS

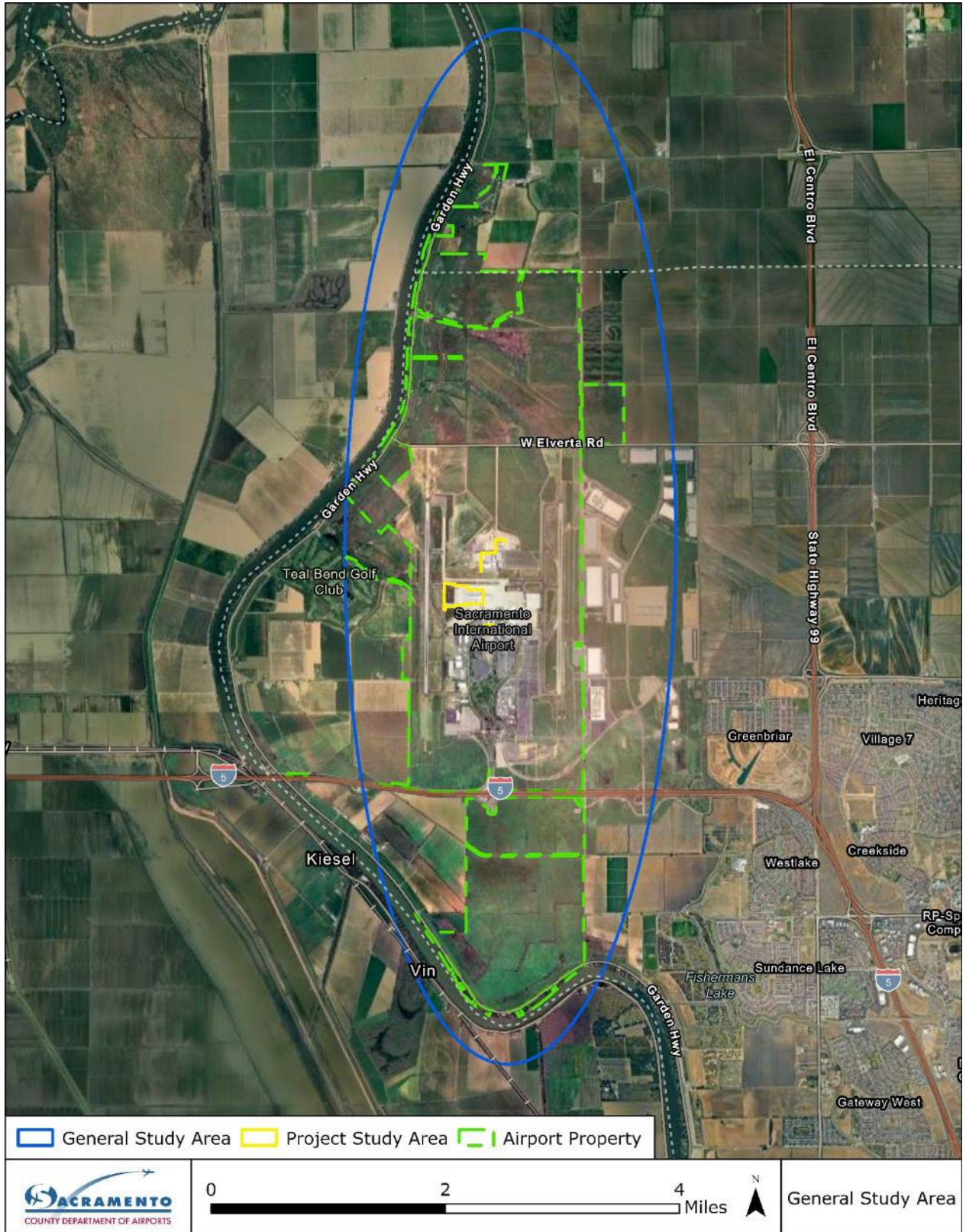
Per the FAA *1050.1F Desk Reference* (FAA, 2023) a study area can vary based on the impact category being analyzed. For this EA, two study areas were identified for use in describing the affected environment and the potential environmental consequences associated with the implementation of the Proposed Project. These two study areas are identified as the Project Study Area and the General Study Area (refer to **Exhibit 3-1** and **Exhibit 3-2**, respectively).

**EXHIBIT 3-1
PROJECT STUDY AREA**



Source: RS&H, 2024; SCDA, 2024

**EXHIBIT 3-2
GENERAL STUDY AREA**



Source: RS&H, 2024; SCDA, 2024

3.2.1 Project Study Area

The Project Study Area, as shown in **Exhibit 3-1**, encompasses approximately 28 acres and is located entirely on Airport Property. The Project Study Area represents the footprint in which the Proposed Project would occur. The Project Study Area is used for the analysis of impacts that would occur within the direct footprint of the Proposed Project.

3.2.2 General Study Area

The General Study Area, as shown in **Exhibit 3-2**, encompasses approximately 12,500 acres. The majority of the General Study Area is within Sacramento County but extends into Yolo County at the locations that cross the Sacramento River from the Airport (in the northwest and the south). The General Study Area boundary was based on the Airport’s existing Day-Night Average Sound Level (DNL) 65 decibel (dB) noise contour. The General Study Area is used to analyze the impacts that could be indirectly affected by the Proposed Project or for impacts that could extend beyond the Project Study Area and/or Airport property.

3.3 ENVIRONMENTAL RESOURCES NOT AFFECTED

This section describes the environmental resources identified in FAA Order 1050.1F that would not be affected by the Proposed Project. The environmental resources described in the subsections below are either not present in either the Project Study Area or the General Study Area or the Proposed Project does not have the potential to affect those resources.

3.3.1 Coastal Resources

According to the California Coastal Commission, the Airport is not in or abutting a coastal zone and does not require a consistency determination (California Coastal Commission, 2019). The Airport is located approximately 80 miles east of the Pacific Ocean, well outside the designated California Coastal Zone. There are no Coastal Barrier Resource System segments in the State of California (U.S. Fish and Wildlife Service, 2023). As no coastal resources are present, the Proposed Project would have **no effect** on coastal resources.

3.3.2 Department of Transportation, Section 4(f)

The Project Study Area is entirely on Airport property within an area that has previously been developed with airport infrastructure and facilities and is within the active air operations area (AOA) (refer to **Exhibit 3-1**), and does not contain any publicly owned parks, recreation areas, wildlife or waterfowl refuges, or historic resources. The nearest publicly owned park is Eventide Park, located approximately 2.2 miles southeast of the Project Study Area and the nearest recreational area is Teal Bend Golf Course, located approximately 0.6 mile west of the Project Study Area (Sacramento County, 2024). The nearest wildlife refuge is the Stone Lakes

National Wildlife Refuge, located over 20 miles south of the Project Study Area (U.S. Fish and Wildlife Service, 2024a).

A Cultural Resources Constraints Analysis prepared by LSA Associates, Inc. (LSA) in August 2024 (see **Appendix B**) did not identify any properties eligible for listing on the National Register of Historic Places (NRHP) within the Area of Potential Effect (APE) (the APE boundaries are the same as the Project Study Area). The analysis consisted of a cultural resources records search, review of previous cultural resources studies and literature relevant to the APE, review of historic maps and aerial photographs of the APE, and a Native American Heritage Commission request and review to identify known Native American tribal cultural resources within or near the APE. The analysis determined that the nearest known eligible or listed resource is the Sacramento River, approximately 1.8 miles northwest of the APE at its nearest point, which is a Tribal Cultural Landscape.

Due to a lack of Section 4(f) resources within or adjacent to the Project Study Area, the construction and operation of the Proposed Project would not physically use any Section 4(f) resources. Additionally, the construction and operation of the Proposed Project would not significantly affect the area’s air quality, climate, noise and noise-compatible land use, visual resources, or water resources (see **Sections 3.4, 3.6, 3.10, 3.12, and 3.13**, respectively) that could result in a constructive use of any Section 4(f) properties within the vicinity of the Proposed Project. Therefore, the Proposed Project would have **no effect** on Section 4(f) resources.

3.3.3 Farmlands

The Proposed Project would occur entirely on existing Airport property. No farmland would be acquired or converted as a result of the Proposed Project. Under the Farmland Protection Policy Act (FPPA), land that is committed to urban development is not subject to provisions of the FPPA (7 CFR Part 658). An airport is considered an urban area when there is a “currently functioning airport within a distance of 0.5 mile to the urban area that is a qualified cargo airport or has an annual enplanement of at least 2,500 passengers” (Census Bureau, 2022). SMF has over 6 million annual enplanements and is within the Urban Services Boundary for Sacramento County (Sacramento County, 2024). Therefore, the Project Study Area does not contain land subject to the FPPA and the Proposed Project would have **no effect** on farmlands.

3.3.4 Land Use

The Sacramento County 2023 General Plan (General Plan) (Sacramento County, 2013) designates the Airport as Public/Quasi Public for land use and the Sacramento County Zoning Code (Sacramento County, 2024) designates the Airport property within the Project Study Area as AG-80, which permits a minimum lot size of 80 acres for agricultural land use. However, this zoning designation also permits public land use, such as the Airport. The Proposed Project would not result in a change in land use and is consistent with Sacramento County land use and

zoning designations. Therefore, the Proposed Project would have **no effect** on land use.

3.3.5 Wetlands

A wetland delineation was performed by LSA for the entire Airport property in August 2023, employing technical methods outlined in the U.S. Army Corps of Engineers (USACE) *Army Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers, 1987) and the USACE *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (U.S. Army Corps of Engineers, 2008). The delineation did not identify any wetlands within the Project Study Area (refer to **Appendix C** for the delineation pages that include the Project Study Area); therefore, the Proposed Project would have no direct impact on wetlands. The preliminary jurisdictional delineation was submitted to USACE in March 2024. Construction Best Management Practices (BMPs), further described in **Section 3.13.2**, would be employed to prevent pollutants generated during construction from indirectly impacting wetlands and water bodies outside of the Project Study Area. With no direct or indirect impact on wetlands, the Proposed Project would have **no effect** on wetlands.

3.3.6 Wild and Scenic Rivers

According to the National Park Service, the nearest river listed in the Nationwide Rivers Inventory is the South Fork American River, located approximately 31 miles east of the Project Study Area (National Park Service, 2024a). The nearest Wild and Scenic River segment is the Lower American Wild and Scenic River, located approximately eight miles southeast of the Project Study Area (National Park Service, 2024b). Therefore, the Proposed Project would have **no effect** on Wild and Scenic Rivers.

3.4 AIR QUALITY

3.4.1 Affected Environment

As shown in **Table 3-1**, Sacramento County is designated as in nonattainment for specific levels of ozone (O₃), particulate matter (PM) that are 2.5 microns or less in diameter (PM_{2.5}), and maintenance for PM with a diameter of 10 microns or less (PM₁₀) under federal (U.S. Environmental Protection Agency, 2024c) and/or State (Sacramento Metropolitan Air Quality Management District, 2024b) standards. Sacramento is in attainment for carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), sulfates, and hydrogen sulfide (H₂S) per federal and State standards.

Air pollution in Sacramento County is primarily the result of locally generated emissions. However, the combination of local terrain (surrounding mountains), abundant sunshine, thermal air inversions, and wind patterns contribute to making the Sacramento area susceptible to high levels of air pollution.

**TABLE 3-1
SACRAMENTO COUNTY NONATTAINMENT STATUS**

Pollutant	Attainment with State Standards	Attainment with Federal Standards
Ozone	Nonattainment (1-hour Standard) ^{/a/} Nonattainment (8-hour Standard)	Attainment (1-hour Standard) ^{/b/} Nonattainment (8-hour Standards) ^{/c/} Classification = Severe-15 ^{/d/}
PM ₁₀	Nonattainment (24-hour Standard) Nonattainment (Annual Standard)	Maintenance ^{/e/}
PM _{2.5}	Attainment (Annual Standard)	Nonattainment (24-hour Standard) ^{/f/} Attainment (Annual Standard)

/a/ Per Health and Safety Code (HSC) § 40921.59(c), the classification is based on 1989-1001 data, and therefore does not change.

/b/ Air quality meets Federal 1-hour Ozone standard (77 FR 64036). U.S. Environmental Protection Agency (USEPA) revoked this standard, but some associated requirements still apply. The Sacramento Metropolitan Air Quality Management District (SMAQMD) attained the standard in 2009.

/c/ For both that 1997 and the 2008 Standard.

/d/ Severity classification by USEPA plus the primary standard attainment date (years after the effective date of designation for 2008 primary NAAQS), Serious designation for the 2015 ozone standard.

/e/ Maintenance for 1987 Standard.

/f/ Moderate nonattainment for 2006 Standard.

Source: SMAQMD, 2024; USEPA, 2024 Greenbook, https://www3.epa.gov/airquality/greenbook/anayo_ca.html

3.4.2 Significance Threshold

As provided in FAA Order 1050.1F, an action would cause a significant air quality impact if pollutant concentrations would exceed one or more of the National Ambient Air Quality Standards (NAAQS) established by the U.S. Environmental Protection Agency (USEPA) under the Clean Air Act (CAA) for any of the time periods analyzed or would increase the frequency or severity of any such existing violations.

Additionally, the CAA requires federal agencies such as the FAA to ensure their actions conform to the appropriate State Implementation Plan’s (SIP). Conformity requires that a project or action adheres to the SIP’s purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. If General Conformity applies, an applicability analysis is performed to determine if a General Conformity Determination is required to demonstrate that a project or action conforms to the approved SIP(s). A conformity determination is required if the total direct and indirect pollutant emissions resulting from a project are above the *de minimis* emissions threshold levels specified in the conformity regulations. The *de minimis* thresholds represent emission quantities of a NAAQS-regulated pollutant or its applicable precursors over which a project or action in a nonattainment or maintenance area may cause or contribute to a new or continued violation of the NAAQS. A conformity determination is not required if the differences in emissions between the project or action and the No Action Alternative are below the

applicable *de minimis* emission threshold levels, or if the project or action is exempt or included in the FAA list of “presumed to conform activities.”

The General Conformity Rule applies to the Proposed Project because the project study area is designated as nonattainment with the 2008 (severe) and 2015 8-hour O₃ (serious) standard, 2012 PM_{2.5} (moderate) standard, and maintenance for the 1987 PM₁₀ standard, as identified in **Table 3-1**. Federal *de minimis* emission thresholds for nonattainment and maintenance areas relevant to SMF are listed in **Table 3-2**. As noted in the table, pollutants designated as attainment do not have USEPA *de minimis* thresholds; therefore, as a conservative assumption, the maintenance *de minimis* thresholds were used to determine significant impacts under NEPA for attainment pollutants.

**TABLE 3-2
GENERAL CONFORMITY USEPA DE MINIMIS POLLUTANT EMISSION THRESHOLDS**

Pollutants	Attainment Status (Severity)	Pollutants	Threshold (tons per year)
CO	Attainment /b/	CO	100
NO ₂	Attainment /b/	NO ₂	100
O ₃ ^{/a/}	Severe /c/	NO _x	25
		VOC	25
PM _{2.5}	Moderate	PM _{2.5}	100
PM ₁₀	Maintenance	PM ₁₀	100
SO ₂	Attainment /b/	SO ₂	100
Pb	Attainment /b/	Pb	25

/a/ Following standard industry practice, O₃ was evaluated by evaluating emissions of volatile organic compounds (VOC) and nitrous oxides (NO_x), which are precursors in the formation of O₃.

/b/ Pollutants designated as attainment, no *de minimis* threshold exists for attainment pollutants. As a conservative approach, the *de minimis* threshold for maintenance was assumed.

/c/ Sacramento County is classified as Severe for the 2008 O₃ standard and Serious for the 2015 standard. The lower threshold of 25 tons per year for NO_x and VOC for Severe designation was used for determining significance under General Conformity and NEPA for O₃.

Source: USEPA *De Minimis* Tables <https://www.epa.gov/general-conformity/de-minimis-tables>, USEPA, 2024

3.4.3 Environmental Consequences

3.4.3.1 No Action Alternative

Under the No Action Alternative, construction of the Proposed Project would not occur, and the Proposed Project would not generate emissions that could affect local air quality. SCDA would continue to operate the Airport and serve forecast aviation demands. Therefore, the No Action Alternative would have **no effect** on air quality.

3.4.3.2 Proposed Project

Construction Emissions

If approved, demolition and construction activities associated with the Proposed Project are expected to occur in five stages beginning in the summer of 2025 and being completed in the spring of 2029. **Table 3-3** presents the primary components of the Proposed Project, including each construction stage, estimated activity costs, area estimates (in square feet), and anticipated start and end dates of each construction activity. These costs and area estimates were used for deriving construction equipment schedules with the Airport Cooperative Research Program’s (ACRP’s) Airport Construction Emission Inventory Tool (ACEIT)⁶ and California Air Pollution Control Officers Association (CAPCOA) California Emission Estimator Model (CalEEMod).

**TABLE 3-3
PROPOSED PROJECT CONSTRUCTION AND DEMOLITION ACTIVITIES**

Stage	Component of the Proposed Project	Estimated Project Costs (\$)	Area (Square Feet)	Proposed Construction Start and End
Stage 1	Taxiway and Taxilane Improvements			August 2025-April 2026
	Demolish Portions of Existing Taxiways A, Y, and B1 Pavement (Component A-2)	\$17,192,778	576,500	August 2025-October 2025
	Reconstruct Portions of Taxiways A, Y, and B1 (Component A-2)	\$30,411,111	908,200	November 2025-April 2026
Stage 2	West Apron, New Concourse, and North Fuel and Fiber Extension			April 2026-April 2028
	Demolish Existing Apron and Taxilane Y4 Pavement (Component A-1)	\$9,193,333	236,400	April 2026-May 2026
	Construct Concourse Expansion (Component C-2)	\$120,000,000	66,500	June 2026-April 2028
	Reconstruct West Apron and Taxilane Y4 (Component A-1)	\$17,363,889	460,000	October 2027-April 2028

⁶ ACEIT is being used for generating construction equipment and hours only. Emission factors from the California models are used to estimate emissions consistent with FAA AQ Handbook Version 4.

Stage	Component of the Proposed Project	Estimated Project Costs (\$)	Area (Square Feet)	Proposed Construction Start and End
Stage 3	South Apron Fuel Pits Reconfiguration, Striping, and Passenger Boarding Bridge Adjustments			April 2028-October 2028
	South Apron Fuel Pit Reconfiguration and Passenger Boarding Bridge Adjustments (Components U-2, C-3)	\$3,500,000	90,000 (fuel pits)	April 2028-September 2028
	South Apron Striping (Component A-1)	\$300,000	-	September 2028-October 2028
Stage 4	North Apron Fuel Pits Reconfiguration, Striping, and Passenger Boarding Bridge Adjustments			October 2028-May 2029
	North Apron Fuel Pit Reconfiguration and Passenger Boarding Bridge Adjustments (Components U-2, C-3)	\$3,500,000	90,000 (fuel pits)	October 2028-April 2029
	North Apron Striping (Component A-1)	\$300,000	-	April 2029-May 2029
Stage 5	Fuel and Fiberoptic Tie-Ins			October 2027-April 2028
	North Fuel Line Extension and Termination (Component U-1)	\$5,000,000	3,472 (for pad at fuel farm)	October 2027-April 2028
	North Fiberoptic Extension and Termination (Component C-2)	\$5,000,000	-	November 2027-April 2028

Source: SCDA, 2024; RS&H, 2024

Estimates of construction and demolition-related emissions were developed for the Proposed Project using standard industry methodologies and techniques, including the FAA Aviation Emissions and Air Quality Handbook and associated USEPA guidance (FAA, 2024), CARB’s EMFAC2021 (v1.0.2 or later) (California Air Resources Board, 2024b), and CARB’s OFFROAD2017 (California Air Resources Board, 2024c) for both on-road and nonroad source emission factors, respectively. These techniques are described in more detail in the Air Quality Technical Report, included in **Appendix D**. Construction activities associated with the Proposed Project were estimated for the construction years 2025 through 2029.

The ACRP ACEIT model (Transportation Research Board, 2013) was used to estimate the airside construction schedule of equipment for each project component based on the project dimensions and project costs for each activity. The model has the ability to generate construction schedules for a variety of standard airport construction projects including the associated activity types and the equipment used for the Proposed Project. For landside construction emissions such as the concourse expansion, CAPCOA’s CalEEMod (Version 2022.1), which contains both of CARB’s EMFAC2021 and OFFROAD2017 models, was used to estimate criteria and greenhouse gas (GHG) emissions (see **Section 3.6** for further discussion of GHGs).

ACEIT can also produce emission factors for nonroad and on-road construction equipment, as well as for fugitive emission sources using USEPA and industry standard models and methodologies. However, the current version of ACEIT includes an older version of the USEPA’s Motor Vehicle Emission Simulator (MOVES) emission model, MOVES2010a and NONROADs, which have both been updated over the years. For this analysis, CARB’s EMFAC2021 (v1.0.2 or later) model for on-road motor vehicles engine exhaust, tire wear, brake wear, and evaporative emission, including on-road paved dust and CARB’s OFFROAD2017 model for construction equipment engine exhaust emissions were applied *outside* of ACEIT consistent with the latest FAA Air Emissions Handbook Version 4 (FAA, 2024).⁷ These emission factors were applied to estimates of vehicle miles traveled (VMT) and construction equipment (hours, horsepower, load factor), respectively, for each construction activity and year. Spreadsheet calculations for construction and demolition for all construction components are presented in **Appendix D**.

Construction-related emissions of criteria pollutants using the methodology discussed above during the 2025 through 2029 construction period under the Proposed Project are summarized in **Table 3-4**. GHG emissions for construction and demolition activities are presented in **Section 3.6**.

Table 3-5 presents the construction emissions associated with demolition and construction of the Proposed Project for the 2025 through 2029 construction period compared with the appropriate USEPA *de minimis* thresholds. As the table shows, the total emissions each year for on-road and non-road sources for the 2025 through 2029 construction years would be below established *de minimis* thresholds for all pollutants. Therefore, a General Conformity determination is not required for the construction and demolition activities of the Proposed Project. Additionally, in accordance with the FAA 1050.1F Desk Reference, the Proposed Project can be determined to “not cause a significant air quality impact, because it is unlikely the pollutant concentration analyzed would exceed a NAAQS.” No significant adverse air quality impacts would be expected to result from construction of the Proposed Project.

⁷ Section 5.2.1, FAA Version 4

**TABLE 3-4
CONSTRUCTION CRITERIA POLLUTANT EMISSION INVENTORY – PROPOSED PROJECT**

Year	Relevant Criteria Pollutant Emissions (tons per year)					
	CO	VOC ^{/a/}	NO _x ^{/a/}	SO ₂	PM ₁₀	PM _{2.5}
2025	8.02	1.06	3.63	0.03	0.92	0.14
2026	12.97	1.74	4.72	0.05	0.75	0.20
2027	6.28	0.73	2.75	0.02	0.53	0.10
2028	10.85	1.39	3.02	0.04	0.75	0.14
2029	3.34	0.29	0.81	0.01	0.07	0.04

^{/a/} Following standard industry practice, O₃ was evaluated by evaluating emissions of VOC and NO_x, which are precursors in the formation of O₃.

Source: HMMH, 2024, Based on *EMFAC2021 and OFFROAD2017* using construction information provided by SCDA and generated in ACEIT and CalEEMod

**TABLE 3-5
CONSTRUCTION AND DEMOLITION EMISSIONS COMPARED TO USEPA DE MINIMIS THRESHOLDS**

Year	Relevant Criteria Pollutant Emissions (tons per year)						
	CO ^{/a/}	VOC	NO _x	SO ₂ ^{/b/}	PM ₁₀	PM _{2.5}	Pb ^{/a/b/}
2025							
Total Emissions of Construction and Demolition	8.02	1.06	3.63	0.03	0.92	0.14	0
USEPA <i>De Minimis</i> Threshold	100	25	25	100	100	100	25
Emissions below <i>de minimis</i> thresholds?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2026							
Total Emissions of Construction and Demolition	12.97	1.74	4.72	0.05	0.75	0.20	0
USEPA <i>De Minimis</i> Threshold	100	25	25	100	100	100	25
Emissions below <i>de minimis</i> thresholds?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2027							
Total Emissions of Construction and Demolition	6.28	0.73	2.75	0.02	0.53	0.10	0
USEPA <i>De Minimis</i> Threshold	100	25	25	100	100	100	25

Year	Relevant Criteria Pollutant Emissions (tons per year)						
	CO ^{a/}	VOC	NOx	SO ₂ ^{b/}	PM ₁₀	PM _{2.5}	Pb ^{a/b/}
Emissions below de minimis thresholds?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2028							
Total Emissions of Construction and Demolition	10.85	1.39	3.02	0.04	0.75	0.14	0
USEPA De Minimis Threshold	100	25	25	100	100	100	25
Emissions below de minimis thresholds?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2029							
Total Emissions of Construction and Demolition	3.34	0.29	0.81	0.01	0.07	0.04	0
USEPA De Minimis Threshold	100	25	25	100	100	100	25
Emissions below de minimis thresholds?	Yes	Yes	Yes	Yes	Yes	Yes	Yes

/a/ General Conformity does not apply for these pollutants in the SMF region because the area is designated attainment/unclassifiable for these NAAQS. The General Conformity *de minimis* threshold for maintenance area were conservatively used to determine significance under NEPA for these pollutants.

/b/ Pb emissions for construction emissions were not estimated because the fuel use for these sources are gasoline and diesel which do not contain Pb.

Source: HMMH, August 2024

Operational Emissions

The Proposed Project would not increase the number of aircraft or change the fleet mix or taxi times⁸ compared to the No Action Alternative; therefore, additional aircraft operations are not anticipated with the Proposed Project. However, an additional 1,500-kilowatt emergency generator and cooling tower are planned as part of the concourse expansion component (Project Component C-2) of the Proposed Project. Therefore, additional emissions from these operations were quantified. For transparency, the No Action Alternative and the Proposed Project aircraft emissions (which are the same) were quantified and included in the summary tables below using the Aviation Environmental Design Tool (AEDT). To satisfy NEPA requirements, the operational emission changes of the No Action

⁸ Regarding the taxi times, after discussions with the airport, it was determined that taxi times would not change for the Proposed Project compared to the No Action Alternative, and the AEDT Default taxi times were used in the analysis for both the Proposed Project and No Action Alternative for consistency.

Alternative and the Proposed Project were compared to General Conformity *de minimis* levels for significance.

AEDT produced emission estimates for existing conditions (2023) and both the Proposed Project and No Action Alternative cases for 2029 and 2034, using the same set of model inputs that were used for the noise calculations in the Noise Technical Report (see **Appendix F**). The existing condition and future Proposed Project and No Action Alternative conditions assumed the same runway configuration and default taxi times. The aircraft operational emissions also include emissions from the ground support equipment (GSE) and auxiliary power units (APUs) associated with the Proposed Project and No Action Alternative. It should be noted that future gate electrification is dependent on several outside factors; therefore, this analysis uses a conservative approach that assumes no gate electrification and emissions of criteria pollutants and GHGs from APUs were estimated using the FAA’s recommended APU time for each aircraft operation being modeled for both the Proposed Project and No Action Alternative.

The AEDT estimates emissions of the following criteria pollutants: CO, nitrous oxides (NO_x), volatile organic compounds (VOCs), SO₂, PM₁₀, and PM_{2.5}. These pollutants are primarily emitted through the combustion of fuel by mobile sources and from large industrial facilities. Pb emissions from aircraft utilizing aviation gasoline (Avgas) were also estimated.

The air quality analysis estimates emissions from the following sources:

- **Aircraft engines:** Aircraft engines typically represent the largest category of on-airport sources of emissions, which occur during takeoff, landing, taxiing, and idling on taxiways and aircraft apron areas.
- **APUs:** APUs are small aircraft engines incorporated into an aircraft’s airframe and fueled by jet fuel. They are used while aircraft are on the ground. APUs can provide electricity and heated/cooled air while passengers are enplaning or deplaning, during cargo operations, cleaning, and/or minor maintenance.
- **GSE:** GSE is categorized as off-road equipment and encompasses all equipment needed to service aircraft during ground operations. It primarily includes baggage tractors and belt loaders. Additional GSE types include catering trucks, pushback tractors, lavatory trucks, potable water trucks, airline support staff vehicles, ground power units, and fueling trucks.
- **Avgas:** General aviation aircraft utilize Avgas which contains leaded fuel. Pb emissions were estimated externally using USEPA’s Pb emissions calculation procedures as referenced in *Calculating Piston-Engine Aircraft Airport Inventories for Lead for the 2011 National Emissions Inventory* (U.S. Environmental Protection Agency, 2013).

Emissions were also estimated for the proposed 1,500-kilowatt generator, which would provide electrical power during power outages, and the new cooling tower, which would support additional heating and cooling needs in the new concourse.

A more detailed discussion of the operational emissions is described in the Air Quality Technical Report in **Appendix D**.

Table 3-6 provides the existing (2023) and forecast (2029 and 2034) operational aircraft criteria pollutant emissions inventory for the No Action Alternative and the Proposed Project, as calculated by the AEDT model. The table also includes Pb emissions utilizing Avgas and the new stationary source emissions from the generator and cooling tower. The emissions are broken out by climb and descent below the mixing height, which includes taxi-in and taxi-out, GSE, and APU. Operational GHG emissions are presented in **Section 3.6**.

**TABLE 3-6
OPERATIONAL CRITERIA POLLUTANT EMISSIONS INVENTORY OF EXISTING CONDITIONS (2023) AND FORECAST (2029 AND 2034) NO ACTION ALTERNATIVE AND PROPOSED PROJECT**

Activity	Relevant Criteria Pollutant Emissions (tons per year) ^{/a/}						
	CO	VOC ^{/a/}	NO _x ^{/a/}	SO ₂	PM ₁₀	PM _{2.5}	Pb ^{/b/}
2023 Existing Conditions							
Climb and Descent below the Mixing Height ^{/c/}	277.81	45.89	494.90	43.85	3.413	3.413	0.0186
APU	14.48	1.15	19.29	2.74	2.195	2.195	0
GSE	88.98	1.89	10.95	0.03	0.461	0.401	0
Total 2023 Existing	381.27	48.92	525.14	46.62	6.069	6.009	0.0186
2029 No Action Alternative							
Climb and Descent below the Mixing Height ^{/c/}	339.41	54.78	642.98	55.23	4.132	4.132	0.0150
APU	18.92	1.56	23.65	3.41	2.899	2.899	0
GSE	120.93	1.65	10.65	0.04	0.293	0.237	0
Total 2029 No Action Alternative	479.26	57.99	677.29	58.67	7.324	7.268	0.0150
2029 Proposed Project							
Climb and Descent below the Mixing Height ^{/c/}	339.41	54.78	642.98	55.23	4.132	4.132	0.0150

Activity	Relevant Criteria Pollutant Emissions (tons per year) /a/						
	CO	VOC/a/	NO _x /a/	SO ₂	PM ₁₀	PM _{2.5}	Pb /b/
APU	18.92	1.56	23.65	3.41	2.899	2.899	0
GSE	120.93	1.65	10.65	0.04	0.293	0.237	0
Cooling Tower ^{d/}	0	0	0	N/A	0.145	0.145	0
Emergency Generator	1.66	0.21	7.24	2.44	0.211	0.211	0
Total 2029 Proposed Project	480.92	58.20	684.52	61.12	7.680	7.624	0.015
2034 No Action Alternative							
Climb and Descent below the Mixing Height ^{c/}	363.38	57.88	759.69	62.03	4.036	4.036	0.0155
APU	22.18	1.87	26.03	3.84	3.412	3.412	0
GSE	148.50	1.98	12.46	0.04	0.314	0.250	0
Total 2034 No Action Alternative	534.06	61.73	798.18	65.92	7.762	7.698	0.0155
2034 Proposed Project							
Climb and Descent below the Mixing Height ^{c/}	363.38	57.88	759.69	62.03	4.036	4.036	0.0155
APU	22.18	1.87	26.03	3.84	3.412	3.412	0
GSE	148.50	1.98	12.46	0.04	0.314	0.250	0
Cooling Tower ^{d/e/}	0	0	0	0	0.145	0.145	0
Emergency Generator ^{e/}	1.66	0.21	7.24	2.44	0.211	0.211	0
Total 2034 Proposed Project	535.72	61.94	805.42	68.35	8.118	8.054	0.0155

APU = Auxiliary Power Units

GAV = Ground Access Vehicles

GSE = Ground Support Equipment

Notes:

/a/ Following standard industry practice, O₃ was evaluated by evaluating emissions of VOC and NO_x, which are precursors in the formation of O₃.

/b/ Pb emissions were estimated externally using USEPA’s Pb emissions calculation procedures as referenced in Calculating Piston-Engine Aircraft Airport Inventories for Lead for the 2011 National Emissions Inventory.

/c/ Criteria pollutant emissions were estimated for aircraft operations below the mixing height (3,000 feet).

/d/ As a conservative estimate, Cooling tower PM_{2.5} emissions were assumed to be the same as PM₁₀.

/e/ Proposed Project assumes one new 1500 kW emergency generator and one new cooling tower.

Source: HMMH, August 2024

Table 3-7 presents the net operational emissions associated with aircraft operation for the Proposed Project for the opening (2029) and forecast year (2034) conditions compared with the appropriate USEPA *de minimis* thresholds. As shown in **Table 3-7**, net operational emissions in 2029 and 2034 would be below the *de minimis* thresholds for all pollutants. Therefore, a General Conformity determination is not required for the operational emissions of the Proposed Project. Additionally, in accordance with the FAA 1050.1F Desk Reference, the Proposed Project can be determined to “not cause a significant air quality impact, because it is unlikely the pollutant concentration analyzed would exceed a NAAQS.” No significant adverse air quality impacts would be expected to result from operation of the Proposed Project.

**TABLE 3-7
NET OPERATIONAL EMISSIONS CHANGE BETWEEN THE FORECAST NO ACTION ALTERNATIVE AND PROPOSED PROJECT FOR OPENING YEAR (2029) AND FORECAST YEAR (2034) COMPARED TO USEPA DE MINIMIS THRESHOLDS**

Condition	Relevant Criteria Pollutant Emissions (tons per year)						
	CO	VOC	NOx	SO ₂	PM ₁₀	PM _{2.5}	Pb
2029 Net Change in Aircraft Operational and Stationary Emissions of the Proposed Project ^{/a/}	1.66	0.21	7.24	2.44	0.356	0.356	0
USEPA <i>De Minimis</i> Threshold	100	25	25	100	100	100	25
Emissions below <i>de minimis</i> thresholds?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2034 Net Change in Aircraft Operational and Stationary Emissions of the Proposed Project ^{/a/}	1.66	0.21	7.24	2.44	0.356	0.356	0
USEPA <i>De Minimis</i> Threshold	100	25	25	100	100	100	25
Emissions below <i>de minimis</i> thresholds?	Yes	Yes	Yes	Yes	Yes	Yes	Yes

/a/ The 2029 and 2034 net change is the total of the Proposed Project aircraft operational and new stationary sources minus the No Action Alternative aircraft operational emissions.

Source: HMMH, August 2024

With only temporary and minor increases in emissions during construction and only minor increases in operational emissions when compared to the No Action Alternative, the Proposed Project would have **no significant effect** on air quality.

3.4.4 Mitigation Measures

Air quality impacts associated with construction or operation of the Proposed Project would not be significant; therefore, no mitigation measures are required for

construction or operational emissions. However, SCDA is committed to best management practices (BMPs) and reasonably available control measures to further minimize air emissions. Some examples of air quality BMPs include:

- Construction sequencing or phasing
- Require the use of equipment that meets Tier IV emission standards
- Minimization of exposed soils at any given time during construction activities
- Water spray for dust suppression and preventing fugitive dust from becoming airborne from construction vehicles
- Suspending or adjusting intensity of earthwork during periods of sustained high wind speeds (e.g., 30 mph and over), as defined by the Occupational Safety and Health Administration (OSHA)
- Maintaining construction vehicles in good working condition
- Limiting construction vehicle engine idling by turning off engines after three to five minutes of inactivity
- Decreasing vehicle speed limits while onsite to reduce fugitive dust generation and obeying posted vehicle speed limits while off-site
- Requiring construction contractors to use properly maintained and operated construction equipment
- Not overloading construction trucks beyond their maximum hauling capacity with fill borrow material or construction debris
- Using tarp covers on construction trucks transporting construction materials and construction debris to and from the site
- Re-vegetating areas of disturbance following completion of construction activities in designated area

3.5 BIOLOGICAL RESOURCES

According to the FAA 1050.1F Desk Reference, biological resources are valued for their intrinsic, aesthetic, economic, and recreational qualities and include fish, wildlife, plants, and their respective habitats.

3.5.1 Affected Environment

3.5.1.1 Environmental Setting

The Project Study Area is located within the western part of the Natomas Basin, approximately 1.2 miles east of the Sacramento River. The northwestern and southern boundaries of the General Study Area overlap with the Sacramento River (see **Exhibit 3-2**).

Land within the General Study Area, but outside of the developed AOA and terminal complex, includes regularly maintained annual grasslands; land under cultivation for corn, safflower, and winter wheat; rural single-family residences on agricultural lands north, west, and south of the Airport; I-5, Garden Highway, and local roadways; and the Sacramento River. The General Study Area also includes an industrial and commercial complex called Metro Air Park east of the Airport and the Teal Bend Golf Course west of the Airport. The golf course consists of 250 acres of natural wetlands, native trees, and managed grassland.

The General Study Area is crossed by an extensive system of interconnected canals and ditches, which eventually discharge via pump stations to the Sacramento River. Some ditches contain instream freshwater marsh vegetation and riparian woodland vegetation, whereas others are devoid of vegetation due to frequent mechanical clearing. Freshwater marshes and seasonal emergent wetlands are also present in the General Study Area, mostly formed in depressional and overflow areas adjacent to drainage ditches.

A biological resource memorandum was prepared for the Proposed Project that documents known and/or potential occurrences of federal and/or State listed species within the Project Study Area and in the vicinity (see **Appendix E**). The sources used for the analysis include the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Resources List for the Proposed Project, the CDFW California Natural Diversity Database (CNDDDB) within a 5-mile radius of the Project Study Area, recent biological resource assessments for Airport projects that overlap with the Project Study Area, and a field survey of the Project Study Area.

The Project Study Area is largely developed with airport infrastructure, including Terminal B, Concourse B and adjoining apron, taxiways and taxilanes, paved access roads, and utilities. The only vegetation within the Project Study Area is an area of grassland west of Concourse B that is mowed to a height of 6 to 12 inches to minimize wildlife attractants and habitat in compliance with FAA Advisory Circular (AC) 150/5200-33C, *Hazardous Wildlife Attractants on or near Airports* (FAA, 2020) and FAA CertAlert No. 98-05, *Grasses Attractive to Hazardous Wildlife* (FAA, 1998). Grasses in the mowed grassland were unidentifiable to the species level due to mowing, but greenstem filaree (*Erodium moschatum*), a non-native forb, was identified as the dominant cover around the edges of the paved areas. No small mammals, such as California voles (*Microtus californicus*), Botta's pocket gophers (*Thomomys botte*), and/or California ground squirrels (*Otospermophilus beecheyi*) were observed in unpaved areas. Evidence of small mammals, including their runways and/or burrows, were also not observed. No wildlife species were observed within the Project Study Area; however, rock pigeons (*Columba livia*), a non-native species, and an American kestrel (*Falco sparverius*) were seen in nearby areas.

Project Study Area soils are Columbia sandy loam, drained, 0 to 2 percent slopes in most of the unpaved portion of the concourse expansion area and Sailboat silt loam, drained, 0 to 2 percent slopes along the southern edge of the unpaved portion of the concourse expansion area. Both these soil types are considered hydric soils (UC Davis, 2024).

3.5.1.2 Federally Listed Species

The USFWS IPaC Resource List identified the following nine federally listed or proposed threatened, endangered, or candidate species for the General Study Area (see **Appendix E**):

- Giant garter snake (*Thamnophis gigas*), Threatened.
- Northwestern pond turtle (*Actinemys marmorata*), Proposed Threatened.
- California tiger salamander (*Ambystoma californiense*), Threatened.
- Western spadefoot (*Spea hammondi*), Proposed Threatened.
- Monarch butterfly (*Danaus plexippus*), Candidate.
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Threatened.
- Vernal pool fairy shrimp (*Branchinecta lynchi*), Threatened.
- Vernal pool tadpole shrimp (*Lepidurus packardii*), Endangered.
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), Threatened.⁹

There are no USFWS Designated Critical Habitats within the General Study Area.

Federally or State listed fish species known to occur within 5 miles of the Project Study Area include (see **Appendix E**):

- Green sturgeon southern Distinct Population Segment (DPS) (*Acipenser medirostris*), Threatened.
- Steelhead Central Valley DPS (*Oncorhynchus mykiss irideus*), Threatened.
- Longfin smelt Bay-Delta DPS (*Spirinchus thaleichthys*), Endangered.
- Chinook Salmon (*Oncorhynchus tshawytscha*), three Evolutionary Significant Units, two Threatened and one Endangered.

⁹ The federal listed threatened western yellow-billed cuckoo was not included on the IPaC Resources List; however, this bird was on the CNDDDB list for occurrences within 5 miles of the project study area, so was included under the federal listed species.

3.5.1.3 State Listed Species

The CNDDDB occurrence records identified the following four State listed species within 5 miles of the Project Study Area (see **Appendix E**):

- Giant garter snake, Threatened
- Swainson’s hawk (*Buteo swainsoni*), Threatened.
- Western yellow-billed cuckoo, Endangered.
- Tricolored blackbird (*Agelaius tricolor*), Threatened.

3.5.1.4 Migratory Bird Species

The western yellow-billed cuckoo, Swainson’s hawk, and tricolored blackbird were the only migratory bird species identified in the CNDDDB occurrence records (none were identified on the IPaC species list). However, Sacramento County is within the Pacific Flyway for migratory birds; therefore, non-listed migratory bird species may occur in the Project Study Area and General Study Area. The Migratory Bird Treaty Act (MBTA) protects both listed and non-listed migratory birds.

3.5.2 Significance Threshold

FAA Order 1050.1F states that a significant impact to biological resources would occur if the USFWS or National Marine Fisheries Service (NMFS) “determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would result in the destruction or adverse modification of federally designated critical habitat.”

No significance threshold has been developed for non-listed species. However, per FAA Order 1050.1F, additional factors to consider include compliance with the MBTA and Bald Eagle and Golden Eagle Protection Act (BGEPA); the long-term or permanent loss of non-listed plants or wildlife species; adverse impacts to special status species or their habitats; a substantial loss, reduction, degradation, disturbance, or fragmentation of the population of a native species or its habitat; adverse impacts on the reproductive success rate, natural or non-natural mortality rates (e.g., road kills) of a species, or their ability to sustain the minimum population levels required for population maintenance.

3.5.3 Environmental Consequences

3.5.3.1 No Action Alternative

Under the No Action Alternative, no physical changes to Airport configuration, buildings, or infrastructure would occur. SCDA would continue to operate the Airport and serve forecast aviation demands. Therefore, the No Action Alternative would have **no effect** on biological resources.

3.5.3.2 Proposed Project

Federally Listed and State Listed Species

Table 3-8 summarizes the potential to occur within the Project Study Area and the effects determinations provided in the biological resource technical memorandum (**Appendix E**) for the 11 federal- and state-listed species with the potential to occur in the General Study Area. Refer to Table A and Table B in **Appendix E** for a detailed analysis of habitat requirements, occurrence records, and evaluation of project effects for each species.

**TABLE 3-8
FEDERALLY LISTED AND STATE LISTED SPECIES EFFECT DETERMINATION**

Species	Listing Status	Potential to Occur and Effect Determination
Giant garter snake (<i>Thamnophis gigas</i>)	FT, ST	No potential to occur. Suitable habitat is not present within the Project Study Area. The Proposed Project would have no effect on giant garter snake.
Northwestern pond turtle (<i>Actinemys marmorata</i>)	FPT	No potential to occur. This species is known to occur in aquatic habitats in the Airport vicinity, but suitable habitat is not present in or near the Project Study Area. The Proposed Project would have no effect on northwestern pond turtle.
California tiger salamander (<i>Ambystoma californiense</i>)	FT	No potential to occur. Suitable habitat is not present within or near the Project Study Area. The Proposed Project would have no effect on California tiger salamander.
Western spadefoot (<i>Spea hammondi</i>)	FPT	No potential to occur. Suitable habitat is not present within or near the Project Study Area. The Proposed Project would have no effect on western spadefoot.
Monarch butterfly (<i>Danaus plexippus</i>)	C	Low potential to occur. The Project Study Area does not contain suitable breeding habitat or overwintering habitat. Migrating individuals could occasionally traverse the Project Study Area, but due to the lack of milkweed, flowering species, and sheltering habitat, would not be expected to remain. The Proposed Project would have no effect on monarch butterfly.
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	FT	No potential to occur. Habitat is not present within the Project Study Area and the nearest CNDBB occurrences are along the Sacramento River. The Proposed Project would have no effect on valley elderberry longhorn beetle.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FE	No potential to occur. Suitable habitat is not present within or near the Project Study Area. The Proposed Project would have no effect on vernal pool fairy shrimp.

Species	Listing Status	Potential to Occur and Effect Determination
Vernal pool tadpole shrimp (<i>Lepidurus packardi</i>)	FE	No potential to occur. Suitable habitat is not present within or near the Project Study Area. The Proposed Project would have no effect on vernal pool tadpole shrimp.
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	FT, SE	No potential to occur. Suitable habitat is not present in or near the Project Study Area. The Proposed Project would have no effect on western yellow-billed cuckoo.
Swainson’s hawk (<i>Buteo swainsoni</i>)	ST	Low potential to occur. This species is known to nest in the Airport vicinity, but the nearest known nest is 0.33 miles west of the Project Study Area. There are no suitable nesting trees within the Project Study Area, and foraging habitat is minimal due to regular mowing and apparent lack of small mammal populations. The Proposed Project would have no adverse effect on Swainson’s hawk.
Tricolored blackbird (<i>Agelaius tricolor</i>)	ST	Low potential to occur. This species is known to occur within 5 miles of the Airport. However, the Project Study Area does not contain marshes suitable for nesting, and regular mowing likely reduces the populations of large insects needed for foraging. The Proposed Project would have no adverse effect on tricolored blackbird.

Listing status definitions: FE = federally listed endangered, FT = federally listed threatened, FPT = federally proposed threatened, C = federal candidate for listing, SE = state listed endangered, ST = state listed threatened

CNDBB = California Natural Diversity Database

Source: LSA, 2024

The Proposed Project occurs on Airport property in areas that have been previously developed, paved, or regularly maintained. Prior to and during construction SCDA would implement a site-specific Stormwater Pollution Prevention Plan (SWPPP), which would prevent or minimize indirect effects to biological resources (refer to **Section 3.7** for more details on the SWPPP).

Migratory Bird Species

The Project Study Area does not contain quality habitat for migratory birds as the Project Study Area is predominantly paved and developed, has high levels of human activity, and lacks habitat features such as shrubs, trees, and water resources. While the Swainson’s hawk, tricolored blackbird, and other non-listed migratory birds may occasionally traverse the Project Study Area, migratory birds are unlikely to use the Project Study Area due to lack of quality breeding, foraging, perching, and sheltering habitat. If encountered during construction, migratory birds would likely relocate to available, suitable habitat in the vicinity of the Project Study Area and remain unharmed.

Proposed Project Environmental Consequences Conclusion

Per the significance thresholds described in **Section 3.5.2**, the Proposed Project would have **no significant effect** on biological resources.

3.5.4 Mitigation Measures

All work would be conducted in compliance with applicable regulations. Additional mitigation measures are not required or proposed.

3.6 CLIMATE

Scientific measurements show that the Earth’s climate is warming, and research has shown a direct correlation between fuel combustion and emissions of GHGs, which are known to trap heat in the atmosphere. The principal GHGs that enter the atmosphere because of human activities include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) (U.S. Environmental Protection Agency, 2018).

3.6.1 Affected Environment

As a part of the 2024 Climate Action Plan (CAP), an Local Governments for Sustainability (ICLEI) Clean Air and Climate Protection Model was used to estimate emissions from incorporated cities and unincorporated areas in the County. The 2021 GHG Inventory provided a baseline of GHG emissions in 2021 from unincorporated Sacramento County. The total 2021 community-wide GHG emissions in 2021 were estimated at approximately 4.2 million metric tons carbon dioxide equivalent¹⁰ (CO₂e), with the Airport identified as contributing 6,695 metric tons CO₂e from buildings and facilities, 8,586 metric tons CO₂e from ground support equipment, 2,407 metric tons CO₂e from Airport fleet usage, for a total of 17,688 metric tons CO₂e (approximately 0.4 percent of the total community-wide GHG emissions in 2021) (Sacramento County, 2024).

3.6.2 Significance Threshold

The FAA Order 1050.1F does not provide a significance threshold for aviation-related GHG emissions. However, the FAA 1050.1F Desk Reference states "it is not currently useful for the NEPA analysis to attempt to link specific climate impacts to the proposed action or alternative(s) given the small percentage of emissions aviation and commercial space launch projects contribute."

On January 9, 2023, the Council on Environmental Quality (CEQ) issued interim guidance for public comment for establishing uniform practices for assessing the effects of GHG and climate change effects of proposed federal projects pursuant to NEPA. The 2023 Interim Guidance provides direction on preparing GHG analyses,

¹⁰ Carbon dioxide equivalent means the number of metric tons of CO₂ emissions with the same global warming potential as one metric ton of another greenhouse gas.

including when and how GHGs should be quantified, the contextualization of GHGs, analysis of reasonable alternatives, mitigation of GHG emissions, and engagement with environmental justice communities. On May 1, 2024, CEQ issued its final rule (Phase 2 Rule) updating its NEPA implementing regulations. The Phase 2 Rule reaffirms that environmental documents should include analysis of “[w]here applicable, climate change-related effects, including, where feasible, quantification of greenhouse gas emissions, from the proposed action and alternatives and the effects of climate change on the proposed action and alternatives” (see 40 CFR §1502.16(a)(6)).¹¹

Also in 2024, the CEQ issued draft guidance, *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change*, to assist agencies in analyzing GHG and climate change effects of a project under NEPA (79 Federal Register 77802). As the FAA has not established a significance threshold for Climate impacts, potential GHG emissions from the Proposed Project provide context by monetizing the results using social cost of carbon estimates.

3.6.3 Environmental Consequences

GHG emissions associated with the Proposed Project were prepared for CO₂, CH₄, and N₂O and presented as CO₂e in metric tons per year relevant to their global warming potential (GWP). The CO₂ equivalent is estimated by taking the mass equivalent of each pollutant (tons per year), multiplying by the GWP equivalent of each pollutant, and then adding them together. For example, CO₂ is 1 GWP, CH₄ is 29.8 GWP, and N₂O is 273 GWP, according to the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (ERC Evolution, 2021).

In general, FAA’s GHG emissions inventory procedures are intended to accomplish the following:

- Identify and characterize the types and sources of GHGs to include in an emissions inventory.
- Apply appropriate and consistent methods for calculating GHG emission inventories.
- Aid in the integration of GHG inventories into larger regional, national, and global inventories.
- Clarify the specific makeup and percent contribution of applicant-generated GHGs, by source and emission type.
- Provide necessary inputs for contextualizing GHG emissions and climate effects using the social costs of greenhouse gas emissions (SC-GHG). This contextualization method translates the metric ton of emissions for a project

¹¹ 89 Fed. Reg. 35494

into a monetary value that describes the net social costs of increasing GHG emissions as well as the net social benefits of reducing such emissions.

The methodology and assumptions for the GHG analysis are consistent with the air quality analysis discussed in **Section 3.4**

3.6.3.1 No Action Alternative

Under the No Action Alternative, construction of the Proposed Project would not occur and would not generate emissions that could affect the local and global climate. SCDA would continue to operate the Airport and serve forecast aviation demands. Therefore, the No Action Alternative would have **no effect** on climate.

3.6.3.2 Proposed Project

Table 3-9 presents the annual GHG emissions for construction activities associated with the Proposed Project for 2025 through 2029 as well as the operational emissions for the Proposed Project and No Action Alternative for the 2029 opening year and 2034 future year.

**TABLE 3-9
GHG EMISSIONS ASSOCIATED WITH CONSTRUCTION/DEMOLITION AND OPERATIONS FOR THE NO ACTION ALTERNATIVE AND THE PROPOSED PROJECT**

Year	Greenhouse Gases (metric tons/year) ^{/a/}			CO ₂ e (metric tons/year) ^{/c/}
	CO ₂	CH ₄	N ₂ O	
Construction^{/b/}				
2025	1,765.61	0.006	0.034	1,775
2026	2,425	0.017	0.032	2,434
2027	1,265	0.012	0.030	1,273
2028	2,463	0.013	0.032	2,472
2029	791	0.002	0.002	791
Operational				
2029 No Action Alternative				
Aircraft	179,777	0.000119	5.69	181,330
APU	11,035	0.00	0.00	11,035
GSE	3,325	0.00	0.00	3,325
Total 2029 No Action Alternative	194,137	0.000119	5.69	195,690
2029 Proposed Project				
Aircraft	179,777	0.000119	5.69	181,330

Year	Greenhouse Gases (metric tons/year) ^{/a/}			CO ₂ e (metric tons/year) ^{/c/}
	CO ₂	CH ₄	N ₂ O	
APU	11,035	0.00	0.00	11,035
GSE	3,325	0.00	0.00	3,325
Cooling Tower ^{/d/}	N/A	N/A	N/A	N/A
Emergency Generator	315	0.00	0.00	315
Total 2029 Proposed Project	194,452	0.000119	5.69	196,005
<i>Difference Between the No Action and Proposed Project</i>	315	0.00	0.00	315
<i>Percent Difference</i>	0.16	<0.00	<0.00	0.16
2034 No Action Alternative				
Aircraft	201,849	0.000122	6.39	203,593
APU	12,329	0.00	0.00	12,329
GSE	3,978	0.00	0.00	3,978
Total 2034 No Action Alternative	218,156	0.000122	6.39	219,900
2034 Proposed Project				
Aircraft	201,849	0.000122	6.39	203,593
APU	12,329	0.00	0.00	12,329
GSE	3,978	0.00	0.00	3,978
Cooling Tower ⁴	N/A	N/A	N/A	N/A
Emergency Generator	315	<0.00	<0.00	315
Total 2034 Proposed Project	218,471	0.000122	6.39	220,215
<i>Difference Between the No Action and Proposed Project</i>	315	0.00	0.00	315
<i>Percent Difference</i>	0.14	0.00	0.00	0.14

/a/ Emissions in the table include the GWP for each pollutant.

/b/ Construction emissions derived from EMFAC2021 and OFFROAD2017.

/c/ GWP values for aircraft derived from IPC 6th Assessment Report were used in the calculation of CO₂e.

/d/ There are no GHG emissions affiliated with the cooling tower which is denoted as N/A.

Source: HMMH, July 2024

Aircraft operations in the Proposed Project and No Action Alternative scenarios are forecast to remain the same. Therefore, the net change in emissions is a direct result of the additional stationary sources needed to service the expansion of Concourse B in the Proposed Project.

The future Proposed Project and No Action Alternative conditions assumed the same runway configuration and default taxi times. The aircraft operational emissions also include emissions from the GSE and APUs associated with the Proposed Project and No Action Alternative.

While there are no significance thresholds established for climate impacts, GHGs associated with the Proposed Project have been calculated in accordance with the latest FAA guidelines (1050.1F) for climate impacts in a NEPA document^{12, 13} and are included in the emission spreadsheets in the Air Quality Technical Report, included in **Appendix D**. As ongoing scientific research works to improve the understanding of construction and aviation’s relationship to climate change, FAA guidance will evolve if new federal requirements are established.

Social Cost of Greenhouse Gases (SC-GHGs)

The CEQ identified SC-GHG as the metric for assessing potential climate impacts and represents the monetary estimate of the effect associated with each additional metric ton of carbon dioxide released into the air (Interagency Working Group, 2021).

To calculate the SC-GHG, the carbon dioxide equivalent CO₂e¹⁴ must be calculated first.

The Interagency Working Group (IWG) developed average discount rates to assess possible climate impacts over time. The higher the discount rate, the lower the social climate cost (SCC) for future generations. Three integrated assessment models (IAMs) were used to develop discount rates that were based on the results from the three IAMs used by the IWG: William Nordhaus’ DICE model (Yale University), Richard Tol’s FUND model (Sussex University), and Chris Hope’s PAGE model (Cambridge University) (Interagency Working Group, 2021). The IWG average discount rates are 5 percent, 3 percent, and 2.5 percent, and the 95th percentile estimate at the 3 percent discount rate represents the potential for low-probability catastrophic climate impacts. The IWG average discount rates represent

¹² FAA Aviation Emissions Air Quality Handbook, https://www.faa.gov/regulations_policies/policy_guidance/envir_policy/airquality_handbook/files/airquality_handbook_version_4.pdf

¹³ Unlike criteria pollutants emissions which are reported below the mixing height and compared to the NAAQS or other significance criteria, GHG emissions are not. Therefore, GHG emissions are to be estimated and reported above and below mixing height consistent with latest FAA guidance.

¹⁴ CO₂e: Number of metric tons of CO₂ emissions with the same global warming potential as one metric ton of another greenhouse gas.

a range of possible climate impacts to future generations. For example, the 5 percent average rate represents a situation where future generations are best suited to handle potential climate impacts from the Proposed Project, leading to a minimal social cost impact. The IWG determined the social cost of CO₂ (SC-CO₂) through 2050 and assigned a monetary value¹⁵ for each additional metric ton of CO₂ produced. SC-CO₂ is equivalent to SC-GHGs and represents the social costs of the total greenhouse gases converted to the CO₂e equivalent. The SC-CO₂ helps weigh the benefits of climate mitigation against its costs.

The calculated social costs are estimates only and subject to change depending on various factors (i.e., flooding, energy supply).¹⁶ **Table 3-10** calculations are for information purposes only and represent the potential social costs from construction emissions in years 2025 - 2029 and **Table 3-11** represent the potential social costs from operational emissions in years 2029 and 2034. The social cost calculations represent a range of possibilities and are not guaranteed to occur. Advances in technology and operational practices could lead to lower social impacts than disclosed. This range represents the potential social costs of adding GHGs to the global atmosphere in a given year (Interagency Working Group, 2021). The range of potential social costs for construction emissions is approximately \$23,000 – \$445,000 over the duration of construction per year. For operational emissions in 2029, the potential social cost ranges from approximately \$3,720,000 to \$35,875,000 while the No Action Alternative would range from \$3,718,000 to \$35,815,000. The potential social cost for 2034 ranges from approximately \$4,845,000 to \$44,485,000 for 2034 while the No Action Alternative ranges from \$4,840,000 to \$44,200,000. It is important to note that this climate analysis does not include any of the positive effects of the Proposed Project (e.g., economic development, meeting forecast passenger demand, maintaining the Airport’s current level of service, reducing the potential for tarmac delays while waiting for a gate, and continuing to provide safe movement of passengers and reduce the potential for incursions of fueling trucks into the path of aircraft on taxiways and taxilanes).

3.6.4 Mitigation Measures

As these calculations are for information purposes only and represent the potential social costs from construction emissions from 2025 to 2029, no mitigation measures are required or proposed.

¹⁵ These monetary values are based on the results from three economic models used by the IWG: William Nordhaus’ DICE model (Yale University), Richard Tol’s FUND model (Sussex University), and Chris Hope’s PAGE model (Cambridge University).

¹⁶ https://costofcarbon.org/files/Omitted_Damages_Whats_Missing_From_the_Social_Cost_of_Carbon.pdf; Accessed August 2024.

**TABLE 3-10
ESTIMATED POTENTIAL SOCIAL COST OF GREENHOUSE GAS FROM CONSTRUCTION EMISSIONS**

Construction Year	Proposed Project CO ₂ e	Average Estimate at 5.0% Discount Rate	Average Estimate at 3.0% Discount Rate	Average Estimate at 2.5% Discount Rate	95th Percentile Estimate at 3.0% Discount Rate
2025					
Price Per Ton of CO ₂ e ^{a/}		\$17	\$56	\$83	\$169
2025 SC-GHG	1,775	\$30,175.00	\$99,400.00	\$147,325.00	\$299,975.00
2026					
Price Per Ton of CO ₂ e ^{a/}		\$17	\$57	\$84	\$173
2026 SC-GHG	2,434	\$41,378.00	\$138,738.00	\$204,456.00	\$421,082.00
2027					
Price Per Ton of CO ₂ e ^{a/}		\$18	\$59	\$86	\$176
2027 SC-GHG	1,273	\$22,914.00	\$75,107.00	\$109,478.00	\$224,048.00
2028					
Price Per Ton of CO ₂ e ^{a/}		\$18	\$60	\$87	\$180
2028 SC-GHG	2,472	\$44,496.00	\$148,320.00	\$215,064.00	\$444,960.00
2029					
Price Per Ton of CO ₂ e ^{a/}		\$19	\$61	\$88	\$183
2029 SC-GHG	791	\$15,029.00	\$48,251.00	\$69,608.00	\$144,753.00

/a/ 2020 dollars per metric ton of carbon dioxide (CO₂)

/b/ There are no greenhouse gas emissions affiliated with the cooling tower which is denoted as N/A.

Notes: SC-GHG = social cost of greenhouse gas emissions.

Per the 2023 IPCC Sixth Assessment Report, CO₂ equivalent (CO₂e) for SC-GHG were calculated using the Interagency Working Group¹⁷ average discount rates: 5%, 3%, 2.5%, and the 95th percentile estimate applying the 3% discount rate. CO₂e values are multiplied by the discount rate to calculate SC-CO₂.

¹⁷ [Technical Support Document: Social Cost of Carbon, Methane, \(whitehouse.gov\)](https://www.whitehouse.gov/); Accessed August 2024

Per the 2023 IPCC¹⁸ Sixth Assessment Report, the CO₂ equivalent for N₂O is calculated by multiplying the nitrous oxide (N₂O) emissions by the GWP of 265. The CO₂ equivalent for CH₄ is calculated by multiplying the methane (CH₄) emissions by the global warming potential (GWP) of 28. For example, the 2025 Average Estimate at 5% Discount Rate was calculated using the 2025 CO₂e value of 1,775 multiplied by 2025's \$17 determined value for the 5% Discount Rate.

Source: Interagency Working Group, 2021, IPCC Sixth Assessment 2023, RS&H, 2024

¹⁸ https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf; Accessed August 2024

**TABLE 3-11
ESTIMATED POTENTIAL SOCIAL COST OF GREENHOUSE GAS FROM OPERATIONAL EMISSIONS OF THE NO ACTION
ALTERNATIVE AND PROPOSED PROJECT**

	Proposed Project CO₂e	Average Estimate at 5.0% Discount Rate	Average Estimate at 3.0% Discount Rate	Average Estimate at 2.5% Discount Rate	95th Percentile Estimate at 3.0% Discount Rate
2029 Operational					
<i>Price Per Ton of CO₂e^{a/}</i>		\$19	\$61	\$88	\$183
2029 No Action Alternative					
Aircraft	181,330	\$3,445,270.00	\$11,061,130.00	\$15,957,040.00	\$33,183,390.00
APU	11,035	\$209,665.00	\$673,135.00	\$971,080.00	\$2,019,405.00
GSE	3,325	\$63,175.00	\$202,825.00	\$292,600.00	\$608,475.00
Total 2029 No Action Alternative	195,690	\$3,718,110.00	\$11,937,090.00	\$17,220,720.00	\$35,811,270.00
2029 Proposed Project					
Aircraft	181,330	\$3,445,270.00	\$11,061,130.00	\$15,957,040.00	\$33,183,390.00
APU	11,035	\$209,665.00	\$673,135.00	\$971,080.00	\$2,019,405.00
GSE	3,325	\$63,175.00	\$202,825.00	\$292,600.00	\$608,475.00
Cooling Tower ^{b/}	N/A	N/A	N/A	N/A	N/A
Emergency Generator	315	\$5,985.00	\$19,215.00	\$27,720.00	\$57,645.00
Total 2029 Proposed Project	196,005.00	\$3,724,095.00	\$11,956,305.00	\$17,248,440.00	\$35,868,915.00
2034 Operational					
<i>Price Per Ton of CO₂e^{a/}</i>		\$22	\$66	\$95	\$202

	Proposed Project CO₂e	Average Estimate at 5.0% Discount Rate	Average Estimate at 3.0% Discount Rate	Average Estimate at 2.5% Discount Rate	95th Percentile Estimate at 3.0% Discount Rate
2034 No Action Alternative					
Aircraft	203,593	\$4,479,046.00	\$13,437,138.00	\$19,341,335.00	\$41,125,786.00
APU	12,329	\$271,238.00	\$813,714.00	\$1,171,255.00	\$2,490,458.00
GSE	3,978	\$87,516.00	\$262,548.00	\$377,910.00	\$803,556.00
Total 2034 No Action Alternative	219,900	\$4,837,800.00	\$14,513,400.00	\$20,890,500.00	\$44,419,800.00
2034 Proposed Project					
Aircraft	203,593	\$4,479,046.00	\$13,437,138.00	\$19,341,335.00	\$41,125,786.00
APU	12,329	\$271,238.00	\$813,714.00	\$1,171,255.00	\$2,490,458.00
GSE	3,978	\$87,516.00	\$262,548.00	\$377,910.00	\$803,556.00
Cooling Tower ^{b/}	N/A	N/A	N/A	N/A	N/A
Emergency Generator	315	\$ 6,930.00	\$20,790.00	\$29,925.00	\$63,630.00
Total 2034 Proposed Project	220,215	\$4,844,730.00	\$14,534,190.00	\$20,920,425.00	\$44,483,430.00

/a/ 2020 dollars per metric ton of carbon dioxide (CO₂)

/b/ There are no greenhouse gas emissions affiliated with the cooling tower which is denoted as N/A.

Notes: SC-GHG = social cost of greenhouse gas emissions

Per the 2023 IPCC Sixth Assessment Report, CO₂ equivalent (CO₂e) for SC-GHG were calculated using the Interagency Working Group¹⁹ average discount rates: 5%, 3%, 2.5%, and the 95th percentile estimate applying the 3% discount rate. CO₂e values are multiplied by the discount rate to calculate SC-CO₂.

Per the 2023 IPCC²⁰ Sixth Assessment Report, the CO₂ equivalent for N₂O is calculated by multiplying the nitrous oxide (N₂O) emissions by the GWP of 265. The CO₂ equivalent for CH₄ is calculated by multiplying the methane (CH₄) emissions by the global warming potential (GWP) of 28. For example, the 2025 Average Estimate at 5% Discount Rate was calculated using the 2025 CO₂e value of 1,775 multiplied by 2025's \$17 determined value for the 5% Discount Rate.

Source: Interagency Working Group, 2021, IPCC Sixth Assessment 2023, RS&H, 2024

¹⁹ [Technical Support Document: Social Cost of Carbon, Methane, \(whitehouse.gov\)](#); Accessed August 2024

²⁰ https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf; Accessed August 2024

3.7 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

3.7.1 Affected Environment

There are no Resource Conservation and Recovery Act (RCRA) hazardous waste generators, Toxic Release Inventory sites, Superfund sites, or Brownfield sites within the Project Study Area (U.S. Environmental Protection Agency, 2024). The nearest Superfund site (Western Woodtreating, Inc.) is approximately 10.5 miles west of the Project Study Area and the nearest Brownfield site (Fremont Community Garden) is approximately 11 miles east of the Project Study Area. The nearest RCRA sites are Allied Aviation Fueling Company, Inc., and PST Sacramento Storage, both at 7201 Earhart Drive, approximately 630 feet east of the nearest portion of the Project Study Area. Allied Aviation Fueling Company, Inc. (7201 Earhart Drive) is also identified as the nearest toxic release inventory site. Three additional RCRA sites are located at Terminal A: Department of General Services/Sacramento International Airport, Alaska Airlines-SMF, and Bombardier Transportation. There were no RCRA violations reported for any of the RCRA facilities in the vicinity of the Project Study Area.

Activities conducted by SCDA and its tenants at SMF involve the storage and use of various hazardous materials. These materials include gasoline, diesel, aircraft fuels, motor oils, lubricants, cleaning solvents, paint, herbicides, pesticides, and fertilizer. Petroleum fuels such as Jet-A, diesel, and gasoline are the primary hazardous materials stored and used at the Airport. The storage systems are designed and operated in accordance with applicable federal and state regulatory requirements. SCDA maintains a Spill Prevention Control and Countermeasure (SPCC) Plan to implement, maintain, and document spill prevention control measures and response actions related to storing oil at the Airport (AECOM, 2023). The SPCC Plan includes only SMF equipment and operations, but notes that tenants are responsible for requirements related to the SPCC Program under 40 CFR, Part 112, which requires that facilities storing oil in quantities greater than 1,320 gallons (only containers with a capacity of 55 gallons or greater are counted) aboveground or 42,000 gallons underground where there is the potential for a spill to waters of the U.S. develop a plan that identifies operational practices that facilitate spill prevention.

The Airport operates under Industrial General Permit Order 2014-0057-DWQ as Amended in 2015 and 2018. Permit coverage began June 29, 1992. The current Industrial General Permit expired on June 30, 2020, but it is administratively continued in accordance with 40 Code of Federal Regulations 122.6 until a new permit is issued.

Prior to construction, the selected contractor would be required to obtain a National Pollutant Discharge Elimination System (NPDES) Stormwater Permit issued by the Regional Water Quality Control Board (RWQCB). In addition, construction sites

disturbing one or more acres are required to obtain a Construction Stormwater General Permit (CGP) issued by the California State Water Resources Control Board (SWRCB) (California State Water Resources Control Board, 2022). The CGP requires the preparation and implementation of a site-specific Stormwater Pollution Prevention Plan (SWPPP) that includes erosion, sediment, and other pollution control BMPs. The SWPPP also aids to minimize or prevent the release of hazardous materials into the environment.

Commercial solid waste collection in Sacramento County is regulated by the Department of Waste Management and Recycling, as well as the Environmental Management Department, which is the local enforcement agency. Solid waste collection services at SMF are provided by Atlas Disposal Industries LLC (Atlas), under contract to SCDA (Sacramento County, 2022). The waste collected by Atlas is hauled to Yolo County Central Landfill, which is located approximately 8 miles southwest of the Airport. As of July 2022, the Yolo County Central Landfill had 67 percent of its capacity remaining with an estimated closing date in February 2124 (CalRecycle, 2022).

To comply with State and County regulations, SCDA administers a Waste Management Policy that covers the tenants, concessionaires, and contractors at SMF. The policy requires that pre- and post-consumer organic waste and recyclables generated at SMF must be collected and diverted from the landfill, as outlined in State Assembly Bill 341 (AB 341) and Senate Bill 1383 (SB 1383) (Sacramento County, 2023). Since 2015, at SMF SCDA has diverted over 726 tons of food waste from landfills to compost facilities.

3.7.2 Significance Threshold

The FAA has not established a significance threshold for hazardous materials, solid waste, or pollution prevention. However, FAA Order 1050.1F provides the following factors to consider in evaluating the context and intensity of potential environmental impacts. These factors include when the action would have the potential to:

- Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;
- Involve a contaminated site (including but not limited to a site listed on the National Priorities List);
- Produce an appreciably different quantity or type of hazardous waste;
- Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity;
or
- Adversely affect human health and the environment.

3.7.3 Environmental Consequences

3.7.3.1 No Action Alternative

Under the No Action Alternative, no construction would occur that could generate hazardous materials or solid waste. No excavation would occur that could encounter any hazardous materials. The forecast increase in aircraft operations would result in a commensurate increase in the use of aviation fuel at SMF. Fuel would continue to be trucked from the fuel farm to the concourse via trucks crossing active taxiways and taxilanes, maintaining the potential for incursions between fueling trucks and aircraft that could result in a hazardous materials release. Therefore, the No Action Alternative would have **no significant effect** on hazardous materials, solid waste, and pollution prevention.

3.7.3.2 Proposed Project

Construction activities have the potential to generate hazardous waste and use construction materials (fuel, oil, lubricants, etc.) that may contain hazardous substances. Prior to the start of construction, the contractor would obtain all required permits, including a CGP that includes development of a project-specific SWPPP. The SWPPP would include BMPs for spill prevention, response, and pollution prevention measures to minimize or prevent the release of hazardous substances into the environment during construction. Any hazardous substances generated or encountered during construction would be managed and disposed of by the contractor in compliance with federal, state, and local hazardous materials management guidelines.

The Proposed Project would expand Concourse B by approximately 70,000 square feet, expand airport pavement by approximately 230,100 square feet, and extend hydrant fuel lines to encompass the expanded concourse and to connect with the existing fuel farm. Existing fuel lines and fuel pits would be removed and/or relocated to accommodate the expanded Concourse B (refer to **Exhibit 1-4**). The location where fuel pits would be relocated has been previously disturbed. The extended hydrant fuel lines would allow the transport of fuel directly from the fuel farm to Concourse B without the need to truck fuel across active taxiways and taxilanes; this would reduce the potential for incursions between fueling trucks and aircraft that could result in a hazardous materials release.

The Proposed Project would provide facilities at SMF to meet existing and forecast aircraft operations but would not result in an increase in annual aircraft operations compared to the No Action Alternative. The forecast increase in aircraft operations would result in a commensurate increase in the use of aviation fuel at SMF but would not result in an increase in fuel use above the No Action Alternative. All fueling operations would continue to comply with federal, state and local hazardous materials guidelines.

The construction of the Proposed Project would result in a temporary increase in the generation of solid waste over the 5-year construction period. The Yolo County Central Landfill has the capacity to accommodate the construction-related solid waste from the Proposed Project. The Proposed Project also would result in a slightly greater increase in the amount of solid waste generated at SMF because of the expansion of concessions. However, this increase would not be substantial and given the capacity of the Yolo County Central Landfill, the solid waste generated by the construction and operation of the Proposed Project is not anticipated to be significant.

Overall, the Proposed Project would have **no significant impact** on hazardous materials, solid waste, and pollution prevention.

3.7.4 Mitigation Measures

All work would be conducted in compliance with the general contractor's CGP that includes development of a SWPPP with BMPs for spill prevention, response, and pollution prevention measures. Additional mitigation measures are not proposed.

3.8 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

3.8.1 Affected Environment

A Cultural Resources Constraints Analysis was prepared in August 2024 (see **Appendix B**). The analysis consisted of a cultural resources records search, review of previous cultural resources studies and literature relevant to the APE (the APE boundaries are the same as the Project Study Area), review of historic maps and aerial photographs of the APE, and a Native American Heritage Commission request and review to identify known Native American tribal cultural resources within or near the APE.

The analysis determined that the nearest known eligible or listed resource is the Sacramento River, approximately 1.8 miles northwest of the APE at its nearest point, which is a Tribal Cultural Landscape. Further, the Native American Heritage Commission responded that the results were negative for sacred sites within their search radius of the APE.

3.8.2 Significance Threshold

FAA Order 1050.1F has not established a significance threshold for historical, architectural, archeological, or cultural resources. Instead, the FAA is required to consider the impact of any action that would result in a finding of Adverse Effect to Historic Properties through the Section 106 process. Section 106 allows for mitigation of impacts that resolve adverse effects (36 CFR Part 800.6), which may be sufficient for the FAA to make a "no significant impact" determination under NEPA.

3.8.3 Environmental Consequences

3.8.3.1 No Action Alternative

Under the No Action Alternative, no ground disturbing activities would occur that could affect NRHP-listed or eligible archaeological resources, and no physical changes to Airport configuration, buildings or infrastructure would occur that could affect NRHP-listed or eligible historic properties. Therefore, the No Action Alternative would have **no effect** on historical, architectural, archeological, and cultural resources.

3.8.3.2 Proposed Project

Construction of the Proposed Project would require grading and ground-disturbing activities at the west end of Concourse B and along the proposed hydrant fuel line, all of which are located the developed airport facility, predominantly paved and previously disturbed (e.g., mass graded). Therefore, archaeological resources are unlikely to be present. The Cultural Resources Constraints Analysis (**Appendix B**) did not identify any resources eligible for listing on the NRHP within the Project Study Area. The nearest NRHP-listed resource is the Sacramento River, approximately 1.3 miles west of the APE at its nearest point. The Proposed Project would be within an area of the Airport that has been previously developed with Airport infrastructure and facilities. The proposed project components would be consistent with the existing Airport landscape and would not result in any changes to viewsheds off of Airport property. Implementation of the Proposed Project would not result in any significant effects from noise or changes to visual setting that could directly or indirectly affect the NRHP-listed resource located more than a mile away from the APE. The project would not affect criteria associated with a cultural landscape, visual setting, or the understanding of historical and landscape features that may define perspectives, lifestyles, or settlement patterns associated with the Sacramento River.

Based on the results of the Cultural Resources Constraints Analysis, the FAA determined the Proposed Project would result in No Historic Properties Affected. Because the Proposed Project would result in No Historic Properties Affected, the Proposed Project would have **no effect** on historic, architectural, archeological, or cultural resources.

3.8.4 Mitigation Measures

Construction and implementation of the Proposed Project would have no effect on historical, architectural, archaeological, and cultural resources so no mitigation measures are required. However, if during construction any archaeological resources are inadvertently discovered, work would be halted and SCDA, FAA, and SHPO would be notified.

3.9 NATURAL RESOURCES AND ENERGY SUPPLY

3.9.1 Affected Environment

The Sacramento Municipal Utility District (SMUD) provides electrical power to SMF from its Power Line-Elkhorn Substation, located on the eastern boundary of SMF (Sacramento County, 2022). Electricity is distributed throughout Airport property primarily via underground cables to avoid aviation safety hazards.

Solar electric panels have been installed at SMF covering 35 acres over two sites. The solar facility generates approximately 15,500,000 kilowatt-hours of energy per year, providing approximately 35 percent of the Airport’s electricity demand (Sacramento County, 2024). The energy company NRG owns and operates the solar farm and sells electricity to SMF at a reduced rate under a 25-year Power Purchase Agreement (Sacramento County, 2022).

Pacific Gas and Electric Company (PG&E) supplies natural gas to SMF via a four-inch diameter distribution line.

Energy use at the Airport is primarily in the form of electricity required for the operation of Airport-related facilities (e.g., terminal building, hangars, airfield lighting) and fuel for aircraft, aircraft support vehicles/equipment, and Airport maintenance vehicles/equipment.

Various construction activities and operation of the Airport require the use of consumable materials to maintain various landside and airside facilities and services, such as asphalt, concrete, aggregate for sub-base materials, various metals associated with such maintenance, as well as fuel associated with the operation of aircraft and vehicles. None of the natural resources that the Airport uses, or has used, are in rare or short supply.

3.9.2 Significance Threshold

FAA Order 1050.1F does not define a significance threshold for natural resources and energy supply; however, it provides several factors to consider in evaluating the context and intensity of potential environmental impacts. Potentially significant effects could occur if the action has the potential to cause demand to exceed available or future supplies of these resources, which include aviation and surface vehicle fuel, construction materials, and electrical power.

3.9.3 Environmental Consequences

3.9.3.1 No Action Alternative

Under the No Action Alternative, SCDA would not implement the Proposed Project. SCDA would continue to operate, perform maintenance, and serve passengers at the Airport, which would increase the demand on natural resources.

No facilities or lighting requiring electricity would be constructed under the No Action Alternative. However, electricity usage for the Airport would increase as a

result of the forecast growth in aircraft operations and passenger enplanements. Current energy supplies could accommodate the increased demand for electricity at the Airport.

Fuel demand at the Airport is based on several factors related to aircraft operations, taxi time, taxi distance, and the fuel required for aircraft to reach various destinations. No new facilities would be constructed under the No Action Alternative. However, fuel consumption would increase over time as a result of forecast growth in aircraft operations and passenger enplanements at the Airport. Additionally, GSE fuel requirements would increase proportionally with forecast growth in aircraft operations. This growth is within the current capacity of the existing fuel suppliers.

The No Action Alternative would not construct any new facilities. Therefore, the No Action Alternative would not require the use of natural resources typically used during construction, such as asphalt, water, plastic, stone, metals, and wood, other than what is necessary for general maintenance purposes.

Overall, the No Action Alternative would have **no significant impact** on natural resources and energy supply.

3.9.3.2 Proposed Project

Construction of the Proposed Project would temporarily increase the use of natural resources and energy supplies over the 5-year construction period. These resources include fuels, oils, lubricants, and electricity to operate construction equipment; and galvanized steel, lumber, piping, asphalt, aggregate, and concrete for the expanded concourse, reconstructed airfield pavement, and hydrant fuel line expansion. These resources are available and in ample supply within the Sacramento area. The quantity of natural resources and energy supplies required for the Proposed Project would not place an undue strain on regional supplies.

The Proposed Project is expected to increase the demand for diesel fuel for construction vehicles temporarily. However, any temporary increase in fuel demand is expected to be minimal and would not exceed existing and future fuel supplies.

Following construction, the Proposed Project would result in increased electrical demand for lighting and operation of the new gates and passenger areas. Additionally, the Proposed Project would require increased demand for water and sewer utilities. Operation of the Proposed Project would not exceed supplies available for electricity, water, and sewer services, and energy and utility demands can be met without undue strain on the existing natural and energy resources. The extension of the hydrant fuel line to connect with the existing fuel farm to the expanded concourse would not increase the quantity of fuel used at the Airport when compared to the No Action Alternative. As the Proposed Project would not place undue strain on existing natural and energy resources compared to the No

Action Alternative, the Proposed Project would have **no significant effect** on natural resources and energy supplies.

3.9.4 Mitigation Measures

The Proposed Project would not cause demand to exceed current or future supplies of natural resources or energy supplies identified in FAA Order 1050.1F; therefore, no mitigation measures are proposed.

3.10 NOISE AND NOISE-COMPATIBLE LAND USE

3.10.1 Affected Environment

Exhibit 3-3 shows the 65 – 75 dB Community Noise Equivalent Level (CNEL) noise contours for the 2023 Existing Conditions in the General Study Area. **Exhibit 3-3** also shows land uses and individual noise-sensitive locations such as schools and places of worship. The FAA’s guidelines for land use compatibility presented in Appendix A of 14 CFR Part 150 state that all land uses are generally compatible with aircraft noise below 65 dB CNEL. The 65 dB CNEL noise contour extends into mostly vacant land around the Airport.

Table 3-12 provides the population exposure, housing unit count, and noise contour areas for the 2023 CNEL noise contours. The 65+ dB CNEL noise contour, which covers 2,144.14 acres, contains 0 residents and 0 housing units. There are no noise-sensitive sites within the 65+ dB CNEL noise contours.

**TABLE 3-12
2023 EXISTING CONDITIONS NOISE CONTOURS POPULATION, HOUSING, AND AREA**

CNEL (dB) Noise Contour	2020 Population Census	Housing Units	Area (acres)
65 – 70	0	0	1,359.30
70 – 75	0	0	425.99
> 75	0	0	358.85
Total	0	0	2,144.14

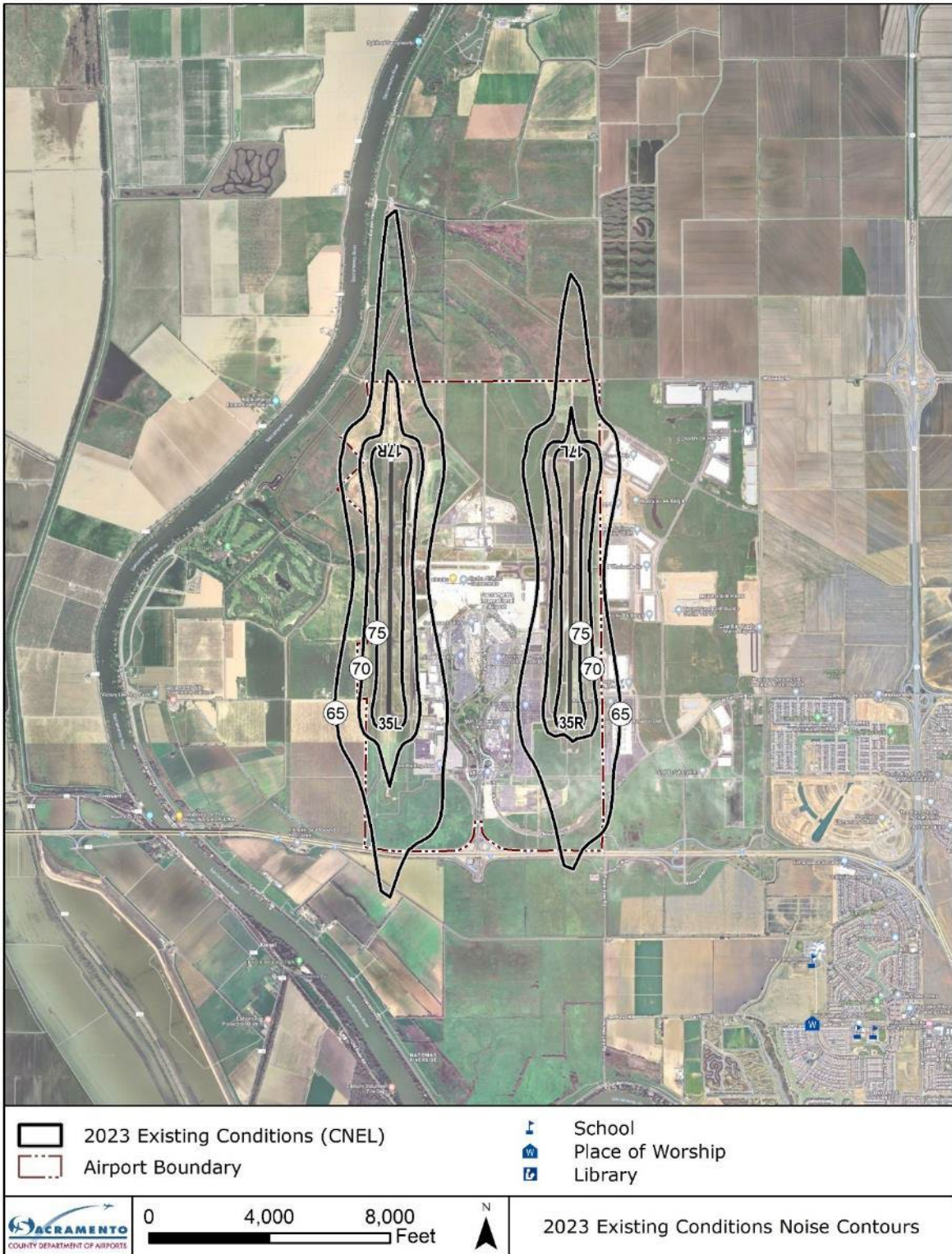
Source: HMMH, 2024; U.S. Census Bureau, 2020

3.10.2 Significance Threshold

Per FAA Order 1050.1F (2015), “a significant noise impact would occur if the action would increase noise by DNL 1.5 dB or more for a noise-sensitive area that is [already] exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.” Noise-sensitive areas generally include residential neighborhoods; educational, health, and religious facilities; and cultural and historic sites.

The State of California Noise Standards set the airport noise standard at 65 CNEL, and require airports designated as “noise problem” airports such as the Airport to

**EXHIBIT 3-3
2023 EXISTING CONDITIONS NOISE CONTOURS**



Source: HMMH, 2024

undertake certain reporting requirements. The regulations also state that “No airport proprietor of a noise problem airport shall operate an airport with a noise impact area based on the standard of 65 dB CNEL unless the operator has applied for or received a variance as prescribed in Article 5 of this subchapter.”²¹ The “Noise Impact Area” in turn is defined as “the area within the 65 dB CNEL noise impact boundary that is composed of incompatible land use,” and incompatible land uses, such as dwellings or schools (with certain exceptions such as if they are acoustically treated to an interior CNEL of 45 dB or less or are subject to an avigation easement) are described in the Noise Standards.²²

In addition to defining significant impacts, FAA Order 1050.1F includes additional reporting requirements, including:

- Has an incompatible land use as identified in 14 CFR Part 150, Appendix A (see **Table 3-13**).
- The location and number of noise-sensitive uses at or above 65 dB DNL.
- The disclosure of potentially newly non-compatible land use regardless of whether there is a significant noise impact.
- Maps reporting the number of residences or people residing at or above DNL 65 dB for at least the 65-, 70-, and 75-dB exposure levels.

**TABLE 3-13
PART 150 NOISE / LAND USE COMPATIBILITY GUIDELINES**

Land Use	Yearly Day-Night Average Sound Level, DNL, in Decibels					
	<65	65-70	70-75	75-80	80-85	>85
Residential Use						
Residential other than mobile homes and transient lodgings	Y	N(1)	N(1)	N	N	N
Mobile home park	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
Public Use						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N

²¹ 21 CCR § 5012.

²² 21 CCR § 5001(k), 5014.

Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
Commercial Use						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail--building materials, hardware, and farm equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail trade--general	Y	Y	Y(2)	Y(3)	Y(4)	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
Manufacturing and Production Use						
Manufacturing general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational Use						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheatres	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

SLUCM: Standard Land Use Coding Manual.

Y (Yes): Land use and related structures compatible without restrictions.

N (No): Land use and related structures are not compatible and should be prohibited.

NLR: Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.

25, 30, or 35: Land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dBA must be incorporated into design and construction of structure.

Notes:

The designations contained in this table do not constitute a federal determination that any use of land covered by the program is acceptable or unacceptable under federal, state, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

- (1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dBA and 30 dBA should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dBA, thus, the reduction requirements are often started as 5, 10, or 15 dBA over standard construction and normally assume mechanical ventilation and closed windows year-round. However, the use of NLR criteria will not eliminate outdoor noise problems.
- (2) Measures to achieve NLR of 25 dBA must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- (3) Measures to achieve NLR of 30 dBA must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
- (4) Measures to achieve NLR of 35 dBA must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
- (5) Land use compatible provided special sound reinforcement systems are installed.
- (6) Residential buildings require an NLR of 25.
- (7) Residential buildings require an NLR of 30
- (8) Residential buildings not permitted.

Source: Title 14 CFR Part 150, Appendix A, Table 1

FAA Order 1050.1F states, “Special consideration needs to be given to the evaluation of the significance of noise impacts on noise-sensitive areas within Section 4(f) properties (including, but not limited to, noise-sensitive areas within national parks; national wildlife and waterfowl refuges; and historic sites, including traditional cultural properties) where the land use compatibility guidelines in 14 CFR Part 150 are not relevant to the value, significance, and enjoyment of the area in question” For example, the DNL 65 dB threshold does not adequately address the impacts of noise on visitors to areas within a national park or national wildlife and waterfowl refuge where other noise is very low and a quiet setting is a generally recognized purpose and attribute.

For purposes of this analysis, levels of changes for noise-sensitive locations include the following:

- Significant noise impact: CNEL increase of 1.5 dB or more in areas of 65 dB CNEL and higher.
- Reportable changes:
 - CNEL increase of 3 dB or more in areas between 60 and 65 dB CNEL.
 - CNEL increase of 5 dB or more in areas between 45 and 60 dB CNEL.

3.10.3 Environmental Consequences

The potential noise effects associated with the Proposed Project were evaluated using the FAA’s approved noise model, the AEDT. AEDT uses airport geometry, descriptions of aircraft operations, and an internal database of noise and

performance characteristics to compute the noise of individual flights. The software then adds the noise of individual flights together to compute the cumulative noise levels at a grid of points. These results can be reported at each point or presented as a set of noise contours of equal noise exposure. The Noise Technical Report (see **Appendix F**) discusses the inputs and methods used to specify the data used in the modeling and provides a detailed description of the processes used to create the model tracks and their use in noise modeling.

The analysis for this EA compares four future scenarios: the No Action Alternative and the Proposed Project in 2029 (opening year for the Proposed Project), and the No Action Alternative and the Proposed Project in 2034 (five years after opening year).

3.10.3.1 No Action Alternative

Under the No Action Alternative, the Airport would not implement the Proposed Project but would continue to operate and serve forecast aviation demands.

Table 3-14 provides the population exposure, housing unit count, and noise contour areas for the 2029 No Action Alternative. The CNEL 65+ noise contour for the 2029 No Action Alternative contains three residents in one housing unit. The housing unit is on the west side of the Airport adjacent to the end of Runway 35L. This is an increase of 3 residents and 1 housing unit compared to 2023 conditions. The total area of the 65+ CNEL noise contours under the 2029 No Action Alternative is 2,720.72 acres, which is an increase of 576.68 acres compared to the 2023 conditions. There are no noise-sensitive sites within the 65+ dB CNEL noise contours.

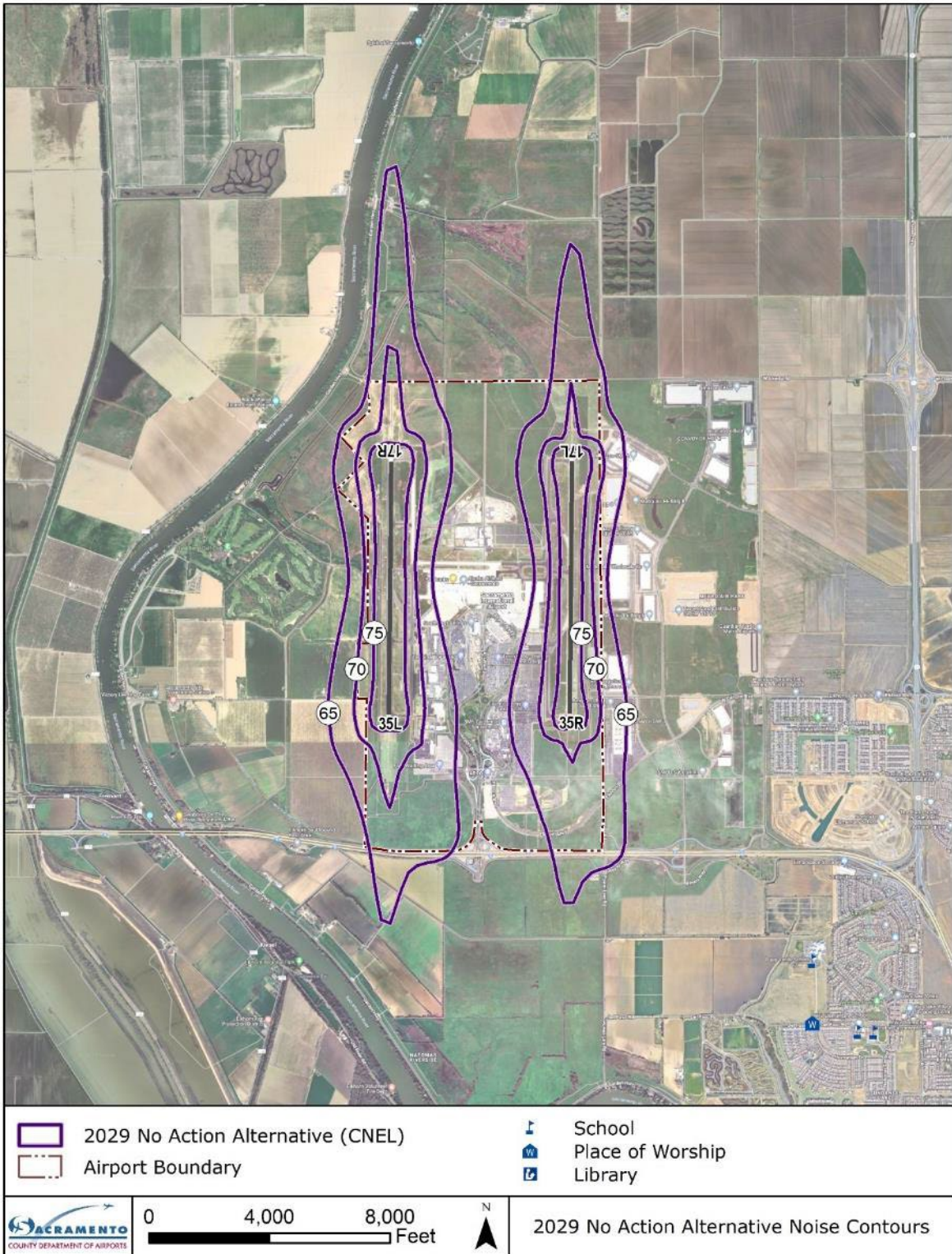
TABLE 3-14
2029 NO ACTION ALTERNATIVE NOISE CONTOURS POPULATION, HOUSING, AND AREA

CNEL (dB) Noise Contour	Population	Housing Units	Area (acres)
65 - 70	3	1	1,757.88
70 - 75	0	0	534.30
> 75	0	0	428.54
Total	0	0	2,720.72

Sources: HMMH, 2022; U.S. Census Bureau, 2020

Exhibit 3-4 shows the 65+ CNEL noise contours for the 2029 No Action Alternative, including individual noise-sensitive locations such as schools and places of worship. The 65 dB CNEL noise contour extends into mostly vacant land around the Airport; however, there is a portion of the 65 dB CNEL noise contour that extends into a residential census block immediately to the west of the end of Runway 35L.

**EXHIBIT 3-4
2029 NO ACTION ALTERNATIVE NOISE CONTOURS**



Source: HMMH, 2024

Table 3-15 provides the population exposure, housing unit count, and CNEL noise contour areas for the 2034 No Action Alternative. The CNEL 65+ noise contour contains three residents in one housing unit. The housing unit is on the west side of the Airport adjacent to the end of Runway 35L. This is the same when compared to 2029 conditions. The total area of the 65+ CNEL noise contours under the 2034 No Action Alternative is 2,892.52, which is an increase of 171.80 acres compared to the 2029 conditions.

**TABLE 3-15
2034 NO ACTION ALTERNATIVE NOISE CONTOURS POPULATION, HOUSING, AND AREA**

CNEL (dB) Noise Contour	Population	Housing Units	Area (acres)
65 – 70	3	1	1,881.54
70 – 75	0	0	566.57
> 75	0	0	444.41
Total	0	0	2,892.52

Sources: HMMH, 2024; U.S. Census Bureau, 2020

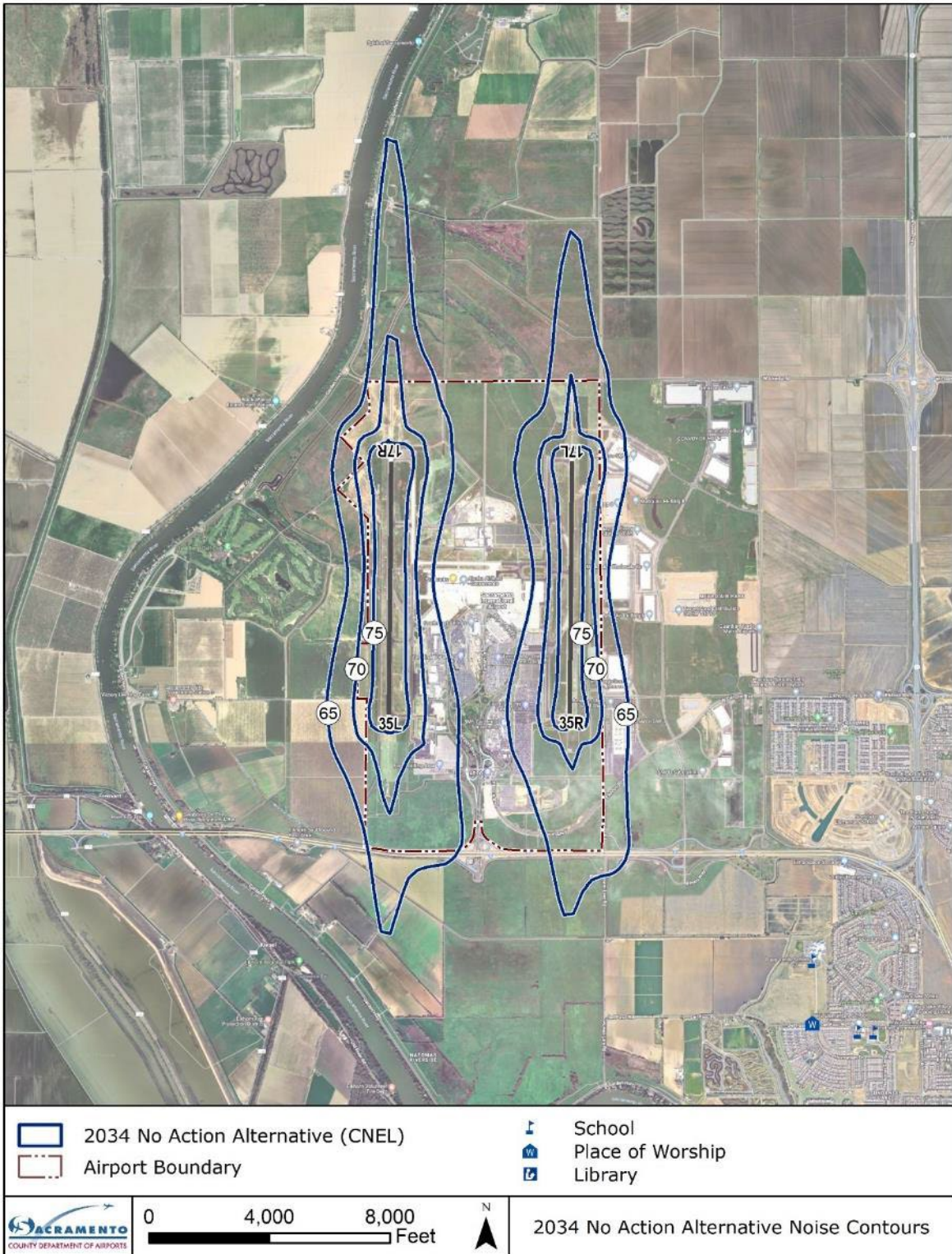
Exhibit 3-5 shows the 65+ CNEL noise contours for the 2034 No Action Alternative, including individual noise-sensitive locations such as schools and places of worship. The 65 dB CNEL noise contour extends into mostly vacant land around the Airport, however there is a portion of the 65 dB CNEL noise contour that extends into a residential census block immediately to the west of the end of Runway 35L.

3.10.3.2 Proposed Project

The year 2029 represents the opening year for the Proposed Project. This scenario represents the same conditions as the No Action Alternative. There would be no changes to operating conditions as a result of the Proposed Project. As such, the population exposure, housing unit count, and noise contour areas for the 2029 Proposed Project would be the same as those shown for the 2029 No Action Alternative in **Table 3-14**. Further, the 65+ CNEL noise contours for the 2029 Proposed Project would be the same as those shown in **Exhibit 3-4** for the No Action Alternative.

The year 2034 represents five years after the opening year for the Proposed Project. This scenario represents the same conditions as the No Action Alternative. There would be no changes to operating conditions as a result of the Proposed Project. As such, the population exposure, housing unit count, and noise contour areas for the 2034 Proposed Project would be the same as those shown for the 2034 No Action Alternative in **Table 3-15**. As under 2029 No Action Alternative conditions, the 65+ CNEL noise contours for the 2034 Proposed Project would be the same as those shown in **Exhibit 3-5** for the No Action Alternative.

**EXHIBIT 3-5
2034 NO ACTION ALTERNATIVE NOISE CONTOURS**



Source: HMMH, 2024

Because there would be no change in aircraft operations when comparing the No Action Alternative to the Proposed Project, the Proposed Project would have **no effect** on noise and noise-compatible land use.

3.10.4 Mitigation Measures

As there would be no change in aircraft operations when comparing the No Action Alternative to the Proposed Project, there are no noise impacts, and no mitigation is needed.

3.11 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN’S ENVIRONMENTAL HEALTH AND SAFETY RISKS

The Project Study Area is entirely within Census Tract 71.01 Block Group 1. The broader General Study Area is within the following Block Groups: Census Tract 70.26 Block Group 1; Census Tract 71.01 Block Group 1; Census Tract 71.07 Block Group 2; Census Tract 101.01 Block Group 1; Census Tract 511.00 Block Group 3 (see **Exhibit 3-6**) (United States Census Bureau, 2024). These Block Groups are compared with the City of Sacramento and Sacramento County to determine any potential affects to Socioeconomics, Environmental Justice, and Children’s Environmental Health and Safety Risks.

3.11.1 Socioeconomics

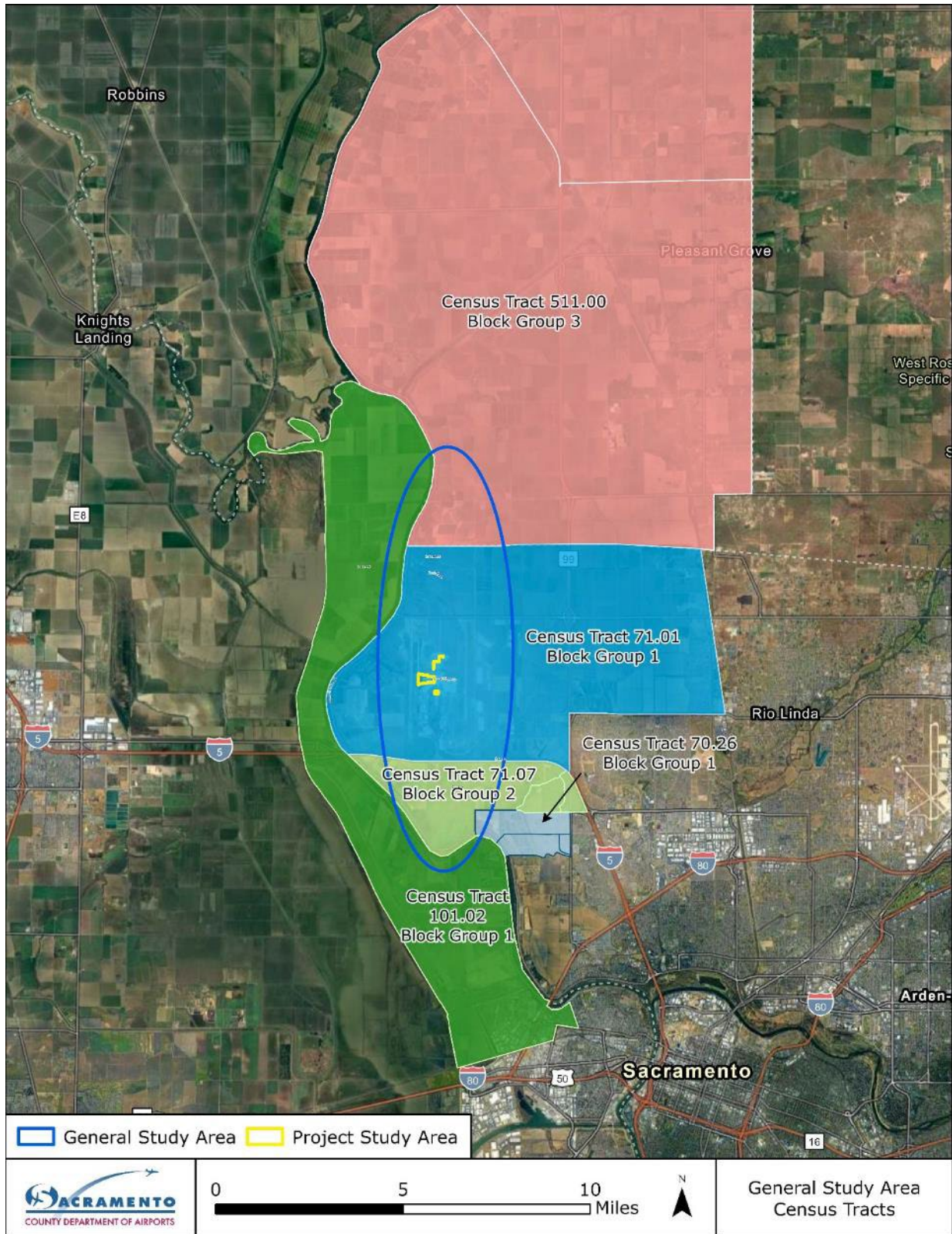
Socioeconomics is an umbrella term used to describe a project’s social or economic aspects, or a combination of the two. A socioeconomic analysis evaluates how elements of the human environment such as population, employment, housing, and public services might be affected by a proposed action and alternative(s).

3.11.1.1 Affected Environment

Population and Housing

Table 3-16 shows the population and housing data for the Block Group(s) that include the Project Study Area and the General Study Area (American Community Survey, 2022). In addition, data for the city of Sacramento and Sacramento County were included for comparison purposes. The Block Group(s) that include the Project Study Area and General Study Area contain high-density residential areas located around the Airport. A total of 6,199 people live within the five Block Groups containing the General Study Area, which is about four percent of the total population of Sacramento County. According to the American Community Survey, 85.9 percent of housing units within the Project Study Area census tract are occupied while 94.25 percent of housing units in the General Study Area census tracts are occupied (American Community Survey, 2022).

**EXHIBIT 3-6
CENSUS TRACTS WITHIN THE STUDY AREAS**



Source: U.S. Census Bureau, 2020; RS&H, 2024

**TABLE 3-16
POPULATION AND HOUSING CHARACTERISTICS IN PROJECT STUDY AREA, GENERAL STUDY AREA, CITY OF SACRAMENTO, AND SACRAMENTO COUNTY**

Population and Housing Characteristics	Project Study Area	General Study Area^{/a/}	City of Sacramento	Sacramento County
Total Population	200	6,199	523,600	1,579,211
Total Households	67	2,346	196,524	563,856
Average Persons per Household	2.70	2.53	2.52	2.65
Percent Housing Occupied	85.90%	94.25%	95.03%	95.75%

^{/a/} All five Block Groups that touch the General Study Area are included in the totals for the General Study Area
Source: American Community Survey, 2022; RS&H, 2024

Employment

Table 3-17 shows the unemployment rates and income characteristics for the Block Group(s) that include the Project Study Area and General Study Area, City of Sacramento, and Sacramento County (American Community Survey, 2022). No people are unemployed within the Project Study Area, and 2.86 percent of the population within the General Study Area are unemployed. This is compared to the approximately 6.3 percent unemployment rate in both the city of Sacramento and Sacramento County.

**TABLE 3-17
UNEMPLOYMENT RATE IN PROJECT STUDY AREA, GENERAL STUDY AREA, SACRAMENTO COUNTY, AND STATE OF CALIFORNIA**

	Project Study Area	General Study Area	City of Sacramento	Sacramento County
Percent Unemployed	0%	2.86%	6.28%	6.31%

Source: American Community Survey, 2022; RS&H, 2024

Surface Traffic

The Airport is generally bounded by Power Line Road to the east, Garden Highway to the west, the Sacramento River to the west and south, and West Riego Road to the north.

Primary access to the Airport is provided via I-5. Access to the Airport terminals and other Airport facilities south of Taxiway W is provided via I-5 and Airport Boulevard, with alternate routes provided via Elkhorn Boulevard and Bayou Way. Access to Airport facilities north of Taxiway W is via West Elverta Road and Earhart Drive. Elverta Road is a local road that connects to State Route 99 (SR-99), about

2.5 miles east of the Airport. I-5 and SR-99 are classified as freeways under the Sacramento County General Plan (Sacramento County, 2011).

3.11.1.2 Significance Threshold

FAA Order 1050.1F does not provide a significance threshold for socioeconomic; however, it does provide several factors to consider in evaluating the context and intensity of potential environmental impacts. These factors include when the action would have the potential to:

- Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing a project in an undeveloped area);
- Disrupt or divide the physical arrangement of an established community;
- Cause extensive relocation when sufficient replacement housing is unavailable;
- Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities;
- Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; or
- Produce a substantial change in the community tax base.

3.11.1.3 Environmental Consequences

No Action Alternative

Under the No Action Alternative, SCDA would not implement the Proposed Project. SCDA would continue to operate the Airport, perform maintenance, and serve forecast aviation demands.

Population and Housing

Under the No Action Alternative, no development would occur. Therefore, the No Action Alternative would have **no effect** on population or housing.

Employment

Under the No Action Alternative, no development would occur, and no temporary construction-related employment opportunities would be created. However, employment opportunities at the Airport would likely increase commensurate with the forecast growth in aircraft operations and passenger enplanements. An increase in employment opportunities within Sacramento County would not be substantial and would likely come from the existing employee pool within Sacramento County. Therefore, the No Action Alternative would have **no significant effect** on employment.

Surface Traffic

Under the No Action Alternative, access to the Airport terminals is provided via I-5 and Airport Boulevard. Operation of the No Action Alternative would result in a slight increase in the number of vehicle trips to and from the Airport due to forecast increase in passenger enplanements. Currently, the Airport Boulevard intersection level of service (LOS) range from A to C at peak hour and two separate projects are being implemented to alleviate near-term congestion and accommodate the forecast increase in vehicles accessing the Airport. Therefore, the No Action Alternative would result in **no significant effect**.

Proposed Project

Population and Housing

There are no residents or housing units within the Project Study Area, and the Proposed Project would not relocate residents or housing units. The Proposed Project would create a temporary increase in construction-related employment. However, the Proposed Project would not need an additional increase in employment at the Airport compared to the No Action Alternative. The demand for housing posed by both temporary, construction-related employment and permanent employment could be accommodated by existing or projected housing units within the vicinity of the General Study Area, Sacramento County, and surrounding regions where current employees live. These increases in employment opportunities are minimal and would likely be filled by existing residents in the greater Sacramento area. As a result, implementation of the Proposed Project would not alter the population any more than the No Action Alternative. Therefore, the Proposed Project would have **no effect** on population or housing.

Employment

The Proposed Project would positively affect employment by creating a temporary increase in demand for construction-related employees. However, the Proposed Project would not require any additional employees to serve the forecast increase in passengers at the Airport beyond the No Action Alternative. Both temporary and permanent employment positions would likely be filled by existing residents in the greater Sacramento area and can be considered a positive impact. Overall, the Proposed Project would have **no significant effect** on employment.

Surface Traffic

As previously stated, existing roadway facilities leading to and from the Airport currently have the capacity to serve forecast aviation demands and increase in passengers needing to access the Airport. Construction of the Proposed Project does not include roadway construction or commercial development. Nonetheless, construction of the Proposed Project would temporarily increase traffic volumes; however, the additional construction-related traffic for a project of this scale would not cause significant traffic congestion or degradation of level of service on local

roadways. In addition, construction vehicles would access the Project Study Area from Earhart Road via Elverta Road and SR-99 and would not affect the public’s main access to the Airport via Airport Boulevard.

Operation of the Proposed Project would result in a slight increase in the number of vehicle trips to and from the Airport. However, the increase in passenger trips would not go beyond what is projected under the No Action Alternative. The minor addition of employee trips is minimal and unlikely to degrade the Airport Boulevard on- and off-ramp intersections to LOS F. In addition, two separate projects are being implemented to alleviate near-term congestion and accommodate the forecast increase in people accessing the Airport. Therefore, the Proposed Project would not cause significant degradation of LOS of intersections and roads directly leading to the Airport terminals.

Therefore, the Proposed Project would result in **no significant effects** to surface road traffic or LOS of intersections and roads directly leading to the Airport terminals.

3.11.1.4 Mitigation Measures

The Proposed Project would not result in significant effects to socioeconomics or surface traffic. Therefore, no mitigation measures are proposed.

3.11.2 Environmental Justice

3.11.2.1 Affected Environment

Table 3-18 shows the minority and poverty data for the Block Group(s) containing the Project Study Area and General Study Area, the city of Sacramento, and Sacramento County. The population within the city of Sacramento and Sacramento County have the highest percent of minority populations (American Community Survey, 2022). In addition, the city of Sacramento and Sacramento County have the highest percent of people living below the poverty line at 14.79 percent and 13.10 percent, respectively (American Community Survey, 2022).

**TABLE 3-18
ENVIRONMENTAL JUSTICE POPULATIONS IN PROJECT STUDY AREA, GENERAL STUDY AREA, CITY OF SACRAMENTO, AND SACRAMENTO COUNTY**

	Project Study Area	General Study Area	City of Sacramento	Sacramento County
Percent Minority	0%	39.51%	60.67%	50.25%
Percent Below Poverty Line	0%	11.99%	14.79%	13.10%

Source: American Community Survey, 2022; RS&H, 2024

3.11.2.2 Significance Threshold

FAA Order 1050.1F does not provide a significance threshold for environmental justice; however, it does provide several factors to consider in evaluating the

context and intensity of potential environmental impacts. These include when the action would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population (i.e., a low-income or minority population) due to:

- Significant impacts in other environmental impact categories; or
- Impacts on the physical or natural environment that affect an environmental justice population in a way that the FAA determines is unique to the environmental justice population and significant to that population.

Disproportionately high and adverse human health or environmental effect on minority and low-income populations means an adverse effect that:

- Is predominately borne by a minority population and/or a low-income population; or
- Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

3.11.2.3 Environmental Consequences

No Action Alternative

Under the No Action Alternative, SCDA would not implement the Proposed Project. SCDA would continue to operate the Airport, perform maintenance, and serve forecast aviation demands. Because no development would occur, the No Action Alternative would have **no effect** on environmental justice populations.

Proposed Project

The Proposed Project would take place entirely on Airport property and would not require the closure or relocation of any businesses or residences. As described throughout this chapter, the Proposed Project would not cause significant environmental effects (e.g., air quality, noise, hazardous materials, etc.) that could directly or indirectly affect a population with environmental justice characteristics. The Proposed Project would not result in disproportionately high and adverse effects to a population with environmental justice characteristics. Therefore, the Proposed Project would have **no effect** on a population with environmental justice characteristics when compared to the No Action Alternative.

3.11.2.4 Mitigation Measures

The Proposed Project would not affect a population with environmental justice characteristics. Therefore, no mitigation measures are required or proposed.

3.11.3 Children’s Environmental Health and Safety Risks

3.11.3.1 Affected Environment

Table 3-19 shows the population of children within the Block Group(s) containing the Project Study Area and General Study Area, the city of Sacramento, and Sacramento County (American Community Survey, 2022). There are 10 children within the Block Group that contains the Project Study Area and 1,218 children within the Block Groups that contain the General Study Area, which make up 0.003 percent of all the children accounted for in Sacramento County.

**TABLE 3-19
POPULATION OF CHILDREN WITHIN THE PROJECT STUDY AREA, GENERAL STUDY AREA,
CITY OF SACRAMENTO, AND SACRAMENTO COUNTY**

Age Group	Project Study Area	General Study Area	City of Sacramento	Sacramento County
Under 5 years	0	383	31,531	95,959
5 to 9 years	0	449	31,289	98,949
10 to 14 years	5	259	32,499	107,835
15 to 17 years	5	127	19,662	62,545
TOTAL	10	1,218	114,981	365,288

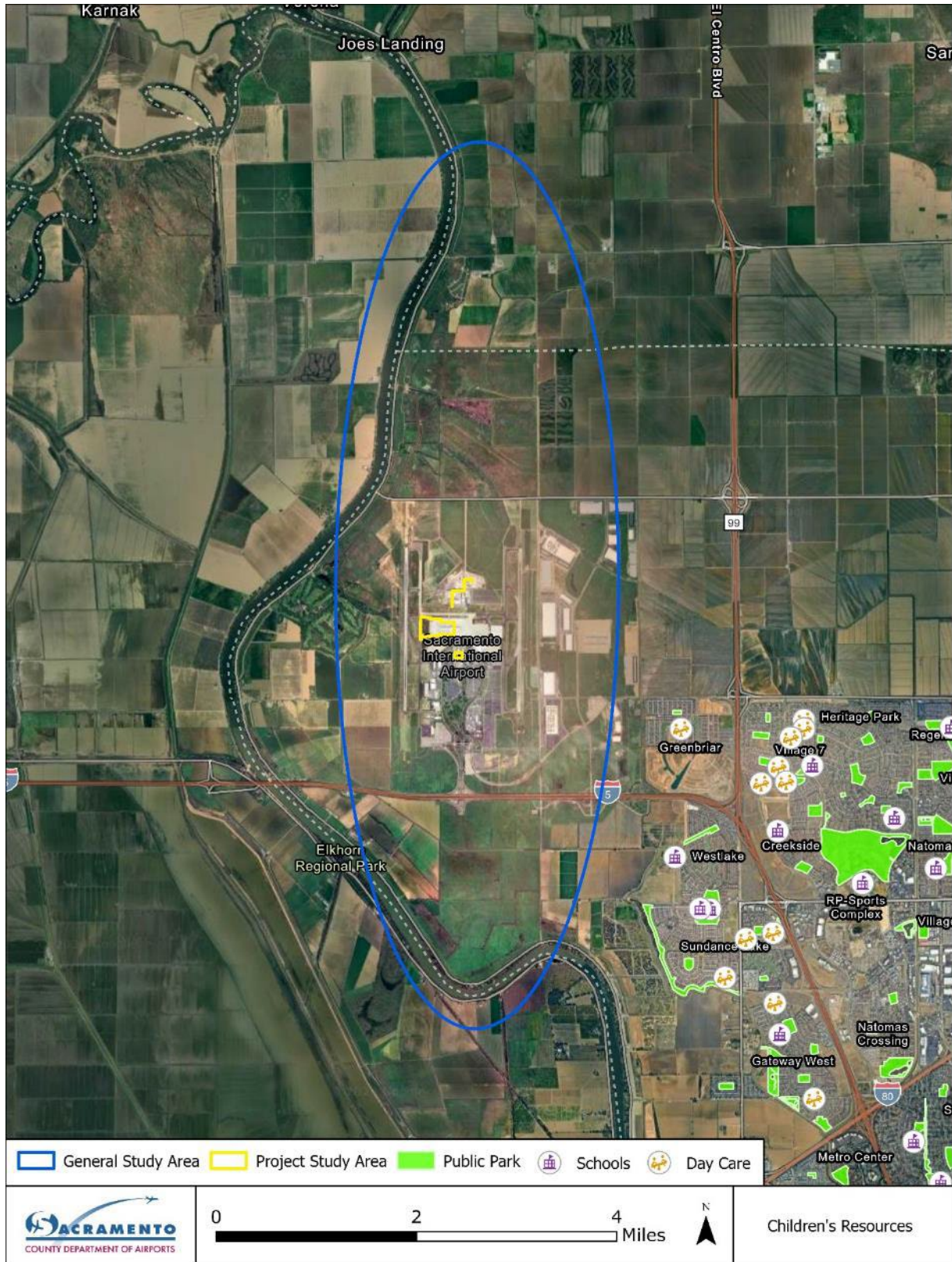
Source: Source: American Community Survey, 2022; RS&H, 2024

Areas of particular concern for children’s environmental health risks and safety include schools, day cares, children health clinics, and child friendly recreational facilities. There are no schools, day cares, health clinics, or child friendly parks within the Project Study Area or General Study Area. **Exhibit 3-7** shows children resources within the vicinity of the General Study Area. The closest school to the General Study Area is Paso Verde Elementary School, located about 0.85 mile to the east of the General Study Area (Sacramento County Office of Education, 2022). The closest day care is Tiny World Day Care, located about 0.7 miles east of the General Study Area. The closest park is Eventide Park, located about 0.6 miles east of the General Study Area (Sacramento County, 2024). The closest children’s health clinic is located in Natomas, about 5.3 miles southeast of the General Study Area (Sacramento County Department of Health Services, 2024)

3.11.3.2 Significance Threshold

FAA Order 1050.1F does not provide a significance threshold for children’s environmental health and safety risks; however, it does provide a factor to consider in evaluating the context and intensity of potential environmental impacts. This would occur when the action has the potential to lead to a disproportionate health or safety risk to children.

**EXHIBIT 3-7
CHILDREN'S RESOURCES WITHIN THE VICINITY OF GENERAL STUDY AREA**



Source: Sacramento County, 2024; RS&H, 2024

3.11.3.3 Environmental Consequences

No Action Alternative

Under the No Action Alternative, SCDA would not implement the Proposed Project. SCDA would continue to operate the Airport, perform maintenance, and serve forecast aviation demands. Because no development would occur, **no effect** to children’s environmental health and safety risks would occur.

Proposed Project

The Proposed Project would not result in the relocation, acquisition, or alteration of schools, residences, daycares, parks, or any other establishments associated with children or childcare. Construction of the Proposed Project would be temporary and would observe regulations regarding the use, transportation, and disposal of hazardous waste and materials. Construction noise would not affect children at any nearby schools or disrupt learning activities because the closest school (about 0.85 miles to the east of the General Study Area) is far enough away that the noise level would be at or below 60 dB, which is considered compatible with educational land uses.

None of the locations where children may be likely to congregate within the General Study Area would have a significant noise impact, which means no disproportionate effect on children’s environmental health and safety risks would occur. Therefore, the Proposed Project would have **no effect** on children’s environmental health and safety risks when compared to the No Action Alternative.

3.11.3.4 Mitigation Measures

The Proposed Project would not result in significant effects to children’s environmental health and safety risks. Therefore, no mitigation measures are proposed.

3.12 VISUAL EFFECTS

According to the FAA 1050.1F Desk Reference, visual effects deal broadly with the extent to which a proposed action or alternative(s) would either: 1) produce light emissions that create annoyance or interfere with activities; or 2) contrast with, or detract from, the visual resources and/or the visual character of the existing environment. In keeping with the FAA 1050.1F Desk Reference, the analysis is separated into two sections: Light Emissions; and Visual Resource and Visual Character.

Although there are no special purpose laws or requirements specific to light emissions or visual effects, some visual resources are protected under federal, state, or local regulations, such as Section 106 of the National Historic Preservation Act (NHPA), Section 4(f) of the Department Transportation (DOT) Act, the Wild and Scenic Rivers Act, and the Coastal Zone Management Act.

3.12.1 Light Emissions

3.12.1.1 Affected Environment

Existing light emissions within the Project Study Area include lighting for the airfield (e.g., taxiways and aprons), airside facilities, and landside facilities. Lighting is installed on the exterior of Terminal B and Concourse B, and streetlights illuminate parking lots and access roads throughout the General Study.

The General Study Area is approximately 10.5 miles northwest of downtown Sacramento in an area that consists of mostly agricultural fields and rural residences. However, Metro Air Park located immediately east of the Airport, has numerous light emission sources from commercial and industrial buildings, and lighting for parking lots and roadways. The nearest residential property is located approximately one mile west of the Project Study Area, on the other side of Runway 17-35 from Concourse B.

3.12.1.2 Significance Threshold

FAA Order 1050.1F does not provide a significance threshold for visual effects; however, it does provide factors to consider in evaluating the context and intensity of potential environmental impacts. For light emissions, these factors include the degree to which the action would have the potential to:

- Create annoyance or interfere with normal activities from light emissions; and
- Affect the visual character of the area due to the light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources.

3.12.1.3 Environmental Consequences

No Action Alternative

Under the No Action Alternative, no construction activities would occur that would require the use of lighting, and there would be no physical changes to Airport configuration, buildings or infrastructure that could produce light emissions. Therefore, the No Action Alternative would have **no effect** on visual resources related to light emissions.

Proposed Project

Construction of the Proposed Project would take place on Airport property. If nighttime construction is necessary, any light emissions from nighttime-related construction would be temporary and would not be visible from the nearest residence, located approximately one mile west of the Project Study Area on the other side of Runway 17-35.

The Proposed Project would expand Concourse B, adding six additional aircraft gates and expanding 24,000 square feet of holdroom space and 39,000 square feet

of additional concession facilities. These additions would require lighting on the outside of the building expansion, and along aprons and parking areas. While the Proposed Project would increase light emissions, new lighting additions would be consistent with existing lighting at the Airport. The nearest light-sensitive land use is a residential property approximately one mile west of the Project Study Area and is unlikely to be affected by light emissions. Therefore, the Proposed Project should not cause any interference with normal activities, cause an annoyance to the community, or affect the visual character of the area due to light emissions. The Proposed Project would have **no effect** on light emissions.

3.12.1.4 Mitigation Measures

All work would be conducted in compliance with applicable regulations. Additional mitigation measures are not required or proposed.

3.12.2 Visual Resources and Visual Character

3.12.2.1 Affected Environment

The visual character of the Project Study Area largely consists of paved airfield facilities and Airport structures, including taxiways, aprons, Terminal B, Concourse B, and access roads. The visual character of the Project Study Area is consistent with other Airport facilities and Metro Air Park, a commercial and industrial complex, east of the Airport.

With exception to the Airport and Metro Air Park, the visual character of the General Study Area is mostly rural consisting of agricultural properties, rural residences, the Sacramento River, and the Teal Bend Golf Course west of the Airport. The General Study Area does not include any scenic roadways, Wild and Scenic Rivers, national scenic areas, scenic easements, trails protected under the National Trails System Act, wildlife or waterfowl refuges, or important biological resources, parks, or recreation areas protected under federal, state, or local regulations.

3.12.2.2 Significance Threshold

The FAA has not established a significance threshold for visual resources and character. Factors to consider include the extent to which the action would have the potential to:

- Affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources;
- Contrast with the visual resources and/or visual character in the study area; and
- Block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations.

3.12.2.3 Environmental Consequences

No Action Alternative

Under the No Action Alternative, no physical changes to Airport configuration, buildings or infrastructure would occur that could affect visual resources and visual character of the existing environment. Therefore, the No Action Alternative would have **no effect** on visual resources or visual character.

Proposed Project

Construction of the Proposed Project would expand the existing Concourse B, adding six additional aircraft gates and expanding 24,000 square feet of holdroom space and 39,000 square feet of additional concession facilities. Internal improvements to Terminal B would result in no change to the visual character of the Project Study Area. The expanded Concourse B and reconstructed apron and taxiway would be constructed in a similar design to existing facilities. Therefore, the Proposed Project is not expected to alter the visual character of the area and would have **no significant effect** on visual effects.

3.12.2.4 Mitigation Measures

Construction and operation of the Proposed Project would not significantly affect visual resources and visual character. Therefore, no mitigation is proposed or required.

3.13 WATER RESOURCES

According to FAA Order 1050.1F, water resources include wetlands, floodplains, surface waters, groundwater, and Wild and Scenic Rivers. As described in **Section 3.3**, there are no wetlands or Wild and Scenic Rivers that could be directly or indirectly affected by the Proposed Project; therefore, this section does not discuss that resource category.

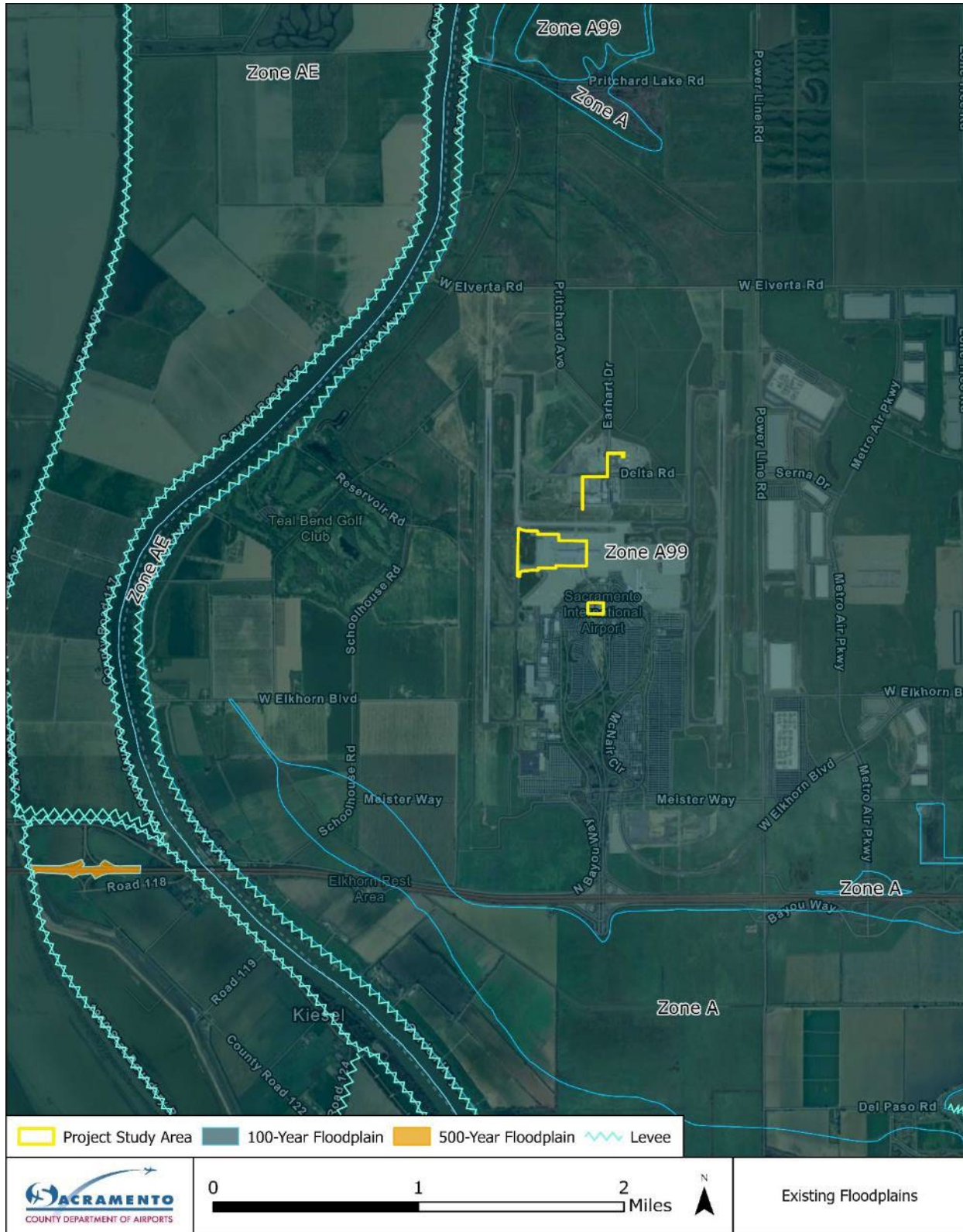
3.13.1 Floodplains

3.13.1.1 Affected Environment

The Project Study Area is located approximately 1.2 miles east of the Sacramento River in an area that was historically part of the Sacramento River floodplain. Currently, land within the Project Study Area and General Study Area is enclosed by levees that separate it from the Sacramento River floodplain (County of Sacramento, 2022). The Natomas Basin is completely enclosed by levees so there is no natural drainage (i.e., drainage via gravity) out of the basin. During a flooding event, floodwater is conveyed from Airport property and is pumped into the Sacramento River to the west.

The Project Study Area is located within a special flood hazard area, Zone A99 (see **Exhibit 3-8**) (Federal Emergency Management Agency, 2024). Zone A99 is an interim Federal Emergency Management Agency (FEMA) designation that will allow

**EXHIBIT 3-8
FEMA-MAPPED FLOODPLAINS WITHIN PROJECT STUDY AREA AND GENERAL STUDY AREA**



Source: FEMA, 2024; RS&H, 2024

new development to proceed without an elevation certificate (EC) while the improvements to the levee system are under construction (Sacramento County, 2022). However, Zone A99 is still considered a special flood hazard area within the 100-year (1-percent-annual-chance) floodplain.

The established 100-year base flood elevation (BFE) in the Natomas Basin is 36.2 feet NAVD88 (City of Sacramento, 2023).²³ Once the levee improvements are complete, the levees would provide the ULOP 200-year (0.5-percent-annual-chance) flood protection standard within the Project Study Area (Sacramento County, 2022).

3.13.1.2 Significance Threshold

According to FAA Order 1050.1F, a significant impact to a floodplain would occur if “the action would cause notable adverse impacts on natural and beneficial floodplain values.” As stated in DOT Order 5650.2, Paragraph 4.k, “[n]atural and Beneficial Floodplain Values include but are not limited to: natural moderation of floods, water quality maintenance, groundwater recharge, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, and forestry.”

3.13.1.3 Environmental Consequences

No Action Alternative

Under the No Action Alternative, no physical changes to Airport configuration, buildings or infrastructure would occur that could affect floodplains. Future Airport development would be subject to review and approval under NEPA. Therefore, the No Action Alternative would have **no effect** on floodplains.

Proposed Project

During construction of the Proposed Project, the construction contractor would implement construction controls as outlined in the CGP and construction SWPPP for erosion and sedimentation, accidental and flood-induced spills, storage of hazardous materials, and construction waste and spoil disposal to minimize impacts to natural and beneficial floodplain values, including surface water quality as discussed in the **Section 3.13.2**. The construction contractor would provide flood hazard protection and procedures during construction to minimize damage to facilities and adverse impacts on human safety. Therefore, compliance with the CGP and construction SWPPP while constructing the Proposed Project would not result in direct or indirect adverse significant impacts on natural and beneficial floodplain values.

²³ Per City of Sacramento Code, the 100-year BFE of the Natomas Basin at 33 feet above Mean Sea Level (MSL). This has been converted to NAVD88 through Online Vertical Datum Conversion program from NOAA, as NAVD88 is the most recent, widely accepted vertical datum.

The Proposed Project would have to meet federal, state, and local requirements to obtain necessary building permits in the floodplain. The following paragraphs discuss how the different regulations will be addressed to not cause a significant impact on floodplains.

As discussed above, the Proposed Project would be required to meet Federal Flood Risk Management Standard (FFRMS) resiliency requirements. The Proposed Project includes expansions of the passenger terminal, terminal apron, and extensions of utilities that would tie into elevations of existing infrastructure. Therefore, the Proposed Project would not be considered a critical action per federal guidelines (44 CFR Part 9.4, n.d.).²⁴

The Freeboard Value Approach (FVA) discussed in **Appendix A** was utilized in demonstrating compliance with FFRMS requirements due to the entire Project Study Area being located in the 100-year (1-percent annual-chance) floodplain and the ability to reference established BFEs in determining a design flood elevation for resiliency of the Proposed Project. Utilizing the FVA, the resulting FVA BFE would be 2 feet above the established 100-year BFE, yielding an elevation of 38.2 feet NAVD88. All infrastructure below this FVA BFE would be appropriately floodproofed and certified by a qualified licensed professional. The resulting FVA BFE is approximately 8 feet above the existing ground elevation of the Project Study Area (Sacramento County Department of Airports, n.d.).²⁵ Public passenger areas in the expanded terminal would be constructed above this elevation to tie into the existing terminal building which is elevated to accommodate jet bridges (**Exhibit 3-9**). Spaces intended for Airport operations use below the passenger level would be for qualified airport personnel who would be trained in emergency operating procedures at the Airport. As a result, human safety, health, and welfare would not be affected because of the implementation or operation of the Proposed Project. Therefore, the Proposed Project would meet floodplain resiliency criteria as outlined in the FFRMS.

As the entire Project Study Area lies within the Zone A99 floodplain, proposed improvements would be required to elevate or floodproof to a minimum 1 foot above the hydraulic grade line for 100-year storm event for the adjacent storm sewer system. Building and utility improvements below this elevation must be appropriately floodproofed documentation provided to the City of Sacramento by a qualified licensed professional. However, an EC is not required to be submitted to FEMA nor would any amendments to the FEMA floodplain mapping be required. The Proposed Project would be required to demonstrate that proposed improvements

²⁴ Per 44 CFR §9.4, “critical actions” are facilities where even a slight chance of flooding would be too great, including those that produce or store explosive or toxic materials, hospitals and nursing homes, emergency operations centers, and power generation plants.

²⁵ The Airport Sponsor lists the elevation of SMF at 27 feet MSL, which is equivalent to 30.2 feet NAVD88 through Online Vertical Datum Conversion program from NOAA.

**EXHIBIT 3-9
VIEW OF EXISTING CONCOURSE B**



Source: Turner Construction Company, 2012

would not increase flood levels through floodplain modeling to be conducted in final design (City of Sacramento Department of Utilities, 2024). As the Proposed Project would be required to demonstrate no change in FEMA-established BFEs, operation of the Proposed Project would have **no significant effect** on floodplains.

3.13.1.4 Mitigation Measures

All work would be conducted in compliance with the CGP, SWPPP, and Sacramento County Floodplain Management Permit. Additional mitigation measures are not required or proposed.

3.13.2 Surface Waters

3.13.2.1 Affected Environment

The Airport is located in the Natomas Basin, which is around 55,000 acres in size and is bordered by the Natomas Cross Canal on the north, the Sacramento River on the west and south, the American River on the southeast, and the Natomas East Main Drainage Canal on the east. Land within the Project Study Area and General Study Area is relatively flat and was historically part of the Sacramento floodplain. The Natomas Basin is completely enclosed by levees so there is no natural drainage out of the basin.

The Airport is crossed by a network of on-site storm drains and drainage ditches that convey water to either the North Drainage Canal or West Drainage Canal where water is then pumped to the Sacramento River (see **Exhibit 3-10**). Two large detention basins temporarily detain water (no longer than 48 hours) during storm events and then convey water to drainage ditches. As shown in **Exhibit 3-10**, underground storm drains underly the Project Study Area, which drain west to the Airport West Ditch, and then south to the West Drainage Canal.

**EXHIBIT 3-10
SURFACE WATERS WITHIN PROJECT STUDY AREA AND GENERAL STUDY AREA**



SOURCE: DWR, ESRI

Legend

Airport Property	Watershed Boundary	Water Supply and Drainage Ditch
Lands to be Transferred From SAFCA	Pump Station	Water Supply Ditch
Street Centerlines	Check Valve	Underground Water Supply Pipe
Detention Basin	Gate Valve	Drainage Ditch
County Boundary	Flap Gate	Underground Storm Drain
Well	Slide Gate	Flow Direction for Water Supply and Drainage Ditch
A: 10N04E31B001M-4M	B: 10N04E21B002M	Flow Direction for Water Supply Ditch
C: 10N03E35A001M	D: 09N04E08L001M	Flow Direction for Drainage Ditch

Source: LSA, 2024

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The only above-ground surface water resource in the Project Study Area is the Gunite Ditch near the location where the hydrant fuel line is proposed to be extended.

3.13.2.2 Significance Threshold

FAA Order 1050.1F defines the FAA’s significance threshold for surface waters, which states a significant impact would occur if “the action would:

- Exceed water quality standards established by federal, state, local, and tribal regulatory agencies; or
- Contaminate public drinking water supply such that the public health may be adversely affected.”

3.13.2.3 Environmental Consequences

No Action Alternative

Under the No Action Alternative, no physical changes to Airport configuration, buildings or infrastructure would occur that could affect surface water. Future Airport development would be subject to review and approval under NEPA. Therefore, the No Action Alternative would have **no effect** on surface water.

Proposed Project

Prior to construction, the selected contractor would obtain a CGP that requires the preparation and implementation of a site-specific SWPPP. The SWPPP would include stormwater, erosion, and sediment control BMPs to minimize or prevent pollutants from entering adjacent surface waters during construction.

Following construction, the Proposed Project would expand airport pavement further west of Concourse B by approximately 308 feet for a total of 230,100 square feet of new impervious surface area. The hydrant fuel line would be installed underground beneath the existing apron and adjacent to existing roadways. While the proposed hydrant fuel line would cross the Gunite Ditch along the existing bridge, the construction and operation of the hydrant fuel line would not encroach upon the Gunite Ditch. The remainder of project activities occur on existing impervious surfaces.

Existing underground storm drains that underlie the Project Study Area may be modified during construction to accommodate the new development. However, the increase in the amount and rate of stormwater runoff can be accommodated by the Airport’s existing stormwater management system. Stormwater runoff would continue to drain west to the Airport West Ditch, and then south to the West Drainage Canal.

Implementation of the Proposed Project would not exceed water quality standards established by federal, state, or local regulatory agencies, nor contaminate public drinking water supply such that public health would be adversely affected.

Therefore, the Proposed Project would have **no significant effect** on surface waters.

3.13.2.4 Mitigation Measures

All work would be conducted in compliance with the CGP and SWPPP. Additional mitigation measures are not required or proposed.

3.13.3 Groundwater

According to the FAA 1050.1F Desk Reference, “groundwater is subsurface water that occupies the space between sand, clay, and rock formations. The term ‘aquifer’ is used to describe the geologic layers that store or transmit groundwater to wells, springs, and other water sources.”

3.13.3.1 Affected Environment

The Project Study Area is not located within a Sole Source Aquifer area. The nearest Sole Source Aquifer is the Santa Margarita Aquifer, over 100 miles south of the Project Study Area (U.S. Environmental Protection Agency, 2024).

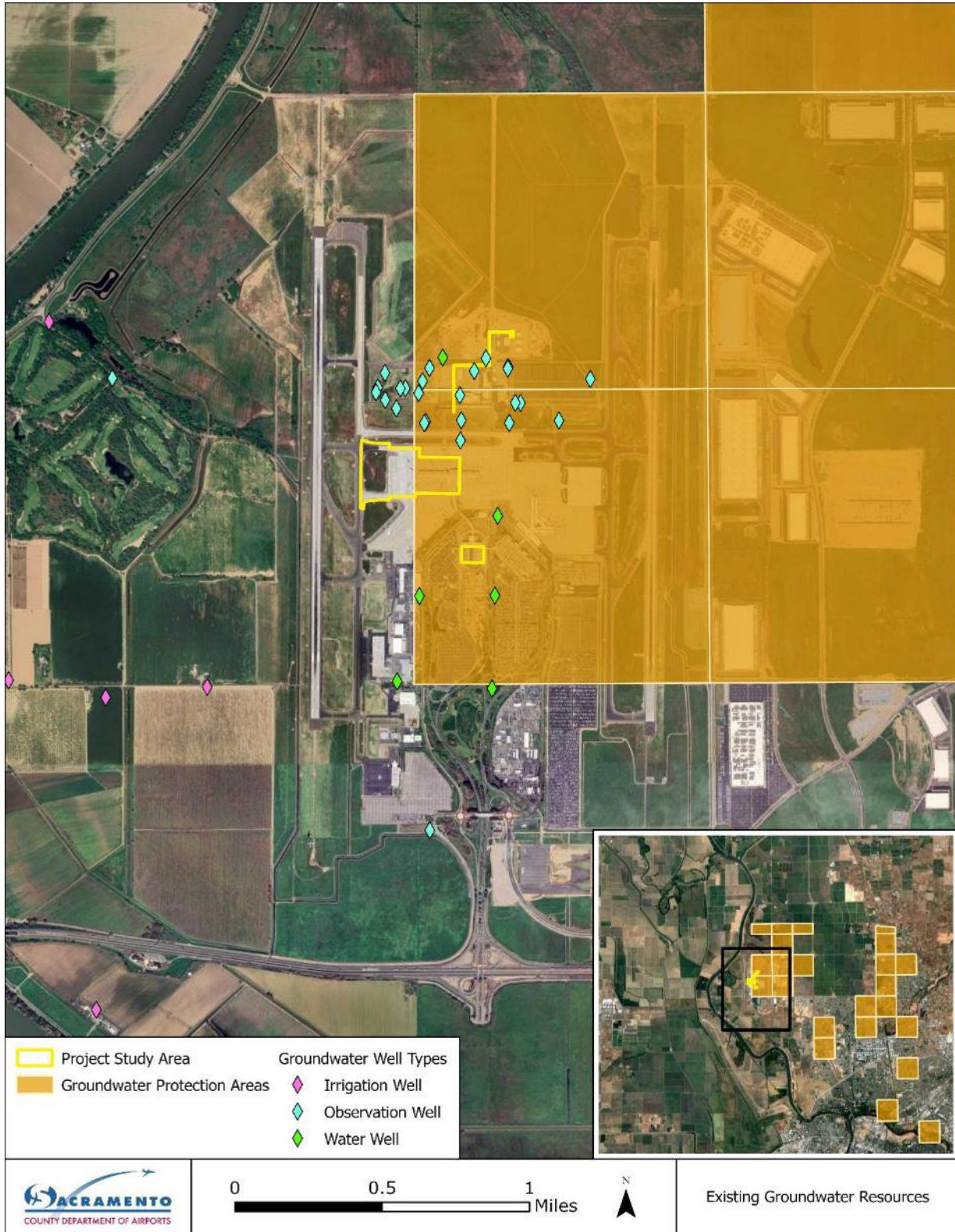
However, portions of the Airport and Project Study Area are located within designated runoff-type Groundwater Protection Areas (GWPA) (California Department of Pesticide Regulation, 2004) (see **Exhibit 3-11**). As defined by the California Department of Pesticide Regulation (DPR), GWPAs are “one-square-mile sections of land that have been determined by the DPR Director to be sensitive to the movement of pesticides to groundwater” (California Department of Pesticide Regulation, 2024). A runoff GWPA is where pesticide residues are carried in runoff with more direct routes to groundwater sources (i.e., wells, soil cracks, areas where leaching can occur, etc.). A runoff GWPA has an estimated depth-to-groundwater of 70 feet or less with soil containing a hardpan layer.

While there are multiple groundwater resources located within the Airport boundaries, however, none are located within the Project Study Area (see **Exhibit 3-11**). The nearest Sacramento Groundwater Authority (SGA) groundwater monitoring well to the Project Study Area is MW-AB4, located about one mile south of the Project Study Area (Sacramento Groundwater Authority, 2024). Groundwater levels monitored at MW-AB4 are around 15 feet or more below the ground surface.

The nearest local wells used for observation and irrigation purposes are located about 0.85 miles west and southwest of the Project Study Area (California Department of Water Resources, 2024).

There are seven water wells on Airport property (see **Exhibit 3-11**). Three of the water wells are used as auxiliary, backup sources of water for potable and fire suppression purposes. One water well is used solely as a source of landscape irrigation in the area south of Terminal A. One water well is used for irrigation purposes. One water well is used for construction purposes only. The seventh water well is not in use.

**EXHIBIT 3-11
EXISTING GROUNDWATER RESOURCES**



Source: CDPR, 2024; CDWR, 2024; RS&H, 2024

On March 20, 2019, the SWRCB issued Order WQ 2019-0005-DWQ – Water Code Section 13267 Order for the Determination of the Presence of Per- and Polyfluoroalkyl Substances. Within this Order, the SWRCB identified airports that are regulated under the FAA Part 139 program, and thus are required to use aqueous film forming foam (AFFF) as a Class B firefighting agent. The Order listed SMF as a facility that has accepted, stored, or used AFFF materials potentially containing per- and polyfluoroalkyl substances (PFAS).

In response to Order WQ 2019-0005-DWQ, preliminary site investigation activities were conducted in 2019. Following the 2019 activities, the SWRCB requested that 24 groundwater observation wells be installed to test soil and groundwater at the Airport (see **Exhibit 3-11**). These wells were installed in 2024.

3.13.3.2 Significance Threshold

FAA Order 1050.1F defines the FAA’s significance threshold for groundwater, which states a significant impact would occur if “the action would:

- Exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies; or
- Contaminate an aquifer used for public water supply such that public health may be adversely affected.”

3.13.3.3 Environmental Consequences

No Action Alternative

Under the No Action Alternative, no physical changes to Airport configuration, buildings or infrastructure would occur that would require excavation in the saturated zone. The No Action Alternative would not result in a change in groundwater extractions or recharge rates. Therefore, the No Action Alternative would have **no effect** on groundwater.

Proposed Project

The maximum depth of excavation for construction of the Proposed Project is estimated to be approximately 5 feet in locations of hydrant line installation and down to a maximum depth of 45 feet for the expanded concourse foundations. As noted in **Section 3.13.3.1**, depth to groundwater is around 15 feet or more below the surface. Due to the depth of the foundations, there is a potential that construction of the Proposed Project would encounter groundwater during construction. In case of the need for dewatering during construction, a SWPPP would be implemented to comply with the CGP, which includes erosion and sediment control BMPs, spill prevention and response measures, and other pollution prevention measures to protect water resources, including groundwater.

Following construction, impervious surfaces would increase by approximately 230,100 square feet. The increase in the amount and rate of stormwater can be

accommodated by the Airport’s existing stormwater management system and would not change existing drainage patterns in the Project Study Area. Implementation of the Proposed Project would not exceed water quality standards established by federal, state, or local regulatory agencies, nor contaminate public drinking water supply such that public health would be adversely affected.

Because the location of the foundations would be outside of the groundwater protection area, the Proposed Project does not involve any groundwater withdrawals or construction activities associated with new or existing wells, and through compliance with the CGP that includes implementation of a SWPPP during construction, the Proposed Project would have **no significant effect** on groundwater.

3.13.3.4 Mitigation Measures

All work would be conducted in compliance with the CGP and SWPPP. Additional mitigation measures are not required or proposed.

3.14 CUMULATIVE IMPACTS

This section identifies past, present, and reasonably foreseeable actions that, when considered in combination with the Proposed Project, could potentially contribute to significant cumulative impacts to the environmental resource categories assessed in this chapter.

3.14.1 Affected Environment

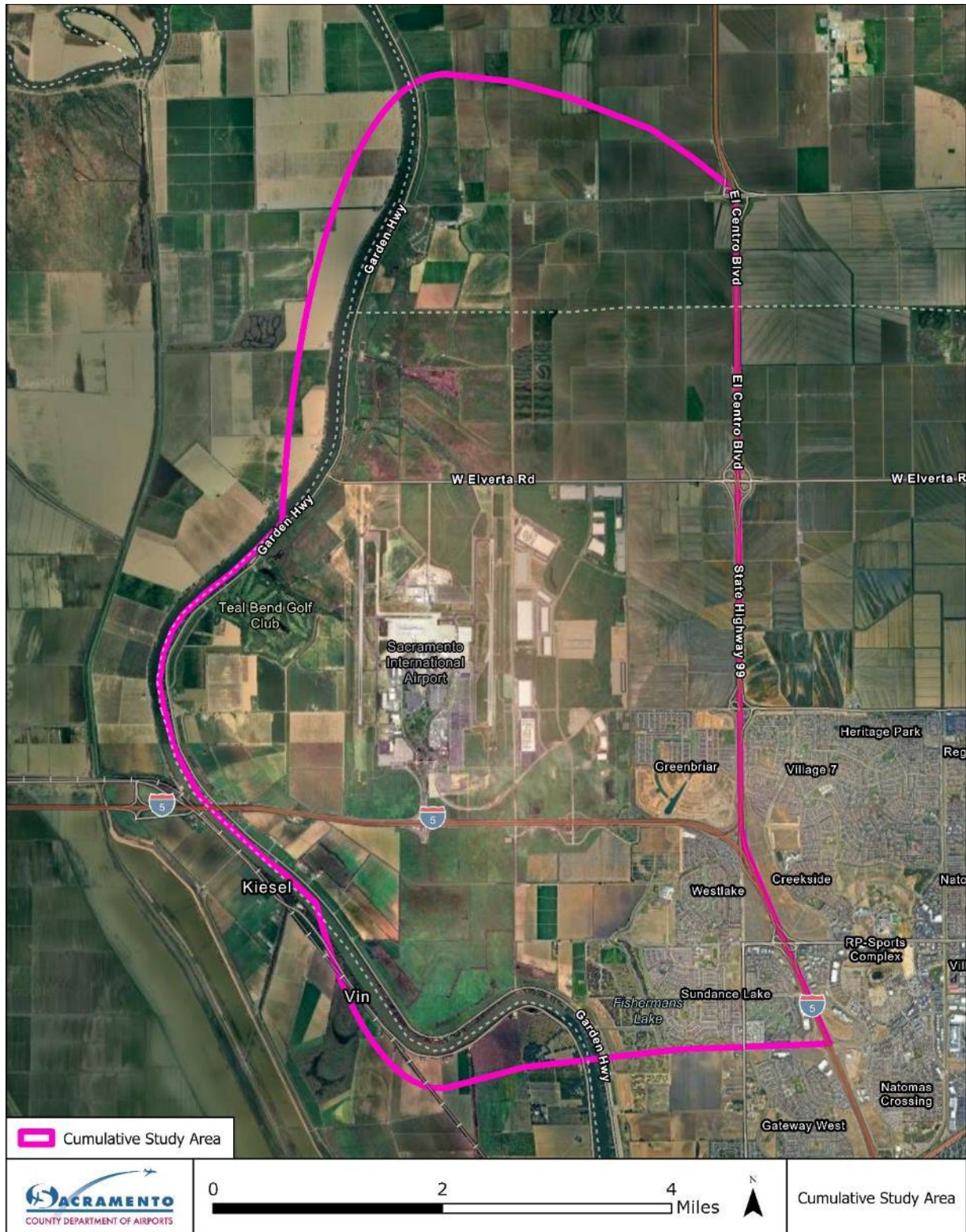
A Cumulative Study Area was developed for the discussion of cumulative impacts (see **Exhibit 3-12**). The Cumulative Study Area was developed starting with the General Study Area, which includes the Airport’s existing noise contours, and was then expanded out to natural boundaries and major roadways in the vicinity of the Airport.

Table 3-20 identifies the past, present, and reasonably foreseeable actions that have occurred, are currently taking place, or will occur on- and off-Airport property within the Cumulative Study Area.

The past, present, and reasonably foreseeable actions identified were researched using federal, state, and local agency websites, such as from the City of Sacramento, Sacramento County, Sutter County, Yolo County, and Caltrans District 3. On-Airport projects were identified from information provided by SCDA staff.

As there is no potential to affect the environmental resource categories listed in **Section 3.3**, these resources are not further evaluated for cumulative impacts. Similarly, environmental resource categories identified in **Section 3.4** through **Section 3.13**, in which the Proposed Project would have no effect when compared to the No Action Alternative, are not further evaluated for cumulative impacts. These resources include: historical, architectural, archaeological, and cultural

**EXHIBIT 3-12
CUMULATIVE STUDY AREA**



Source: RS&H, 2024

**TABLE 3-20
PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE PROJECTS IN THE CUMULATIVE STUDY AREA**

Project	Project Description	Project Status	Construction Years
Sacramento International Airport			
Pedestrian Walkway	Construction of a pedestrian skybridge connecting Terminal B to Concourse B via a central hub building at the Airport	In Progress	2024-2025
PMCM Campus and Materials Testing Lab	Construction of five trailers and a ~3,000 sq ft lab at the Airport	In Progress	2024-2025
Terminal B Parking Garage	Construction of five story 5,500 space parking garage on ~7 acres at the Airport	In Progress	2024-2026
Near Term Augmentation Gates	Construction of three new passenger boarding bridges (Two on Concourse B, one on Concourse A) at the Airport	Approved	2024-2025
Ground Transportation Center (GTC)	Roadway improvements leading to consolidated curbsides between Terminal B and Terminal A Garage at the Airport	Approved; In Design	2025-2027
Terminal A Exit Roadway	Roadway improvements to allow Terminal A traffic to bypass Terminal B and the GTC to exit the Airport directly	Approved; In Design	2025-2026
WattEV Commercial Charging Center	Construction of rest stop with EV charging for trucks and cars powered by 65-acre solar farm at the Airport	Planned	2025-2026
Terminal A Expansion	Construction of additional baggage claim lobby space to the west, additional office space to the east at the Airport	Planned	2026-2027
Consolidated Rental Car Center	Construction of a six-story garage with offices, light maintenance, and QTA facilities	Planned	2026-2028

Project	Project Description	Project Status	Construction Years
Sacramento County			
Elverta Road Widening	Widen and overlay Elverta Road from Lone Tree Road to State Route 99.	Programmed	TBD
Metro Air Park	Development of 1,320 acres as a business park adjacent to the Airport to accommodate industrial, manufacturing, distribution, and commercial use.	Approved	2025-2030
Upper Westside Specific Plan	Construction of an urban, commercial mixed-use town center that includes about 9,350 dwelling units, commercial uses, three K-8 school sites, on high school site, several parks, a vocational training campus, and other amenities.	Proposed	2030-2044
City of Sacramento			
Northlake (formerly Greenbriar)	Construction of a mixed-use development consisting of about 3,000 residential units, 28.6 acres for commercial, 32.5 acres for parks and recreational use, a 9.9-acre school site, and 57.9 acres for open space buffers	In Progress	2022-unknown
Airport South Industrial Park	Development of an industrial park that would allow for industrial uses, as well as retail/highway commercial uses, including hotel/hospitality uses, on approximately 13.4 acres of the overall site	Proposed	2023-2033
Sutter County			
Sutter Pointe “South Employment Village”	Development of 1,428 acres to accommodate employment-related uses including the following: industrial and office uses, warehousing, business parks with commercial support services, drainage basins, and a fire station.	Approved	Phase I: 2024-unknown Other phases unknown

Project	Project Description	Project Status	Construction Years
Caltrans			
I-5 Managed Lanes Project	Construction of managed lanes on both directions on I-5 in Sacramento County from the I-5 and US 50 Interchange to the Sacramento River Bridge and the Sacramento-Yolo County Line.	Proposed	2028-2030

Source: RS&H, 2024; SCDA, 2024

resources; socioeconomics, environmental justice, and children’s environmental health and safety risks; and visual.

Cumulative impacts are only evaluated for resources the Proposed Project would have the potential to affect (e.g., air quality) in combination with past, present, and reasonably foreseeable future actions.

3.14.2 Significance Threshold

The analysis of potential cumulative impacts uses the same thresholds of significance identified in FAA Order 1050.1F that FAA has developed for each individual environmental resource category.

3.14.3 Environmental Consequences

3.14.3.1 No Action Alternative

Under the No Action Alternative, SCDA would not implement the Proposed Project and no physical changes to Airport configuration, buildings, or infrastructure would occur. SCDA would continue to operate the Airport and serve forecast aviation demands. Therefore, the No Action Alternative would not cause cumulative effects when considered with past, present, and reasonably foreseeable future projects.

3.14.3.2 Proposed Project

Based on the assessment performed in **Section 3.4** through **Section 3.13**, the Proposed Project would have less than significant environmental effects on the environmental resource categories listed in this Section. Therefore, cumulative impacts were assessed for these environmental resource categories.

Air Quality

Sacramento County is in nonattainment for specific levels of O₃, PM_{2.5}, and PM₁₀ under federal (U.S. Environmental Protection Agency, 2024c) and/or state (Sacramento Metropolitan Air Quality Management District, 2024b) standards. The Proposed Project, in addition to past, present, and reasonably foreseeable future actions listed in **Table 3-20**, would result in a temporary increase in emissions related to construction in the cumulative impact study area. During demolition and construction activities, airport development projects, transportation projects, and other area development projects would generate temporary impacts to regional and local air quality. Construction of reasonably foreseeable future actions may coincide with the Proposed Project. **Table 3-21** identifies the construction emissions of the Proposed Project in combination with the construction emissions of the projects

**TABLE 3-21
CUMULATIVE AIR QUALITY CONSTRUCTION EMISSIONS ESTIMATES**

Project ^{a/}	Emissions (tons per year)					
	CO	VOC	NO _x	SO ₂	PM ₁₀	PM _{2.5}
2025						
Proposed Project	8.02	1.06	3.36	0.03	0.92	0.14
Terminal B Parking Garage (SMF)	2.70	0.24	2.04	<0.01	0.43	0.02
WattEV Commercial Charging Center (SMF)	2.45	0.28	2.75	0.01	0.38	0.20
Airport South Industrial Park (City of Sacramento)	10.96	6.11	7.55	0.05	3.87	1.05
Total Emissions of Construction and Demolition	24.13	7.69	15.70	0.10	5.60	1.41
USEPA <i>De Minimis</i> Threshold	100	25	25	100	100	100
Emissions below <i>de minimis</i> thresholds?	Yes	Yes	Yes	Yes	Yes	Yes
2026						
Proposed Project	12.97	1.74	4.72	0.05	0.75	0.20
Terminal B Parking Garage (SMF)	0.13	0.09	0.09	<0.01	0.01	<0.01

Project ^{a/}	Emissions (tons per year)					
	CO	VOC	NO _x	SO ₂	PM ₁₀	PM _{2.5}
WattEV Commercial Charging Center (SMF)	0.18	0.20	0.14	<0.01	0.01	0.01
Airport South Industrial Park (City of Sacramento)	12.70	7.79	8.91	0.05	4.20	1.22
Total Emissions of Construction and Demolition	25.98	9.82	13.86	0.12	4.97	1.44
USEPA <i>De Minimis</i> Threshold	100	25	25	100	100	100
Emissions below <i>de minimis</i> thresholds?	Yes	Yes	Yes	Yes	Yes	Yes
2027						
Proposed Project	6.28	0.73	2.75	0.02	0.53	0.10
Airport South Industrial Park (City of Sacramento)	12.23	7.73	8.74	0.05	4.20	1.22
Total Emissions of Construction and Demolition	18.51	8.46	11.49	0.07	4.73	1.32
USEPA <i>De Minimis</i> Threshold	100	25	25	100	100	100

Project ^{a/}	Emissions (tons per year)					
	CO	VOC	NO _x	SO ₂	PM ₁₀	PM _{2.5}
Emissions below <i>de minimis</i> thresholds?	Yes	Yes	Yes	Yes	Yes	Yes
2028						
Proposed Project	10.85	1.39	3.02	0.04	0.75	0.14
Airport South Industrial Park (City of Sacramento)	11.78	7.64	8.56	0.05	4.18	1.21
Total Emissions of Construction and Demolition	22.63	9.03	11.58	0.09	4.93	1.35
USEPA <i>De Minimis</i> Threshold	100	25	25	100	100	100
Emissions below <i>de minimis</i> thresholds?	Yes	Yes	Yes	Yes	Yes	Yes
2029						
Proposed Project	3.34	0.29	0.81	0.01	0.07	0.04
Airport South Industrial Park (City of Sacramento)	0.45	0.51	0.30	<0.01	0.17	0.05
Total Emissions of Construction and Demolition	3.79	0.80	1.11	0.02	0.24	0.09

Project ^{/a/}	Emissions (tons per year)					
	CO	VOC	NO _x	SO ₂	PM ₁₀	PM _{2.5}
USEPA <i>De Minimis</i> Threshold	100	25	25	100	100	100
Emissions below <i>de minimis</i> thresholds?	Yes	Yes	Yes	Yes	Yes	Yes

/a/ Based on available construction schedule information, the following projects would be completed prior to the start of construction of the Proposed Project or would otherwise not overlap, so they are not included in **Table 3-21**: Pedestrian Walkway (SMF), PMCM Campus and Materials Testing Lab (SMF), Near Term Augmentation Gates (SMF), Upper Westside Specific Plan (Sacramento County).

The following projects have been identified on the FAA’s Presumed to Conform list (72 FR 6641), so did not prepare a construction emissions inventory: Near Term Augmentation Gates (SMF).

Construction emissions were not available for the following projects or portions of projects that would occur concurrently with the Proposed Project, so they are not included in **Table 3-21**: Ground Transportation Center (GTC) (SMF), Terminal A Exit Roadway (SMF), Terminal A Expansion (SMF), Consolidated Rental Car Center (SMF), Elverta Road Widening (Sacramento County), Metro Air Park (Sacramento County), Northlake (formerly Greenbriar) (City of Sacramento), Sutter Pointe “South Employment Village” (Sutter County), I-5 Managed Lanes Project (Caltrans).

listed in **Table 3-20** that have overlapping construction schedules.²⁶ As shown, the construction emissions from the Proposed Project combined with the available construction emissions from reasonably foreseeable actions that would be in construction at the same time as the Proposed Project would not cumulatively cause an exceedance of the NAAQS. Construction emissions were not readily available from many of the reasonably foreseeable actions. However, each project identified in **Table 3-20** would be required to implement BMPs to reduce construction emissions, as required by local, regional, state, and federal laws. Therefore, while these projects could be under construction at the same time and the Proposed Project would contribute to an increase in construction emissions, the Proposed Project's contribution to cumulative air quality effects is not expected to be cumulatively considerable. This is because the Proposed Project would not have a significant effect on air quality and the temporary, periodic impacts associated with construction would be minimized through the use of environmental controls, including the BMPs identified in **Section 3.4.4**, that would reduce construction emissions. .

Operation of the Proposed Project would not be considered a “major source of air pollutants” and would not cause or create a reasonably foreseeable emission increase. Nonetheless, SCDA is committed to best management practices (BMPs) and reasonably available control measures to further minimize air emissions (see **Section 3.4.4**). Therefore, the Proposed Project, when considered with past, present and reasonably foreseeable future actions, would have **no significant cumulative impact** on air quality.

Biological Resources

Due to the proximity of the Project Study Area to the active airfield and the ongoing disturbance from airport operations and maintenance activities, the Project Study Area does not contain quality habitat for wildlife species or migratory birds. While the Swainson's hawk, tricolored blackbird, and other non-listed migratory birds may occasionally traverse the Project Study Area, migratory birds are unlikely to use the Project Study Area due to lack of quality breeding, foraging, perching, and

²⁶ Based on available construction schedule information, the following projects would be completed prior to the start of construction of the Proposed Project or would otherwise not overlap, so they are not included in **Table 3-21**: Pedestrian Walkway (SMF), PMCM Campus and Materials Testing Lab (SMF), Near Term Augmentation Gates (SMF), Upper Westside Specific Plan (Sacramento County). The following projects have been identified on the FAA's Presumed to Conform list (72 FR 6641), so did not prepare a construction emissions inventory: Near Term Augmentation Gates (SMF). Construction emissions were not available for the following projects or portions of projects that would occur concurrently with the Proposed Project, so they are not included in **Table 3-21**: Ground Transportation Center (GTC) (SMF), Terminal A Exit Roadway (SMF), Terminal A Expansion (SMF), Consolidated Rental Car Center (SMF), Elverta Road Widening (Sacramento County), Metro Air Park (Sacramento County), Northlake (formerly Greenbriar) (City of Sacramento), Sutter Pointe “South Employment Village” (Sutter County), I-5 Managed Lanes Project (Caltrans).

sheltering habitat. If encountered during construction, migratory birds would likely relocate to available, suitable habitat in the vicinity of the Project Study Area and remain unharmed. Overall, the Proposed Project would have no significant effect on federally listed species, state-listed species, migratory birds, or general wildlife species.

Each project listed in **Table 3-20** would be individually evaluated for the potential presence of special status and migratory bird species. Most of the past, present, and reasonably foreseeable actions occur on Airport property, which provides low habitat value due to the high levels of human activity and active management (e.g., mowing) of vegetation on Airport property. Likewise, the County and Caltrans transportation actions occur on paved and/or graded surfaces with low habitat value. Due to lack of suitable or quality habitat within areas of construction, the cumulative actions listed are not anticipated to significantly affect biological resources. Therefore, the Proposed Project, when considered with past, present, and reasonably foreseeable actions, would have **no significant cumulative effect** on biological resources.

Climate

The Proposed Project in addition to past, present, and reasonably foreseeable future actions listed in **Table 3-20** would result in *de minimis*, temporary construction emissions that include GHG emissions. Construction of reasonably foreseeable future actions may coincide with the Proposed Project; however, the Proposed Project would not result in a significant contribution to climate effects. Additionally, the foreseeable state of the environment is not expected to change significantly over the limited construction duration. Therefore, the Proposed Project, when considered with past, present, and reasonably foreseeable future actions, would have **no significant cumulative impact** on climate.

Hazardous Materials, Solid Waste, and Pollution Prevention

The Project Study Area does not contain any known hazardous materials, and hazardous materials are unlikely to be encountered during construction. The Proposed Project would involve the use of hazardous materials (e.g., oils and fuels) during construction and would temporarily generate solid waste. However, the contractor would be required to properly handle and dispose of hazardous materials and solid waste. The contractor would obtain all required permits, including a CGP that includes the development of a project-specific SWPPP. The SWPPP would include BMPs for spill prevention, response, and pollution prevention measures to minimize or prevent the release of hazardous substances into the environment during construction. Any hazardous substances generated or encountered during construction would be managed and disposed of by the contractor in compliance with federal, state, and local hazardous materials management guidelines. Therefore, the Proposed Project, when considered with past, present, and

reasonably foreseeable actions, would have **no significant cumulative effect** on hazardous materials, solid waste, and pollution prevention.

Natural Resources and Energy Supply

The Proposed Project would temporarily increase the use of natural resources and electricity during construction. Construction of reasonably foreseeable actions may coincide with the Proposed Project; however, short-term increases in natural resources and energy use can be accommodated through regional sources without creating a shortage in resources. Over the long term, the Proposed Project and some of the actions listed in **Table 3-20**, specifically the larger development projects, would increase the demand for electricity; however, these projects would be required to submit applications to SMUD to meet meter installation and connection requirements, including the incorporation of energy-saving measures. Therefore, the Proposed Project, when considered with past, present, and reasonably foreseeable actions, would have **no significant cumulative effect** on natural resources or energy supply.

Noise and Noise-Compatible Land Use

The Proposed Project would not result in an increase in operational activity and would not result in any operational noise effects when compared to the No Action Alternative. Therefore, the Proposed Project would not contribute to cumulative operational noise impacts, including traffic, and only construction noise is addressed in this section.

The Proposed Project, in addition to past, present, and reasonably foreseeable future actions listed in **Table 3-20** would result in temporary construction-related noise. Construction of reasonably foreseeable future actions may coincide with the Proposed Project. Because construction of the Proposed Project and other on-Airport projects could overlap, there is potential for cumulative construction noise to reach levels above those level associated with construction of the Proposed Project. However, construction noise is temporary in nature and the nearest noise sensitive land uses are approximately one mile away (5,280 feet). In addition, construction noise typically dissipates at a rate of approximately 6 dB for each doubling of distance (between the noise source and the receptor, which is the location that is representative of where the sound would be experienced (e.g., a residence)). As an example, the typically loudest piece of construction equipment, a jackhammer, generates a noise level of approximately 88 dBA at 50 feet from the noise source. Based on a sound dissipation rate of 6 dB per doubling of distance, a sound level of 88 dBA at 50 feet from the noise source would be approximately 82 dBA at a distance of 100 feet, 76 dBA at a distance of 200 feet, and so on. Therefore, a jackhammer that is 88 dBA from 50 feet away, would be 49 dBA at 4,800. Because other projects are adjacent to the sensitive noise receptor that is closest to the Proposed Project, the construction noise from the Proposed Project would not be audible or contribute to the construction noise occurring at these

other projects. Therefore, the Proposed Project, when considered with past, present and reasonably foreseeable future actions, would have **no significant cumulative impact** on noise and noise-compatible land use.

Water Resources

As the entire Cumulative Study Area lies within the floodplain, proposed improvements would be required to elevate or floodproof to a minimum 1 foot above the hydraulic grade line for 100-year storm event for the adjacent storm sewer system. Building and utility improvements below this elevation must be appropriately floodproofed documentation provided to the City of Sacramento by a qualified licensed professional. Past, present, and reasonably foreseeable projects would also be required to adhere to applicable laws to prevent or minimize floodplain impacts. Therefore, the Proposed Project combined with past, present, and reasonably foreseeable projects would result in **no significant effect** on floodplains.

While the Proposed Project results in a net increase in impervious surfaces, the increase in the amount and rate of stormwater is negligible and can be accommodated by the Airport's existing stormwater management system. While each past, present, and reasonably foreseeable future project would be individually evaluated for effects to water resources, City, County, and State projects require erosion and sediment control BMPs to be implemented during construction, and a CGP that includes a SWPPP would likely be required. This would minimize the potential for discharge of sediment and other pollutants into water resources. Therefore, the Proposed Project, when considered with past, present, and reasonably foreseeable future actions, would have **no significant cumulative effect** on water resources.

3.14.4 Conclusions

Based on the cumulative effects analysis, it is concluded that the Proposed Project, when added to past, present, and reasonably foreseeable actions, would have **no significant cumulative effect** on any of the environmental resource categories.

This conclusion was reached because:

1. The Proposed Project results in no effects or *de minimis* effects (i.e., so small as to be negligible or insignificant);
2. The effects associated with the construction of the Proposed Project are temporary in nature; and/or
3. Mitigation measures, implementation of BMPs, and compliance with applicable regulations and permits for the Proposed Project, when implemented, would result in no significant environmental effects.

CHAPTER 4
AGENCY COORDINATION AND PUBLIC
INVOLVEMENT

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4.1 INTRODUCTION

Under 40 CFR § 1500, federal agencies are required to involve environmental agencies, applicants, and the public, to the extent practicable, in the preparation of EAs.

The Environmental Assessment (EA) coordination process described in this chapter provided interested agencies, applicants, and the public the opportunity to comment on potential effects of the construction and operation of the Proposed Project.

As the National Environmental Policy Act (NEPA) and the Federal Aviation Administration (FAA) Order 1050.1F recommend for the EA, an agency and public involvement process was conducted. This process provided the opportunity for public and agency input regarding the Proposed Project discussed in this EA and was initiated to achieve the following:

- Inform interested parties that the EA will provide a full and fair discussion of project-related environmental effects.
- Provide timely public notices to interested parties so that they may submit comments and participate in public open meetings concerning the Proposed Project.
- Record comments received from interested parties.

4.2 PUBLIC INVOLVEMENT AND DISTRIBUTION OF DRAFT ENVIRONMENTAL ASSESSMENT

A public review of the Draft EA was conducted during the NEPA process. SCDA published a notice of availability for the Draft EA in the Sacramento Bee and on the Airport’s website (<https://sacramento.aero/smf>) on Friday, December 20, 2024. The Draft EA is being made available for a 40-day review period (ending Tuesday, January 29, 2025) at the SCDA offices and North Natomas Library during normal business hours and on the Airport’s website (see **Table 4-1**). The public comment period has been voluntarily extended from 30 days to 40 days to give the public time to submit comments following the public meeting scheduled for January 22, 2025. Comments on the Draft EA will be addressed, as appropriate, in the Final EA.

4.3 FINAL ENVIRONMENTAL ASSESSMENT

The Final EA will be made availability at the SCDA administration offices and on the Airport’s website (<https://sacramento.aero/smf>).

**TABLE 4-1
DRAFT EA AVAILABILITY LOCATIONS**

Location Name	Address	Draft EA Format
SCDA Administration Building	6705 Lindbergh Drive, Sacramento, CA 95837	Hard Copy
North Natomas Library	4660 Via Ingoglia St, Sacramento, CA 95835	Hard Copy
SMF Website	https://sacramento.aero/smf	Electronic

Source: RS&H, 2024; SCDA, 2024

CHAPTER 5
REFERENCES

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5.1 INTRODUCTION

The following section lists the references used in order of their appearance in each chapter of the Environmental Assessment (EA). If a reference was used more than once in a chapter of the EA, only the first occurrence appears.

5.2 PURPOSE AND NEED CHAPTER

42 United States Code [U.S.C.] §§ 4321-4335

SCDA. (2020). *SMF Master plan Update*. Retrieved from https://sacramento.aero/scas/about/planning_design

5.3 ALTERNATIVES CHAPTER

No references were used in this chapter.

5.4 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES CHAPTER

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40 CFR Part 1502.14. (n.d.). Retrieved from 40 Code of Federal Regulations Part 1502.14 – Alternatives Including the Proposed Action.: <https://www.ecfr.gov/current/title-40/chapter-V/subchapter-A/part-1502/section-1502.14>

44 CFR Part 9.4. (n.d.). Floodplain Management and Protection of Wetlands - Definitions. Retrieved from Code of Federal Regulations: <https://www.ecfr.gov/current/title-44/section-9.4>

7 CFR Part 658. (1984, July 5). Retrieved from Title 7 Code of Federal Regulations Part 658 – Farmland Protection Policy Act. : <https://www.ecfr.gov/current/title-7/subtitle-B/chapter-VI/subchapter-F/part-658>

79 Federal Register 77802. (2014, December 24). Revised Draft Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas and the Effects of Climate Change in NEPA Reviews. Retrieved from Federal Register: <https://www.federalregister.gov/documents/2014/12/24/2014-30035/revised-draft-guidance-for-federal-departments-and-agencies-on-consideration-of-greenhouse-gas>

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5.5 PUBLIC OUTREACH CHAPTER

No references were used in this chapter.

5.6 LIST OF PREPARERS CHAPTER

No references were used in this chapter.

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CHAPTER 6
LIST OF PREPARERS

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6.1 INTRODUCTION

The following sections present the list of agencies, firms, and individuals that were primarily responsible for the preparation of this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). The list of individuals includes their name, title, degree, years of experience, and primary responsibility or role during the preparation of the EA.

6.2 FEDERAL AVIATION ADMINISTRATION

The Federal Aviation Administration (FAA) is the lead agency for this EA. The FAA is responsible for review and approval of this EA. The following FAA staff member was involved in the review of this EA.

David Wickens

Environmental Protection Specialist

San Francisco Airports District Office Qualifications-B.S., Resource Development; more than 30 years of environmental experience. Responsible for detailed FAA evaluation of the NEPA document of the NEPA document and regulatory agency consultations.

6.3 PRINCIPAL PREPARERS

The Sacramento County Department of Airports (SCDA) is responsible for the preparation of this EA. Listed below are the persons responsible for the preparation of this EA.

6.3.1 Sacramento County Department of Airports

Zach Frese

Project Manager/Aviation Environmental Planner

B.S. Environmental Studies

Mr. Frese has 5 years of experience. He assisted with data collection and overall management and review of the EA.

Cole T. Hartfiel

Senior Airport Planner

B.S. Economics

Mr. Hartfiel has 12.5 years of experience. He assisted with the preparation of exhibits, Purpose and Need Chapter, and Alternatives Chapter.

Glen Rickelton

Senior Airport Manager, Planning & Development

B.S., Aeronautical Science; B.S., Aviation Business Administration

Mr. Rickelton has 31 years of experience. He led Airport coordination of staff environmental and biological experts and consultant resources for the EA.

Bree Taylor
Interim Manager, Planning & Environment
B.B.A. Airport Management

Ms. Taylor has 18 years of experience. She assisted with the preparation of the Air Quality and Noise Appendices and discussions.

6.3.2 RS&H California, Inc.

Karin Bouler
Project Manager
B.A. Anthropology

Ms. Bouler has 16 years of experience. She served as the Project Manager responsible for oversight of the EA preparation and client/subconsultant coordination.

Dave Full, AICP
Project Director/Quality Control
M.A. Urban Planning; B.A. Urban Planning

Mr. Full has 40 years of experience. He served as the Project Director responsible for the quality assurance/quality control of the EA, and client coordination.

Tamsen Bingelli
Aviation Environmental Planning Specialist
M.S. Environmental Science; B.B.A. International Business

Ms. Bingelli has 18 years of experience. She assisted with the QC review of the EA and the preparation of the Biological Resource Section; Historical, Architectural, Archaeological, and Cultural Resources Section; and Water Resources Section.

Audrey Hsu
Aviation Environmental Planning Specialist
B.S. Environmental Management and Protection

Ms. Hsu has 2.5 years of experience. She assisted with the preparation of exhibits; Socioeconomic, Environmental Justice, and Children’s Health and Safety Section; Public Outreach Chapter; and Appendices.

Grayson Jarvis
Aviation Environmental Planning Specialist
B.S. Telecommunications; M.S. Geosciences – Applied Meteorology

Mr. Jarvis has 1 year of experience. He assisted in the preparation of the Hazardous Materials, Solid Waste, and Pollution Prevention Section; Natural Resources and Energy Supply Section; and Visual Effects Section.

6.3.3 HMMH

Kim Threlfall, PMP
Principal Consultant

B.A. Geology

Ms. Threlfall has 23 years of experience. She acted as the HMMH Project Manager and QA/QC of Air Quality, GHG, and Noise Technical Reports and EA Sections.

Trent Tougas
Staff Consultant

B.S. Meteorology, M.S. Applied Atmospheric Sciences

Mr. Tougas has 2 years of experience. He conducted the Air Quality and Noise analyses, including drafting of Air Quality/ Noise Tech Report and EA sections.

Vincent Ma
Consultant

B.S. Environmental Biology, Minor in Regenerative Studies

Mr. Ma has 6 years of experience. He conducted the AEDT modeling and the Noise analysis and prepared the noise technical report and EA section.

Philip DeVita
Director, Air Quality

M.S. Environmental Studies, B.S. Meteorology

Mr. DeVita has 35 years of experience. He conducted the Air Quality and Greenhouse Gas analyses and prepared the Air Quality technical report and Air Quality and GHG EA sections.

David Crandall
Principal Consultant
B.S. Aeronautical Engineering

Mr. Crandall has 26 years of experience. He prepared the AEDT input files.

6.3.4 LSA

Eric Lichtwardt
Associate / Senior Biologist

B.S. Zoology

Mr. Lichtwardt has 30 years of experience. He conducted a field survey and prepared the biological resources technical memo.

Christopher Morgan
Archaeologist RPA
B.A., M.A. Biological Anthropology

Mr. Morgan has 13 years of experience. He prepared the cultural resources technical memo.

Greg Gallagher
Associate/Senior GIS Technician
B.A. Environmental Sciences

Mr. Gallagher has 21 years of experience. He conducted GIS analysis and prepared the maps and figures for the biological and cultural resource technical memos.