FINAL
ENVIRONMENTAL ASSESSMENT

Terminal Development Program

CEQ ID No: EAXX-021-12-ARP-1726742819

San Antonio International Airport
San Antonio, Texas

Prepared for

City of San Antonio Airport System
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, Inc.

October 2024

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

Sara Orissi

Responsible Federal Official

10/23/2024

Date

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Table of Contents

List of Tables

List of Exhibits

Appendices

Abbreviations and Acronyms

A

AC	Advisory Circulars
ACHP	Advisory Council on Historic Preservation
ACRP	Airport Cooperative Research Program
ADG	Airport Design Group
AEDT	Aviation Environmental Design Tool
ALP	Airport Layout Plan
AMSL	Above Mean Sea Level
ANCA	Airport Noise and Capacity Act
APE	Area of Potential Effect
ARFF	Aircraft Rescue and Fire Fighting
ATADS	Air Traffic Activity System

B

BMPs	Best Management Practices

C

CAA	Clean Air Act
CEI	Construction Emissions Inventory
CEQ	Council of Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
ConRAC	Consolidated Rental Car Facility
CUP	Central Utility Plant
CWA	Clean Water Act
CZMA	Coastal Zone Management Area

D

dB	Decibel
DNL	Day-Night Average Sound Level

E

EA	Environmental Assessment
EMS	Environmental Management Systems
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act
ERG	Environmental Research Group LLC
ESA	Endangered Species Act

F

FAA	Federal Aviation Administration
FAC	Facultative

FACU	Facultative Upland
FACW	Facultative Wetland
FAR	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency
FFCA	Federal Facilities Compliance Act
FIRM	Flood Insurance Rate Map
FIS	Federal Inspection Services
FPPA	Farmland Protection Policy Act
FTA	Fire Training Area

G

GA	General Aviation
GCP	General Construction Permit
GHG	Greenhouse Gas
GIS	Geographical Information System
GSE	Ground Surface Equipment
GTC	Ground Transportation Center
GWP	Global Warming Potential

H

HFCs	Hydrofluorocarbons
HIRL	High Intensity Runway Lights
HMTA	Hazardous Materials Transportation Act

I

ILS	Instrument Landing System
IPaC	Information for Planning and Conservation
IPCC	Intergovernmental Panel on Climate Change
IWG	Interagency Working Group

L

LOS	Level of Service
LSA	LSA Associates, Inc.
LWCF	Land and Water Conservation Fund

M

MALS	Medium Intensity Approach Lighting System
MALSR	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
MBTA	Migratory Bird Treaty Act
MIRL	Medium Intensity Runway Lights
MMT	Million Metric Tons
MOA	Memorandum of Agreement
MOVES	Motor Vehicle Emissions Simulator

N

NAAQS	National Ambient Air Quality Standards

NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
N_2O	Nitrous Oxide
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NOMS	Noise and Operations Monitoring System
NPIAS	National Plan of Integrated Airport Systems
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory

O

O_3	Ozone
OBL	Obligate
OHP	Office of Historic Preservation
OSHA	Occupational Safety and Health Administration

P

PAPI	Precision Approach Path Indicator
Pb	Lead
PCBs	Polychlorinated Biphenyls
PEM	Palustrine Emergent
PFAS	Per-and Polyfluoroalkyl Substances
PFCs	Passenger Facility Charges
PFCs	Perfluorocarbons
PFO	Palustrine Forested
PM	Particulate Matter
PSS	Palustrine Scrub-Shrub

R

RCL	Runway Centerline Lights
RCRA	Resource Conservation and Recovery Act
REIL	Runway End Identifier Lights
RON	Remain Overnight

S

SAAS	San Antonio Airport System
SAT	San Antonio International Airport
SCC	Social Climate Cost
SC-CO_2	Social Cost of CO_2
SC-GHG	Social Cost of Greenhouse Gases
SDWA	Safe Drinking Water Act
SF_6	Sulfur Hexafluoride
SGCN	State Listed Species of Greatest Conservation Need
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO_2	Sulfur Dioxide

SSCP	Security Screening Checkpoint
SWP3	Stormwater Pollution Prevention Plan

T

TAF	Terminal Area Forecast
TCEQ	Texas Commission on Environmental Quality
TDP	Terminal Development Program
THC	Texas Historical Commission
TMDL	Total Maximum Daily Load
TNRIS	Texas Natural Resources Information System
TPDES	Texas Pollution Discharge Elimination System
TPH	Total Petroleum Hydrocarbons
TPWD	Texas Parks and Wildlife Department
TRB	Transportation Research Board
TSCA	Toxic Substances Control Act
TxNDD	Texas Natural Diversity Database

U

UPL	Upland
USACE	U.S. Army Corps of Engineers
U.S. DOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
U.S. NPS	U.S. National Parks Service
UST	Underground Storage Tank

V

VMT	Vehicle Miles Traveled
VOCs	Volatile Organic Compounds

W

WOTUS	Waters of the United States

CHAPTER 1
PURPOSE AND NEED

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1.1 INTRODUCTION

This Environmental Assessment (EA) identifies and evaluates potential environmental effects related to the proposed construction and operation of a New Terminal and related improvements at San Antonio International Airport (SAT or Airport) located in the City of San Antonio, Bexar County, Texas (see **Exhibit 1-1**).

The Federal Aviation Administration (FAA) is the lead federal agency to ensure compliance with the National Environmental Policy Act (NEPA) 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*,[1] FAA Order 1050.1F *Environmental Impacts: Policies and Procedures*,[2] FAA 1050.1F *Environmental Desk Reference*,[3] and FAA Order 5050.4B *National Environmental Policy Act* (*NEPA) Implementing Instructions for Airport Actions*,[4] applicable Executive Orders (EOs), and other applicable federal, state, and local requirements.

1.2 BACKGROUND INFORMATION

In 1941, the City of San Antonio purchased 1,200 acres of land north of the city limits to establish San Antonio Municipal Airport. The U.S. Army established Alamo Field on the northern edge of the property during World War II in 1942. The Airport was renamed San Antonio International Airport in 1944 after receiving international status. The first passenger terminal facilities were constructed in 1953 with the completion of Terminal 2, a baggage claim area, and the FAA Air Traffic Control Tower. When the Terminal was expanded in 1968, a total of 8 aircraft gates were provided. In 1984, 20 additional aircraft gates were added with the construction of Terminal 1 (now known as Terminal A) for a total of 28 aircraft gates. In 2010, Terminal 2 (now known as Terminal B) was reconstructed with 8 aircraft gates as a replacement for Terminal 2. In 2022, Terminal A had 16 operating aircraft gates, and Terminal B had 9, for a total of 25 aircraft gates. In 2023, the Airport completed the construction and opened gates A16 and B1A, giving the 27 operating aircraft gates. In 2025, the Airport is planning to construct 3 ground-loading positions; one of the ground-loading positions would replace Gate A1, resulting in 26 aircraft gates and 3 ground-loading positions (29 gates total) in 2025.

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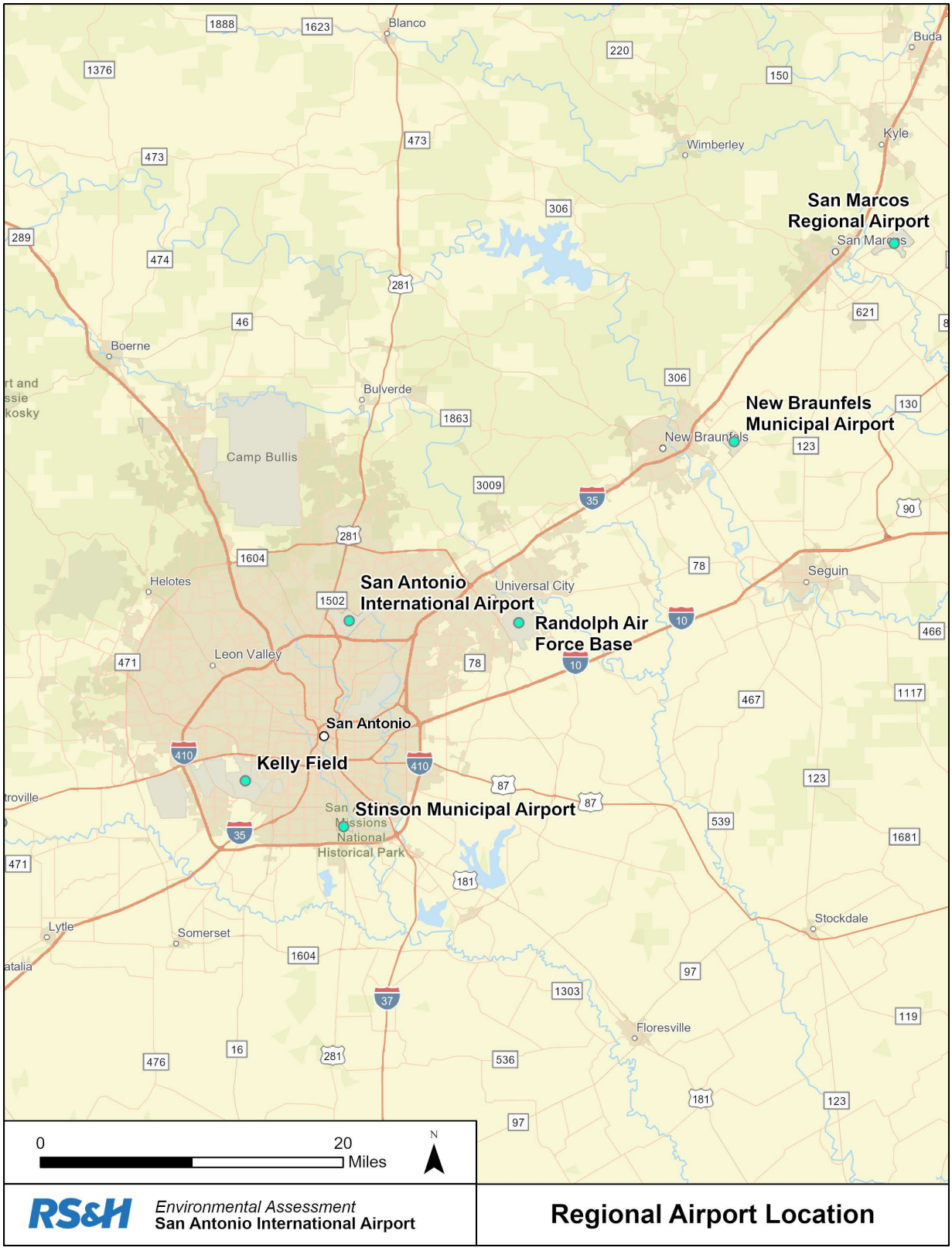
1 Title 40 Code of Federal Regulations, Subchapter A National Environmental Policy Act Implementing Regulations, Parts 1500-1508. Retrieved March 2024 from https://www.ecfr.gov/current/title-40/chapter-V/subchapter-A

2 Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

3 Federal Aviation Administration. 2023. 1050.1F Desk Reference, v3. Retrieved March 2024 from https://www.faa.gov/media/71921

4 Federal Aviation Administration. 2006. National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions. Retrieved March 2024 from https://www.faa.gov/documentLibrary/media/Order/5050.4B.pdf

EXHIBIT 1-1
REGIONAL LOCATION OF AIRPORT



Source: RS&H, 2023.

The Airport is owned and operated by the City of San Antonio (Airport Sponsor), and is managed by the San Antonio Airport System (SAAS). The Airport serves residents and businesses throughout the region (see **Exhibit 1-1**). The FAA classifies the Airport as a medium hub primary commercial service airport in the National Plan of Integrated Airport Systems (NPIAS).[5]

1.2.1 Description of Existing Airport

The Airport covers about 2,600 acres and is located about 8 miles north of downtown San Antonio. The Airport is bounded by Wurzbach Parkway to the north, Wetmore Road to the east, Interstate 410 to the south, and U.S. Highway 281 to the west. Primary access to the Airport is from Dee Howard Way, Airport Boulevard, and an elevated airport entry ramp from U.S. Highway 281 from the south.

1.2.2 Existing Runways and Passenger Terminal Building

1.2.2.1 Existing Runways

The Airport has three runways (see **Exhibit 1-2**). Runway 4-22 is 8,505 feet long by 150 feet wide, Runway 13R-31L is 8,502 feet long by 150 feet wide, and Runway 13L-31R is 5,519 feet long by 100 feet wide.[6]

1.2.2.2 Existing Passenger Terminal

The Airport has two passenger terminal buildings, Terminal A and Terminal B (see **Exhibit 1-3**). Both terminals are accessed from Airport Boulevard and have connections to the existing parking garage. Terminals A and B (see **Exhibit 1-4**) are two-level structures that provide facilities for passenger processing, inbound and outbound baggage, and a total of 26 aircraft gates and 3 ground-load positions for passenger boarding and deboarding.[7] One of the 26 aircraft gates can accommodate widebody aircraft, while 25 aircraft gates and 3 ground-load positions can accommodate narrowbody aircraft.[8] Specific facilities within Terminals A and B are identified in **Table 1-1**.

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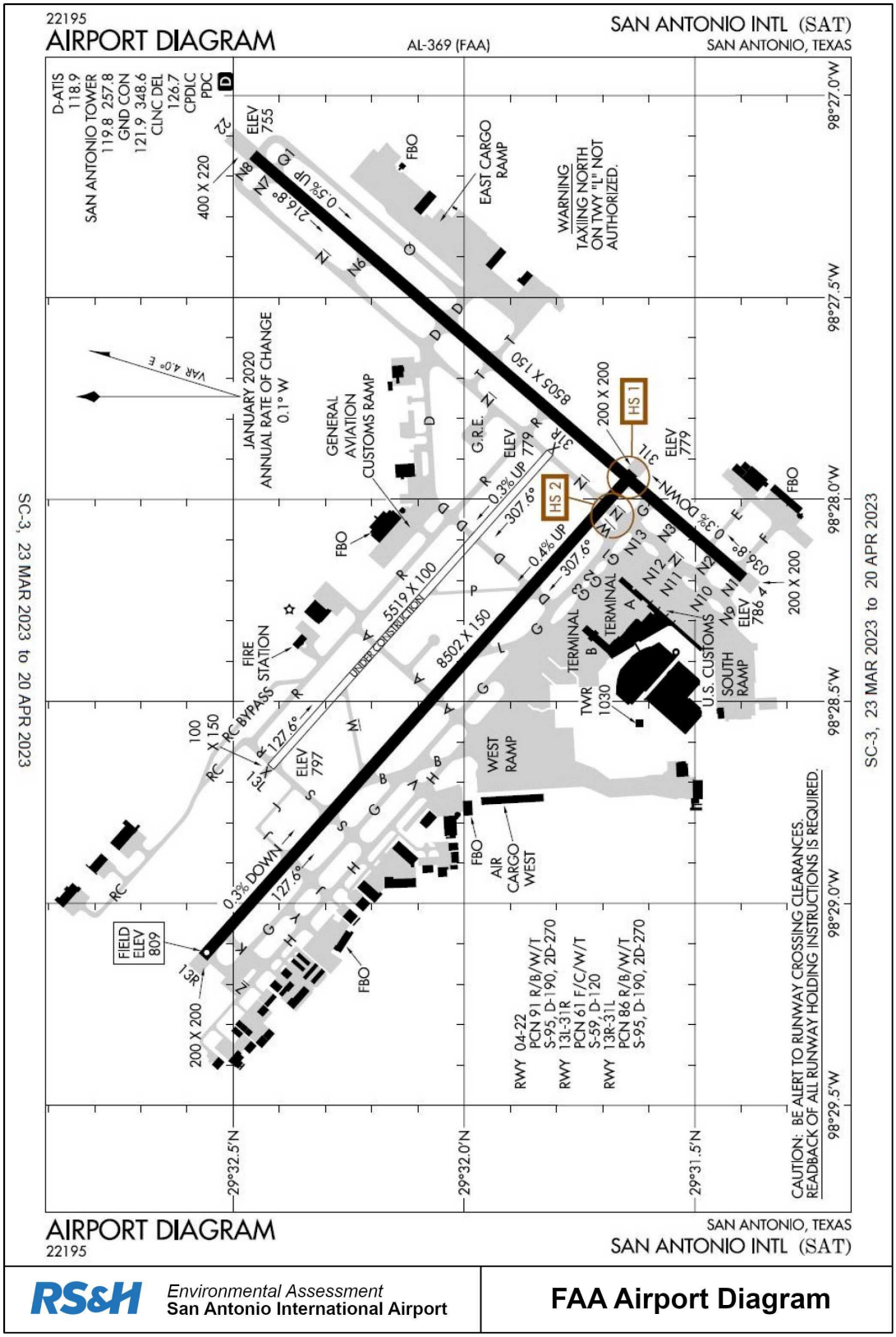
[5] Federal Aviation Administration. 2021. CY 2021 Enplanements at All Commercial Service Airports, Rank Order. Retrieved March 2024 from https://www.faa.gov/sites/faa.gov/files/2022-09/cy21-commercial-service-enplanements.pdf

[6] Federal Aviation Administration. 2024. Aeronautical Informational Services, San Antonio International Airport. Retrieved March 2024 from https://nfdc.faa.gov/nfdcApps/services/ajv5/airportDisplay.jsp?airportId=SAT

[7] Total aircraft gate count includes 3 ground-loading positions to be added in 2025 that replace Gate A1.

[8] A widebody aircraft is an aircraft usually configured with multiple aisles with more than 7-abreast seating in a cabin that is greater than 5 meters in width. A narrowbody aircraft or single-aisle aircraft is an aircraft with a single aisle with up to 6-abreast seating in a cabin that is less than 4 meters in width.

EXHIBIT 1-2
FAA AIRPORT DIAGRAM



Source: FAA, 2023.

EXHIBIT 1-3
PASSENGER TERMINAL BUILDINGS AT SAN ANTONIO INTERNATIONAL AIRPORT

Source: SAAS, 2023.

EXHIBIT 1-4
TERMINAL A AND B LAYOUT

Source: SAAS, 2023.
Notes: /a/ Gate B9 added in 2022, Gates A16, B1A, added in 2023.
/b/ 3 ground-loading positions to be added in 2025 and replaces Gate A1.

TABLE 1-1
FACILITIES IN TERMINAL A AND B

Terminal Component	Square Footage
Ticketing / Check-in	26,703
Passenger Security Screening	15,616
Aircraft Gate Holdrooms	49,310
Outbound Baggage	69,702
Inbound Baggage	20,758
U.S. Customs and Border	37,530
Airline, Office, Operations, and Clubs	57,290
Airport Admin / Operations	27,493
Concessions	49,545
Secure / Sterile Circulation	61,006
Other Public Circulation / Restrooms	126,731
TSA Offices and Support	6,810
Non-Public and Tug Circulation	28,667
Mechanical / Utilities / Storage	74,080
TOTAL	**650,611**

Source: SAAS. San Antonio International Airport Strategic Development Plan: 2021 Airport Master Plan, Published June 2021.

1.2.3 Aviation Activity

The FAA publishes the annual Terminal Area Forecast (TAF) for each airport in the federal system.[9,10] TAF data is reported based on the FAA fiscal year, which is October through September.

The FAA has released the 2023 TAF, which was the most recent version when the preparation of this EA began. **Table 1-2** provides the 2023 TAF historical aircraft operations data for the years 2003 through 2022 and the forecast aircraft operations for the years 2023 through 2033.[11] **Exhibit 1-5** illustrates the historical and forecast TAF aircraft operations data for the Airport.

[9] Federal Aviation Administration. 2021. *Federal Aviation Administration Terminal Area Forecast Summary, Fiscal Years 2021-2045*.

[10] Federal Aviation Administration. 2023. Terminal Area Forecast (TAF). Retrieved March 2024 from https://www.faa.gov/data_research/aviation/taf/

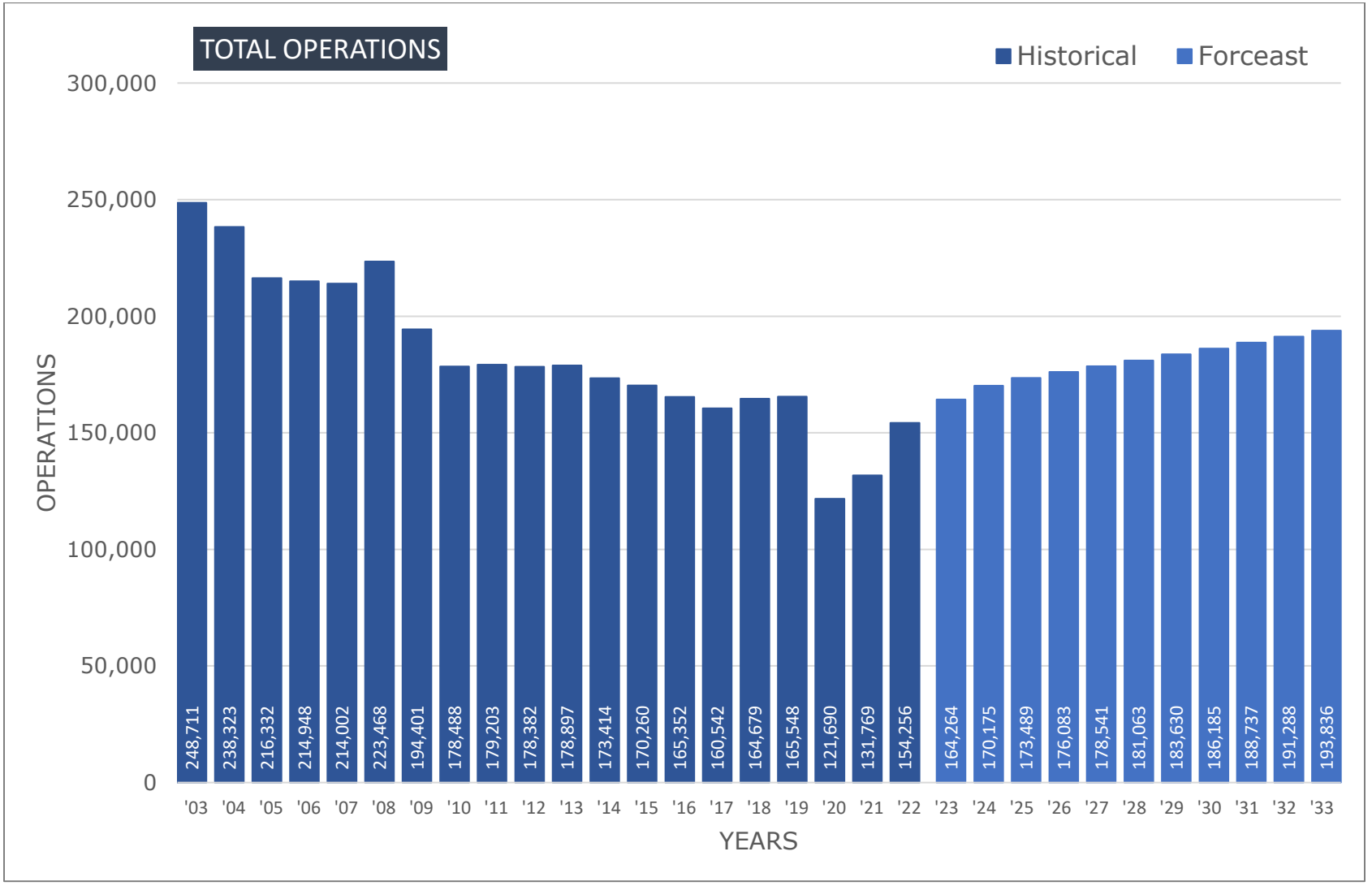
[11] The forecasts used in this EA are based on the recovery of operations to pre-Pandemic levels. The aviation activity forecast included in this EA is based on the best available data and valid assumptions. The forecast assumes that temporary downturns or upswings may occur during the forecast period. In the past, aviation activity has undergone significant, although temporary, reductions in response to economic downturns or security events such as the recession in 2008, the terrorist attacks on September 11, 2001, and the Persian Gulf War. Thus, the forecasts for 2028 and 2033 were prepared with an understanding that the Pandemic would be a temporary downturn in aviation demand.

TABLE 1-2
HISTORICAL AND FORECAST AIRCRAFT OPERATIONS AT SAN ANTONIO INTERNATIONAL AIRPORT

Historic Aircraft Operations						
TAF Year	Air Carrier	Air Taxi & Commuter	General Aviation	Military	Local Operations	Total Operations
2003	66,360	53,813	108,135	13,483	6,920	248,711
2004	81,663	40,199	99,322	10,951	6,188	238,323
2005	92,710	26,348	84,251	5,775	7,248	216,332
2006	101,636	18,963	83,036	4,289	7,024	214,948
2007	104,293	21,844	80,474	4,279	3,112	214,002
2008	109,787	21,356	87,992	4,110	223	223,468
2009	96,044	20,548	74,100	3,709	0	194,401
2010	95,704	18,488	59,637	4,659	0	178,488
2011	95,144	20,297	58,882	4,880	0	179,203
2012	95,995	21,444	55,524	5,419	0	178,382
2013	94,775	23,638	54,765	5,719	0	178,897
2014	90,504	24,582	53,073	5,255	0	173,414
2015	90,394	24,025	50,565	5,258	18	170,260
2016	87,724	22,208	50,136	5,145	139	165,352
2017	89,071	19,993	46,415	4,787	276	160,542
2018	93,029	20,861	45,549	4,784	456	164,679
2019	97,068	20,546	42,861	4,821	252	165,548
2020	65,486	16,757	35,297	4,133	17	121,690
2021	62,695	19,898	44,951	4,217	8	131,769
2022	81,590	19,781	49,148	3,681	56	154,256
Forecast Aircraft Operations						
TAF Year	Air Carrier	Air Taxi & Commuter	General Aviation	Military	Local Operations	Total Operations
2023	91,587	19,738	49,199	3,681	59	164,264
2024	97,250	19,935	49,250	3,681	59	170,175
2025	100,314	20,134	49,301	3,681	59	173,489
2026	102,656	20,335	49,352	3,681	59	176,083
2027	104,860	20,538	49,403	3,681	59	178,541
2028 /a/	107,125	20,743	49,455	3,681	59	181,063
2029	109,433	20,950	49,507	3,681	59	183,630
2030	111,726	21,160	49,559	3,681	59	186,185
2031	114,014	21,372	49,611	3,681	59	188,737
2032	116,299	21,586	49,663	3,681	59	191,288
2033 /b/	118,579	21,802	49,715	3,681	59	193,836

Notes: /a/ Opening year for the additional passenger terminal building.
/b/ Five years after the additional passenger terminal building opens.
Source: Federal Aviation Administration. 2022. Terminal Area Forecast (TAF). Retrieved March 2023 from https://www.faa.gov/data_research/aviation/taf/

EXHIBIT 1-5
HISTORICAL AND FORECAST AIRCRAFT OPERATIONS AT SAN ANTONIO INTERNATIONAL AIRPORT



Source: Federal Aviation Administration. 2022. Terminal Area Forecast (TAF). Retrieved March 2023 from https://taf.faa.gov/Home/RunReport

Table 1-3 provides the 2023 TAF historical enplanement data for years 2003 through 2022 and the forecast enplanements for years 2023 through 2033.[12] **Exhibit 1-6** illustrates the historical and forecast TAF enplanement data for the Airport.

Terminal building capacity is measured as the maximum rate of passengers (both enplaned and deplaned) over a given period and is typically measured hourly or annually. The key elements that influence passenger activity include economic and demographic characteristics as well as the geographic attributes of the area where the airport is located. In addition, aviation-related factors such as local business activity, business developments in the airline industry (mergers, alliances and new market strategies), and other elements such as changes in air fares, changes in the level of local taxes, new environmental regulations, and attitudes of residents towards aviation also affect passenger activity.[13]

As presented in a report prepared by the Airport Cooperative Research Program (ACRP), Synthesis Report No. 2, *Airport Aviation Activity Forecasting*,[14] there is no specific correlation between the size of a passenger terminal building and the number of enplanements at an airport. Specifically, the report found that:

> *"Air travel is fundamentally a derived demand. In the case of business travel, it represents an input of productivity; in the case of leisure travel, it is part of the consumption of a broader activity (e.g., taking a vacation or visiting friends or relatives). In both cases, air travel demand derives from the desire or need to be at a certain location for a certain purpose and perhaps a certain time."*

The report also discusses the drivers of airport aviation activity including the following: macroeconomic and demographic factors, airline market factors, air transport production costs and technology, regulatory factors, infrastructure constraints and improvements, and substitutes for air travel. The report does not include the construction of an expanded passenger terminal as a driver of aviation activity.

[12] The forecasts used in this EA are based on the recovery of operations to pre-Pandemic levels. The aviation activity forecast included in this EA is based on the best available data and valid assumptions. The forecast assumes that temporary downturns or upswings may occur during the forecast period. In the past, aviation activity has undergone significant, although temporary, reductions in response to economic downturns or security events such as the recession in 2008, the terrorist attacks on September 11, 2001, and the Persian Gulf War. Thus, the forecasts for 2028 and 2033 were prepared with an understanding that the Pandemic would be a temporary downturn in aviation demand.

[13] Federal Aviation Administration. 2015. FAA Advisory Circular 150/5070-6B, Chapter 7, Section 703, *Factors Affecting Aviation Activity*. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/advisory_circular/150-5070-6b-change-2-consolidated.pdf

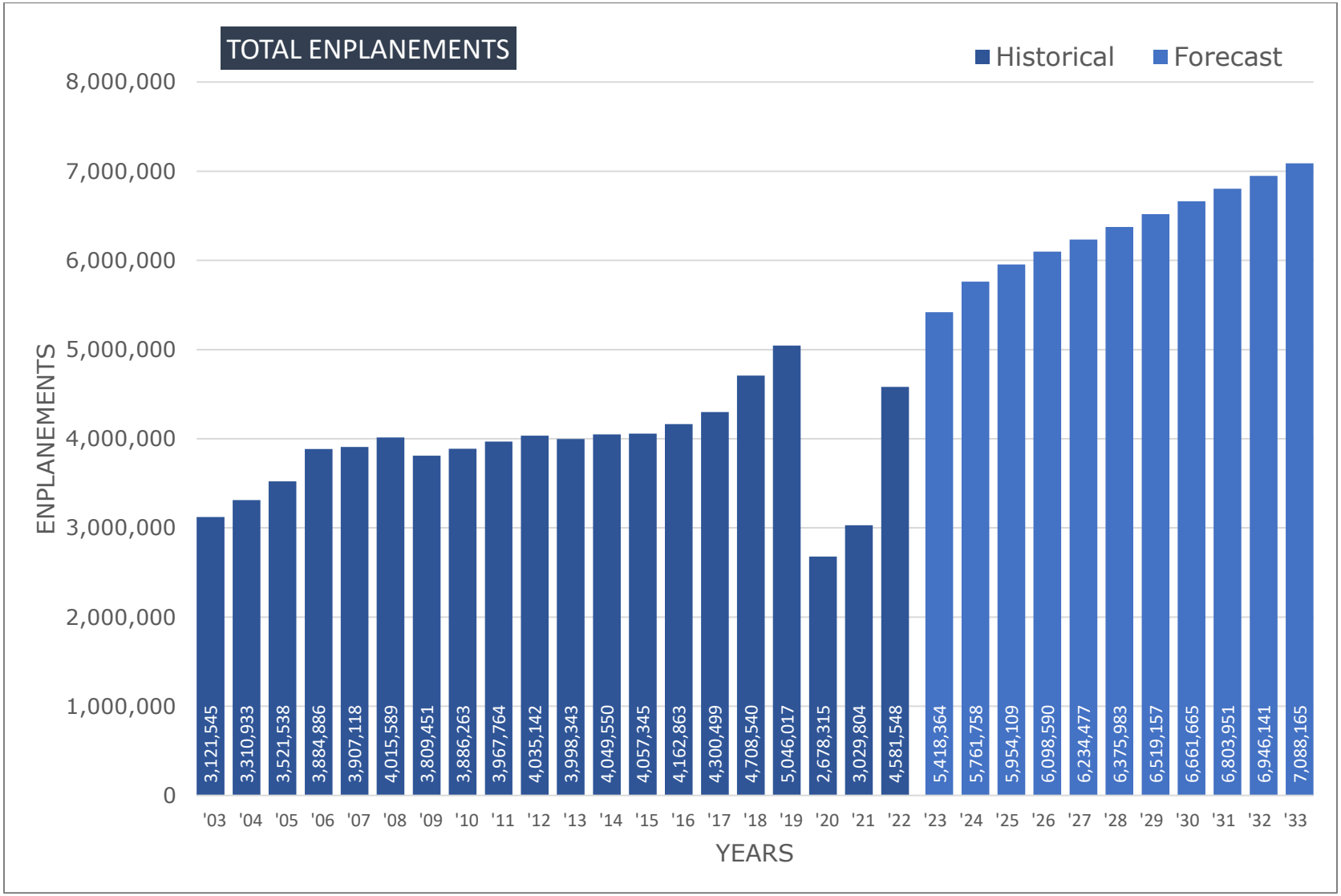
[14] The Transportation Research Board (TRB) Airport Cooperative Research Board (ACRP) was established as an industry-driven, applied research program that develops near-term, practical solutions to problems faced by airports. ACRP is managed by the TRB of the National Academies of Sciences, Engineering, and Medicine.

TABLE 1-3
HISTORICAL AND FORECAST PASSENGER ENPLANEMENTS AT SAN ANTONIO INTERNATIONAL AIRPORT

	Historic Passenger Enplanements		
TAF Year	Air Carrier	Commuter	Total Enplanements
2003	2,984,157	137,388	3,121,545
2004	2,973,917	337,016	3,310,933
2005	3,135,255	386,283	3,521,538
2006	3,398,177	486,709	3,884,886
2007	3,445,935	461,183	3,907,118
2008	3,421,127	594,462	4,015,589
2009	3,138,671	670,780	3,809,451
2010	3,198,442	687,821	3,886,263
2011	3,295,571	672,193	3,967,764
2012	3,269,150	765,992	4,035,142
2013	3,201,184	797,159	3,998,343
2014	3,235,670	813,880	4,049,550
2015	3,250,183	807,162	4,057,345
2016	3,405,537	757,326	4,162,863
2017	3,663,516	636,983	4,300,499
2018	4,227,665	480,875	4,708,540
2019	4,565,658	480,359	5,046,017
2020	2,420,288	258,027	2,678,315
2021	2,782,232	247,572	3,029,804
2022	4,326,412	255,136	4,581,548
	Forecast Passenger Enplanements		
TAF Year	Air Carrier	Commuter	Total Enplanements
2023	5,257,834	160,530	5,418,364
2024	5,590,924	170,834	5,761,758
2025	5,777,623	176,486	5,954,109
2026	5,917,884	180,706	6,098,590
2027	6,049,797	184,680	6,234,477
2028 /a/	6,187,151	188,832	6,375,983
2029	6,326,126	193,031	6,519,157
2030	6,464,451	197,214	6,661,665
2031	6,602,555	201,396	6,803,951
2032	6,740,563	205,578	6,946,141
2033 /b/	6,878,414	209,751	7,088,165

Notes: /a/ Opening year for the additional passenger terminal building.
/b/ Five years after the additional passenger terminal building opens.
Source: Federal Aviation Administration. 2022. Terminal Area Forecast (TAF). Retrieved March 2023 from https://www.faa.gov/data_research/aviation/taf/

EXHIBIT 1-6
HISTORICAL AND FORECAST PASSENGER ENPLANEMENTS AT SAN ANTONIO INTERNATIONAL AIRPORT



Source: Federal Aviation Administration. 2022. Terminal Area Forecast (TAF). Retrieved March 2023 from https://taf.faa.gov/Home/RunReport

1.3 PROPOSED PROJECT PURPOSE AND NEED

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

1.3.1 Purpose and Need Statement

The greater San Antonio area has experienced and is forecast to experience continued growth. To meet the existing and future needs of the greater San Antonio area, SAAS is embarking on a program that provides facilities that will efficiently accommodate forecast increases in enplanements and airport operations at an adequate level of service.

1.3.2 Needs

The Proposed Project addresses four independent needs that affect the future ability of SAT to maintain its essential function as a primary commercial service airport in Central Texas. These needs are associated with providing facilities that efficiently accommodate the forecast enplanements and aircraft operations at an adequate level of service. Specifically, SAT has:

- Insufficient passenger processing facilities, Federal Inspection Services (FIS), contact gates,[15] commercial apron with hydrant fueling, and remain overnight (RON) aircraft parking;
- Inefficient and congested airport access roadways;
- Insufficient capacity load of the central utility plant (CUP); and
- Insufficient parking facilities.

1.3.2.1 Insufficient Passenger Processing Facilities and Contact Gates

The Proposed Project is intended to solve several problems with the existing passenger terminal buildings. Terminal A is facing challenges posed by aging, obsolete building systems, and being undersized for current and forecast passenger aircraft resulting in the degradation of passenger experience and operational efficiency. Terminal A was opened in 1984 and has been retrofitted over time. Terminal B was opened in 2010, and most of the original systems and spaces are functionally unchanged. In 2022, the Airport completed a critical infrastructure assessment for Terminals A and B to define infrastructure deficiencies and remediations to major components and systems that need to be replaced or repaired within the next five years to maintain the facility's reliable operation.[16]

[15] A contact gate is one that is physically connected to the terminal building via a passenger boarding bridge.
[16] *SAT Terminals A & B Critical Infrastructure Assessment Final Report*, RS&H, September 2022

Terminal A and B concourses are narrow at 67 feet and 100 feet compared to industry standard of 110 feet for concourses serving today's passenger aircraft. Terminal A is further constrained due to its proximity to the existing airfield and Terminal B and cannot be widened or expanded without affecting airfield infrastructure. Additional widebody aircraft positions cannot be provided at the existing terminals due to limitations in aircraft parking apron depth, tail height restrictions due to proximity to the adjacent runways, or reducing the overall contact gate count by reconfiguration of existing contact gates. Additionally, a consolidated FIS processing area cannot be expanded within the envelope of the existing terminals without affecting other functional areas.

To better accommodate near-term forecast operations and to meet the need of growing airline passenger demand, the Airport added contact gates in both Terminals A and B with Gate B9 in December of 2022 and Gates A16 and B1A in April of 2023. Gate A16 was added at the north side of Terminal A through the reallocation of existing space. Gate B1A was added to the existing Gate B1 holdroom through a fixed elevated external walkway and passenger boarding bridge to accommodate an additional aircraft gate position that was previously used as a RON aircraft parking position. Gate B9 was added by removing concession space in Terminal B. Also, construction of a three aircraft position ground-loading facility is planned and is anticipated to be opened in 2025 at Gate A1.

The most recent additions of contact gates further exacerbate the operational constraints, and both Terminals A and B need to be renovated and appropriately sized with a balance of contact gates and functional areas to maintain adequate passenger levels of service. In addition, the recent announcement of nonstop seasonal flights to Europe via Condor Airlines would further constrain hold room space inside the existing terminals and terminal gate frontage on the exterior. Condor Airlines is anticipated to start service in May of 2024 with an Airbus 330-900neo widebody aircraft.

The Proposed Project will provide new and modernized terminal facilities that would be sized and configured to support the aircraft fleet forecast to operate at SAT by providing each contact gate with sufficient terminal frontage and apron depths so that all contact gates can operate efficiently allowing SAT to remove contact gates at the existing terminals, and make other required infrastructure improvements to Terminals A and B. Up to 10 contact gates would be removed under the Proposed Project through the reconfiguration of Terminals A and B, and up to 18 contact gates would be added providing a net increase of up to 8 contact gates. During the overnight and through the first morning departure period, all contact gates and RON aircraft parking positions are currently used. To meet the projected forecast in operations, especially for the first morning departure period, SAT has a need for a total of up to 37 contact gates (a net increase in up to 8 gates).

The existing terminals at SAT were designed to accommodate an estimated 4 to 5 million annual enplanements.[17] In 2022, the terminals accommodated over 4.5 million enplanements, and over 7 million enplanements are forecasted in 2033. The Strategic Development Plan provided a terminal demand/capacity analysis that examined the ability of the existing passenger terminals to accommodate existing and future passenger demand. The analysis covered all key functional components of the passenger terminals buildings, including holdrooms, ticketing/check-in, passenger security screening, baggage handling systems, Security Screening Checkpoint (SSCP), and U.S Customs and Border Patrol, concessions, airline space, and other areas of the terminal complex. The analysis assessed the ability of each of these functional components to accommodate existing and future passenger demand.

Table 1-4 provides an overview of the ability of the functional components of the existing terminal buildings to accommodate the forecast increase in passengers.[18]

TABLE 1-4
TERMINAL COMPONENTS MEETING EXISTING AND FUTURE STANDARDS

Terminal Component	Existing (2022)	Future (2028)
Ticketing / Check-in	Deficient	Deficient
Passenger Security Screening	Deficient	Deficient
Aircraft Gate Holdrooms	Deficient	Deficient
Outbound Baggage	Deficient	Deficient
Inbound Baggage	Deficient	Deficient
U.S. Customs and Border	Deficient	Deficient
Airline, Office, Operations, and Clubs	Deficient	Deficient
Airport Admin / Operations	Deficient	Deficient
Concessions	Deficient	Deficient
Secure / Sterile Circulation	Deficient	Deficient
Other Public Circulation / Restrooms	Deficient	Deficient
Non-Public and Tug Circulation	Deficient	Deficient
Mechanical / Utilities / Storage	Deficient	Deficient
Gates	Meets	Deficient

Source: SAAS. San Antonio International Airport Strategic Development Plan: 2021 Airport Master Plan, Published June 2021.

[17] Enplanements are the total number of revenue passengers boarding an aircraft, including both originations and transfers. Total design annual enplanements were estimated using an aviation industry planning target level of 200,000 enplaned passengers per gate per year. Terminal B was opened with 8 gates, and Terminal A had 15 usable gates prior to the addition of a passenger boarding bridge at Gate A16.

[18] The Master Plan calculated Terminal facility requirements through observations, interviews, and calculations of demand and compared to industry standard levels of service (LOS) 'C', which corresponds to good service and comfort with acceptable delays at a reasonable cost: International Air Transport Association (IATA), *Airport Development Reference Manual* (ADRM), 9th edition, March 2016.

1.3.2.2 Insufficient and Congested Airport Access Roadways

The onsite Airport access roadway network and intersections are inefficient and congested during peak hours. The Airport terminals are accessed from the west by Dee Howard Way, from the south by Airport Boulevard, and from an elevated airport entry ramp from U.S. Highway 281 from the south. The intersection of Airport Boulevard/terminal loop and Dee Howard Way/terminal loop is the core of the Airport access network and is the last signalized intersection before users access the curbside facilities. This intersection also serves as an entrance to the FAA Air Traffic Control Tower. The intersection's geometry is constrained due to the location of bridge columns supporting the elevated airport entry ramp. Given the Airport's proximity to the highways and surrounding commercial, industrial, and residential land uses, this intersection is utilized by users with origins and destinations that are unrelated to the Airport further adding to the congestion.

A Level of Service (LOS)[19] study was conducted in 2018 to establish a baseline of delay during the morning (10:30 AM-11:30 AM) and mid-day peak hour (11:30 AM -12:30 PM) passenger aircraft flight schedules for eastbound, northbound, and southbound traffic exiting the terminal loop. The intersection performed at an overall LOS 'D' with over 42 seconds of delay during the morning peak and at an overall LOS 'E' with over 63 seconds of delay during the midday peak.[20] A traffic analysis conducted in 2018 revealed that approximately 14% of morning (7 AM – 9 AM) and early evening (4 PM – 6 PM) was cut-through traffic traveling from U.S Highway 281 southbound to Interstate 410. For the same periods up to 32% of northbound traffic from Northern Boulevard to U.S. Highway 281 was cut-through traffic.[21] The proposed roadway realignments and improvements will reduce traffic congestion in the passenger terminal area and allow for an acceptable LOS during peak hours, syphon off cut-through traffic away from the terminal loop, create a central flow of inbound traffic, reconfigure and improve access points into the existing parking lots, improve lane decision-making space, and upgrade inbound guide signs.

1.3.2.3 Insufficient Capacity Load of Central Utility Plant

The existing CUP was built in 2010 to provide chilled water for cooling Terminals A and B, the Consolidated Rent-A-Car Facility (ConRAC), and FAA building. The CUP currently consists of three chillers with a capacity of 1,400 tons each, three cooling towers with a capacity of 4,200 gallons per minute (GPM), and associated pumps. Both the existing system and cooling towers were designed to have two chillers and

[19] For surface traffic, LOS is a calculation that classifies traffic flow from LOS A (free-flow traffic conditions) to LOS F (over capacity and severely congested).

[20] Synchro 11, Intersection LOS Operational Analysis performed by Kimley-Horn, 2022, and documented in the San Antonio International Airport Program Definition Manual – Advanced Terminal Planning Program Volume 1, June 2023.

[21] Cut-through Traffic Analysis performed by WSP, 2018 and documented in the San Antonio International Airport Strategic Development Plan – 2021 Airport Master Plan, June 2021

coolers operational at any given time and the third chiller and cooler in standby mode. However, since 2010, the demand load has increased where the third chiller accommodates peak demand during summer months and currently all three towers are operable 67% of the time. Expanding the existing CUP with 2 additional cooling towers and two 1,600-ton chillers would provide sufficient capacity to support existing demand and accommodate additional load.

1.3.2.4 Insufficient Parking

The Airport currently has a net total of 10,533 parking stalls, which is 264 less than their existing baseline requirement. Parking deficits for public parking already exist and are expected to continue to grow if no parking development occurs. Based on a parking requirement analysis conducted by the Airport, the Airport would have a net deficit of 5,222 stalls by 2040. Construction of a new parking garage and ground transportation center (GTC) would be sufficient to support the new terminal and growing parking demand at the Airport by adding additional space for both short and long-term parking. In addition, adding a new GTC would also reduce curbside congestion by removing traffic from the terminal loop for passengers circulating to and from the new terminal.

1.3.3 Purposes

Based on the needs described above, the purposes of the Proposed Project are to:

- remove buildings (badging office, Hangar 4, Police Department building, Hangar 6, Airside Operations Building, and FlightSafety International Facility) to allow for construction of new terminal, commercial apron, relocated RON aircraft parking positions, and supporting facilities;
- provide gates to accommodate demand;
- address traffic issues to reduce congestion;
- upgrade outdated utility systems; and
- provide adequate parking to meet demand.

1.4 DESCRIPTION OF PROPOSED PROJECT

The Proposed Project is shown on **Exhibit 1-7** and includes 26 project components. These project components are associated with demolition, airfield, terminal, roadway, support, and utility projects. In addition to the specific utility improvement project components, each airfield, terminal, roadway, and support project component would have improvements to the utilities that provide service to that project component. The Proposed Project is collectively referred to as the Terminal Development Program (TDP). Construction of the TDP is projected to occur between the years 2024 to 2027, with an anticipated "built year" of 2028.

1.4.1 Facility Demolition Projects

The following seven project components are enabling projects that must be completed to allow for construction of other project components.

Project D-1: Demolition of Existing Badging and ID Office (Building 1322)

The existing badging office would be demolished to provide space for the expansion of RON aircraft parking positions (Project A-2), pedestrian connection between the new terminal (Project T-1) and the new parking structure and GTC (Project S-3), a roadway to the loading dock associated with the new terminal (Project R-1), and the utility corridor to the new terminal (Project U-2).

Project D-2: Demolition of Hangar 4 (Building 1316)

The existing Hangar 4 would be demolished to provide space for the expansion of RON aircraft parking positions (Project A-2), construction of a new parking structure and GTC (Project S-3), and airport access roadway improvements (Project R-1). Hangar 4 is mostly empty. The remaining equipment would be moved to a new Public Safety Building (Project S-1).

Project D-3: Demolition of San Antonio Police Department Building (Building 1320)

The existing San Antonio Police Department Building would be demolished to provide space for the expansion of RON aircraft parking positions (Project A-2) and airport access roadway improvements (Project R-1). New Police Department offices would be constructed within a new Public Safety Building (Project S-1).

Project D-4: Demolition of Hangar 6 (Building 1312)

The existing Hangar 6 would be demolished to provide space for airport access roadway improvements (Project R-1) and a construction staging area (Project S-6). Hangar 6 is currently vacant and would not be replaced.

Project D-5: Demolition of Airside Operations Building (Building 1039)

The existing airside operations building would be demolished to provide space for its reconstruction to include the new public safety building (Project S-1).

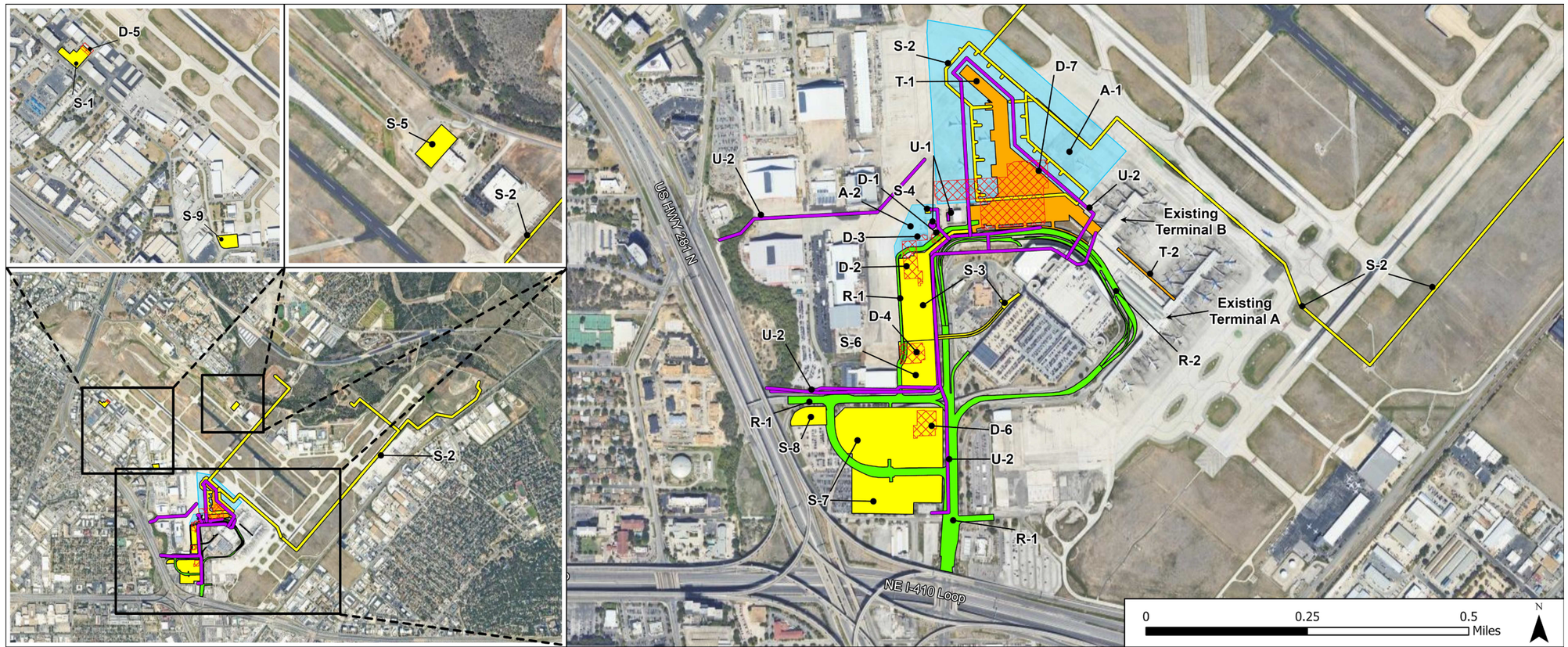
Project D-6: Demolition of Existing FlightSafety International Facility (Building 1290)

The existing FlightSafety International facility would be demolished to provide space for the expansion of the economy parking lot (Project S-7). The existing facility is vacant and would not be replaced.

Project D-7: Demolition of "Purple" Lot Parking Barriers, Fencing, and Controls

The existing parking barriers, fencing, and parking control structures in the abandoned former employee parking "purple" lot would be demolished for the construction of the new terminal (Project T-1).

EXHIBIT 1-7
PROPOSED PROJECT



Legend

Demolition Projects

- D-1: Demolition of Existing Badging and ID Office (Building 1322)
- D-2: Demolition of Hangar 4 (Building 1316)
- D-3: Demolition of San Antonio Police Department Building (Building 1320)
- D-4: Demolition of Hangar 6 (Building 1312)
- D-5: Demolition of Airside Operations Building (Building 1039)
- D-6: Demolition of Existing FlightSafety International Facility (Building 1290)
- D-7: Demolition of "Purple" Lot Parking Barriers, Fencing, and Controls

Airfield Projects

- A-1: Construction of New Terminal Commercial Aircraft Apron
- A-2: Relocation of Remain Overnight (RON) Aircraft Parking Positions

Terminal Projects

- T-1: Construction of New Terminal
- T-2: Construction of Terminal A / B Connector

Roadway Projects

- R-1: Construction of Airport Access Roadway Improvements
- R-2: Construction of Terminal Curbside Roadway Improvements

Utility Projects

- U-1: Upgrade to Central Utility Plant (CUP)
- U-2: Upgrade to Utility Corridor

Support Projects

- S-1: Construction of New Public Safety Building
- S-2: Construction of Fuel Hydrant System and Transmission Lines
- S-3: Construction of New Parking Structure and Ground Transportation Center (GTC)
- S-4: Construction of New Triturator
- S-5: Construction of Office Support Building
- S-6: Construction Staging Area
- S-7: Expansion of Economy Parking Lot
- S-8: Temporary Trailer Farm
- S-9: Construction of New Badging Office

RS&H *Environmental Assessment*
San Antonio International Airport

Proposed Project

Source: City of San Antonio, 2023; RS&H, 2024.

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1.4.2 Airfield Projects

The following two project components are associated with improvements to airfield pavements for the purpose of aircraft parking and movement.

Project A-1: Construction of New Terminal Commercial Aircraft Apron

The commercial aircraft apron would be constructed to support the new terminal (Project T-1) and provide pavement for aircraft arriving to, parking at, and departing from the new terminal.

Project A-2: Relocation of Remain Overnight (RON) Aircraft Parking Positions

Existing RON aircraft parking positions would be relocated to the west side of the existing terminal complex to provide space for the construction of the new terminal.

1.4.3 Terminal Projects

The following four project components are associated with the construction of the new terminal and improvements to other terminals at SAT.

Project T-1: Construction of New Terminal

The construction of the new terminal would result in up to an additional 18 narrowbody gates at the Airport, three of which would be swing gates capable of use by widebody aircraft. The new terminal would be constructed northwest of the existing Terminal B. **Exhibit 1-8** depicts the changes in aircraft gates and new gate locations resulting from the Proposed Project.

Project T-2: Construction of the Terminal A / B Connector

This connector would be a bridge that provides secure access between the existing Terminal A and Terminal B on the Departures level (Level 2).

Project T-3: Reconfiguration of Terminal A

Terminal A would be reconfigured in order to accommodate the relocation of the Security Screening Check Point (SSCP) and removal of up to 8 gates within the Terminal to improve airside concessions and circulation.

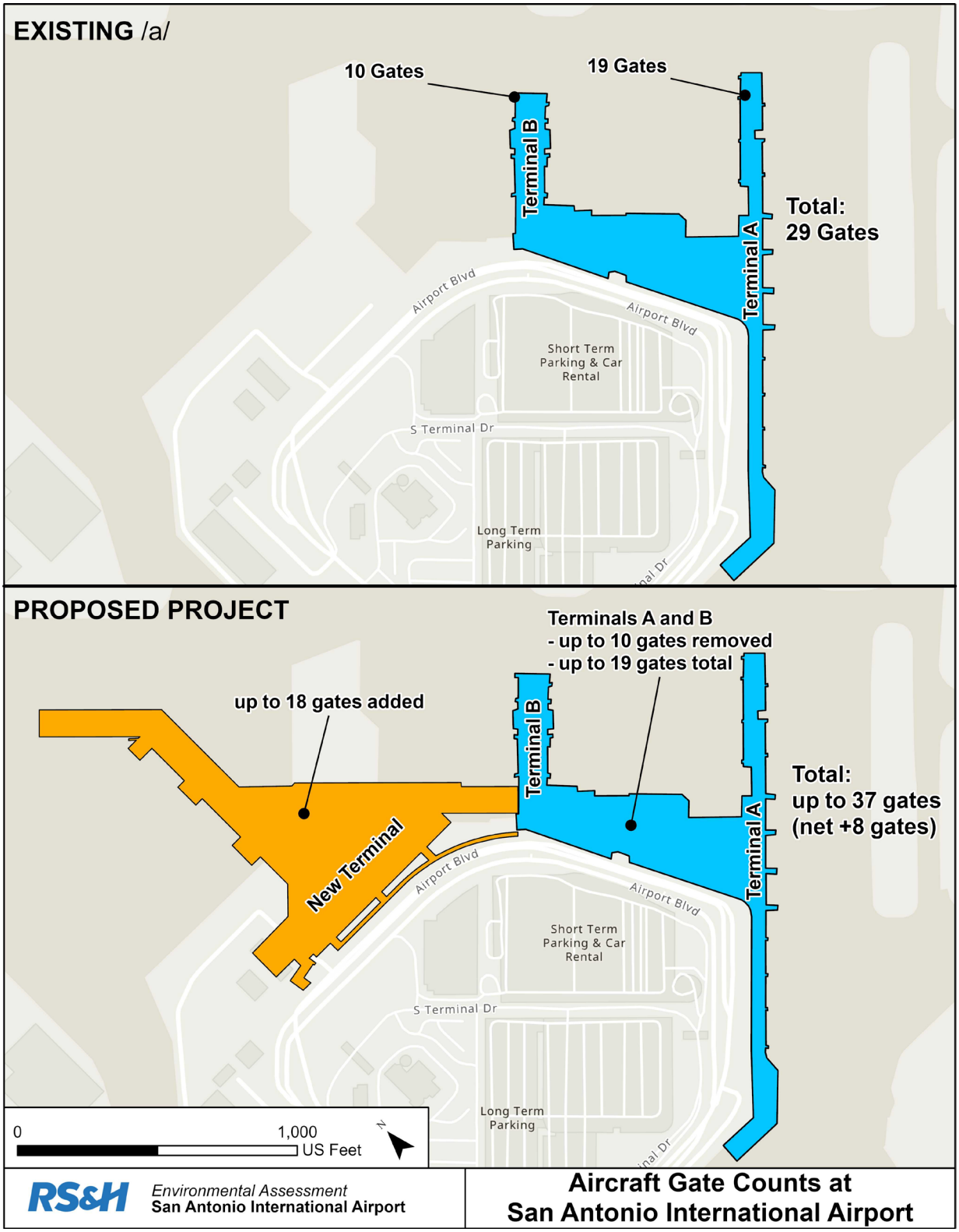
Project T-4: Reconfiguration of Terminal B

Terminal B would be reconfigured to accommodate the new Terminal A and B connector, additional concession space, and new baggage handling system conveyors to connect Terminal B to the new terminal. Up to two gates would be removed to accommodate the new terminal.

1.4.4 Roadway Projects

The following two project components are enabling projects that are associated with supporting the construction of the new terminal.

EXHIBIT 1-8
PROPOSED PROJECT AIRCRAFT GATES COUNTS



Source: SAAS, 2023; RS&H 2024
Notes: /a/ Gate B9 added in 2022; Gates A16, B1A, added in 2023; 3 ground-loading positions to be added in 2025 and replaces Gate A1.

Project R-1: Construction of Airport Access Roadway Improvements

The Airport access roadway would be reconfigured to increase roadway efficiency, reduce congestion, improve access points into the existing parking lots, and create a central flow of inbound traffic to the Airport terminals.

Project R-2: Construction of Terminal Curbside Roadway Improvements

In conjunction with the improvements to the Airport access roadway (Project R-1), this project component would include the construction of the new terminal curbside roadway on both the departure and arrival levels.

1.4.5 Support Projects

The following eight project components are enabling projects that are associated with supporting the construction of the new terminal.

Project S-1: Construction of New Public Safety Building

A new public safety building would be constructed in order to support the expansion of functions and facilities necessary to accommodate the new terminal.

Project S-2: Construction of New Hydrant Fuel System and Transmission Line

A new hydrant fuel system would be constructed to support the operation of aircraft at the new terminal. Hydrant fuel transmission lines would connect the system to a new fuel storage facility. The SAAS is conducting a siting analysis to initiate design, and for the purposes of this EA, three alternatives for the transmission line routes will be considered, identified as Alternatives "A", "B", and "C" on **Exhibit 1-9**. All three siting options are carried forward for environmental review in **Chapter 3** as the siting analysis for the transmission line will not be finalized prior to completion of the EA.

Project S-3: Construction of New Parking Structure and Ground Transportation Center (GTC)

A new parking structure and GTC would be constructed north of Dee Howard Way and west of Airport Boulevard. A ramp would be constructed to connect the existing parking area to the upper level of the GTC. The new parking structure and GTC would connect passengers to the new terminal with a covered extended walkway.

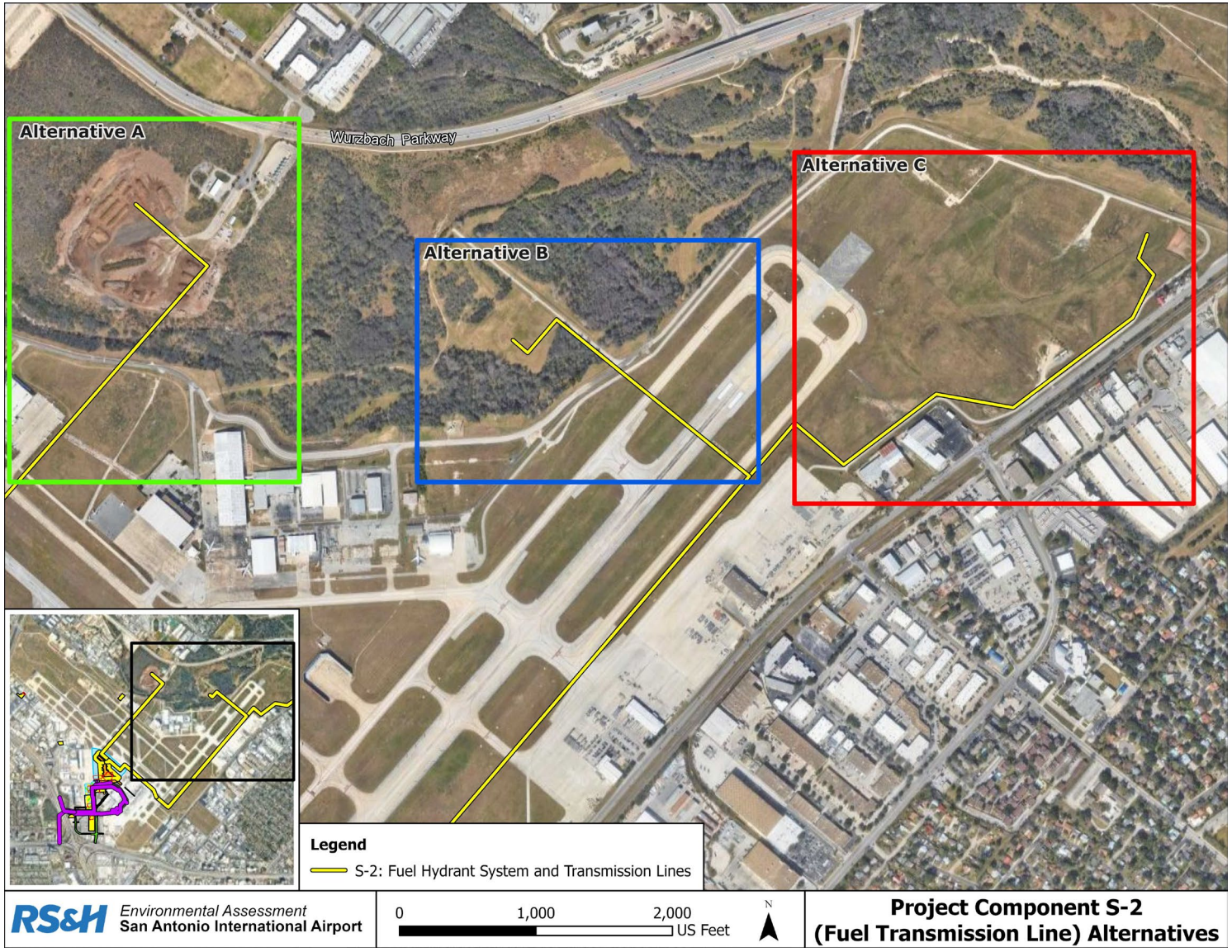
Project S-4: Construction of New Triturator

A new triturator would be constructed to accommodate the additional demand in the new terminal and be located west of the existing Central Utility Plant.

Project S-5: Construction of Office Support Building

A new building would be constructed to accommodate space needed for office operations at the Airport during the demolition of the existing badging office

EXHIBIT 1-9
PROJECT COMPONENT S-2 (FUEL TRANSMISSION LINE) ALTERNATIVES



Source: City of San Antonio, 2023; RS&H, 2024.

(Project D-1) and airside operations building (Project D-5) and construction of the new public safety building (Project S-1).

Project S-6: Use of Construction Staging Area

A construction staging area is proposed that could be used for staging any of the other project components of the Proposed Project. This construction staging area would be located north of Dee Howard Way and west of Airport Boulevard. In addition, it is likely for there to be construction staging areas set up within the vicinity of each project component during their prospective construction periods.

Project S-7: Expansion of Economy Parking Lot

The economy parking lot would be expanded and reconfigured to support the construction of the new terminal and airport access roadway improvements, and to accommodate forecasted demand.

Project S-8: Temporary Trailer Farm

A temporary trailer farm would be constructed to accommodate space needed for office operations at the Airport during the demolition of the existing badging office (Project D-1) and airside operations building (Project D-5) and construction of the new public safety building (Project S-1).

Project S-9: Construction of New Badging Office

A new badging office would be constructed in order to support the expansion of functions and facilities necessary to accommodate the new terminal. The project would renovate an existing building and add necessary parking

1.4.6 Utilities and Infrastructure Projects

The following two project components are enabling projects that support the operation of the new terminal.

Project U-1: Upgrade to Central Utility Plant (CUP)

The CUP would be upgraded to support the increased capacity load from the construction of the new terminal and continued service to Terminal A and B.

Project U-2: Upgrade to Utility Corridor

The utility corridor would be upgraded to increase the capacity/size and location of existing utility infrastructure so it may accommodate the increased demand from the addition of the new terminal. Upgrades would be focused on sanitary, storm, and water utility infrastructure.

1.5 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.
- 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.

CHAPTER 2
ALTERNATIVES

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2.1 INTRODUCTION

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 terminal and concourses. The other components of the project, such as landside access, employee and public parking, support facilities, utilities, and airfield improvements (i.e., taxiways and taxiway connectors) can be accommodated with each of the terminal and concourse alternatives. The following potential alternatives were included in the Master Plan and are evaluated in this EA:

- **Alternative 1: Construct New Terminal (Proposed Project)**. This alternative would construct a new terminal located northwest of the existing Terminal B, which would include up to 18 narrowbody gates, three of which would be swing gates capable of use by widebody aircraft (see **Exhibit 2-1**). A connector bridge would be constructed between the existing Terminal A and Terminal B on the Departures level (Level 2). Up to 10 contact gates would be removed through the reconfiguration of Terminals A and B for improved circulation, concessions, and infrastructure improvements, resulting in a net increase of up to 8 contact gates. Assuming a similar number of enplaned passengers per gate that existed in 2022, this alternative would accommodate the forecast increase in operations and enplanements in 2033.

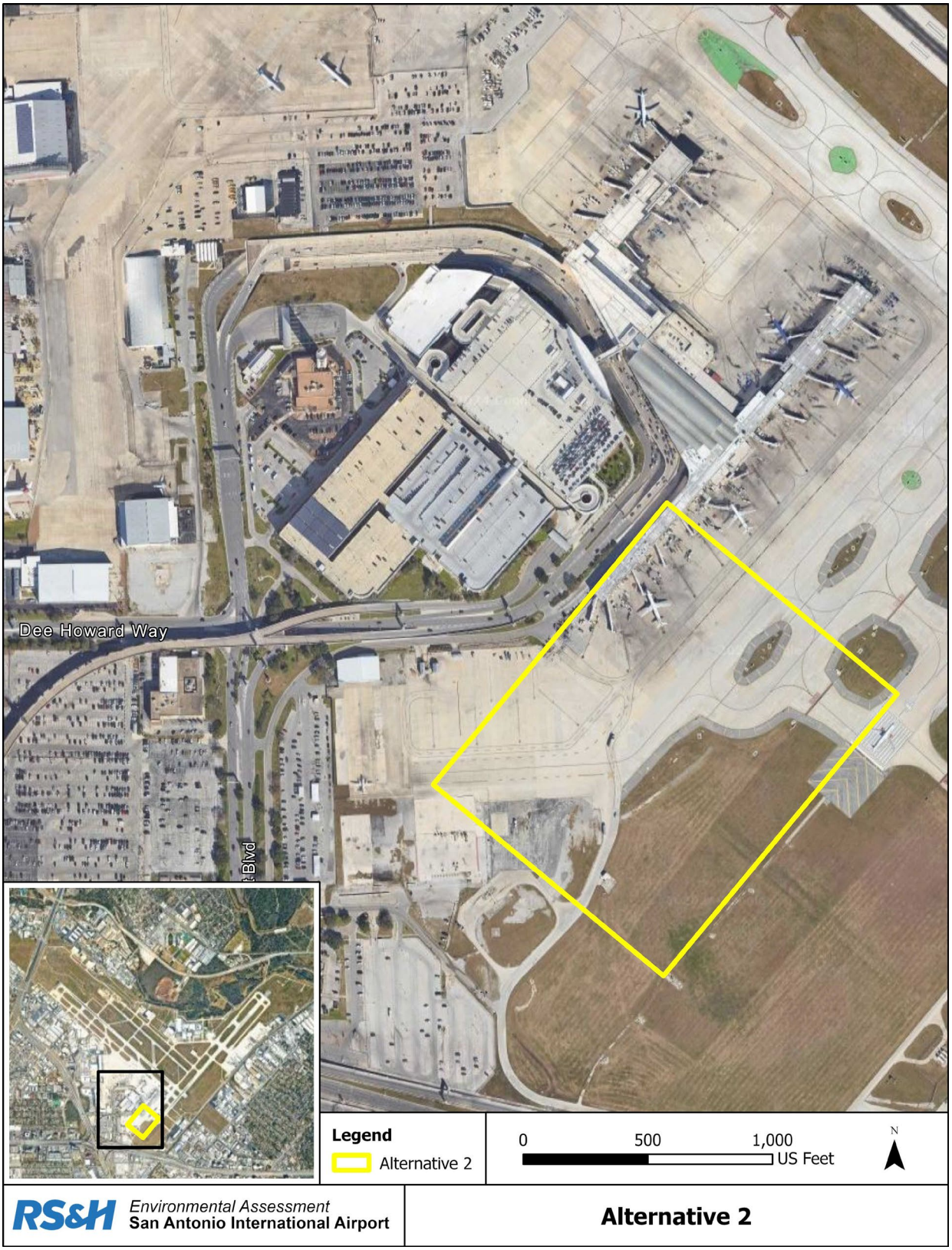
EXHIBIT 2-1
ALTERNATIVE 1: CONSTRUCT NEW TERMINAL (PROPOSED PROJECT)

Source: SAAS, 2024

- **Alternative 2: New Unit Terminal Expanding over Runway 4-22.** This alternative would include a new terminal located south of Terminal A. The replacement for Terminal A (also referred to as Terminal 1) would initially have two double-loaded piers with a total of up to 18 gates, including 3 widebody international gates, as well as an FIS. The processor portion of Terminals A and B would be reconfigured as a single terminal with one Security Screening Check Point (SSCP). This alternative would require the closure or shortening of Runway 4-22 (see **Exhibit 2-2**). Assuming a similar number of enplaned passengers per gate that existed in 2022, this alternative would accommodate the forecast increase in operations and enplanements in 2033.
- **Alternative 3: New Independent Satellite Terminal and Processor.** Alternative 3 would include a new satellite terminal and processor on the northern airfield with access from Wurzbach Parkway. Parking and support facilities would be required for the new satellite terminal location. The existing Terminal A and B and associated supporting infrastructure would be maintained (see **Exhibit 2-3**). Assuming a similar number of enplaned passengers per gate that existed in 2022, this alternative would accommodate the forecast increase in operations and enplanements in 2033.
- **Alternative 4: No Action Alternative**. The San Antonio Airport System (SAAS) would not develop a new passenger terminal building and no physical changes to the San Antonio International Airport (SAT) would occur. This alternative would result in the use of up to 19 hardstands for remote passenger operations (remote hardstands). These remote hardstands would be located north and south of the existing terminal complex (see **Exhibit 2-4**). Passengers on aircraft using the remote hardstands would be processed through the existing passenger terminals and access the remote hardstands via a bus operation.

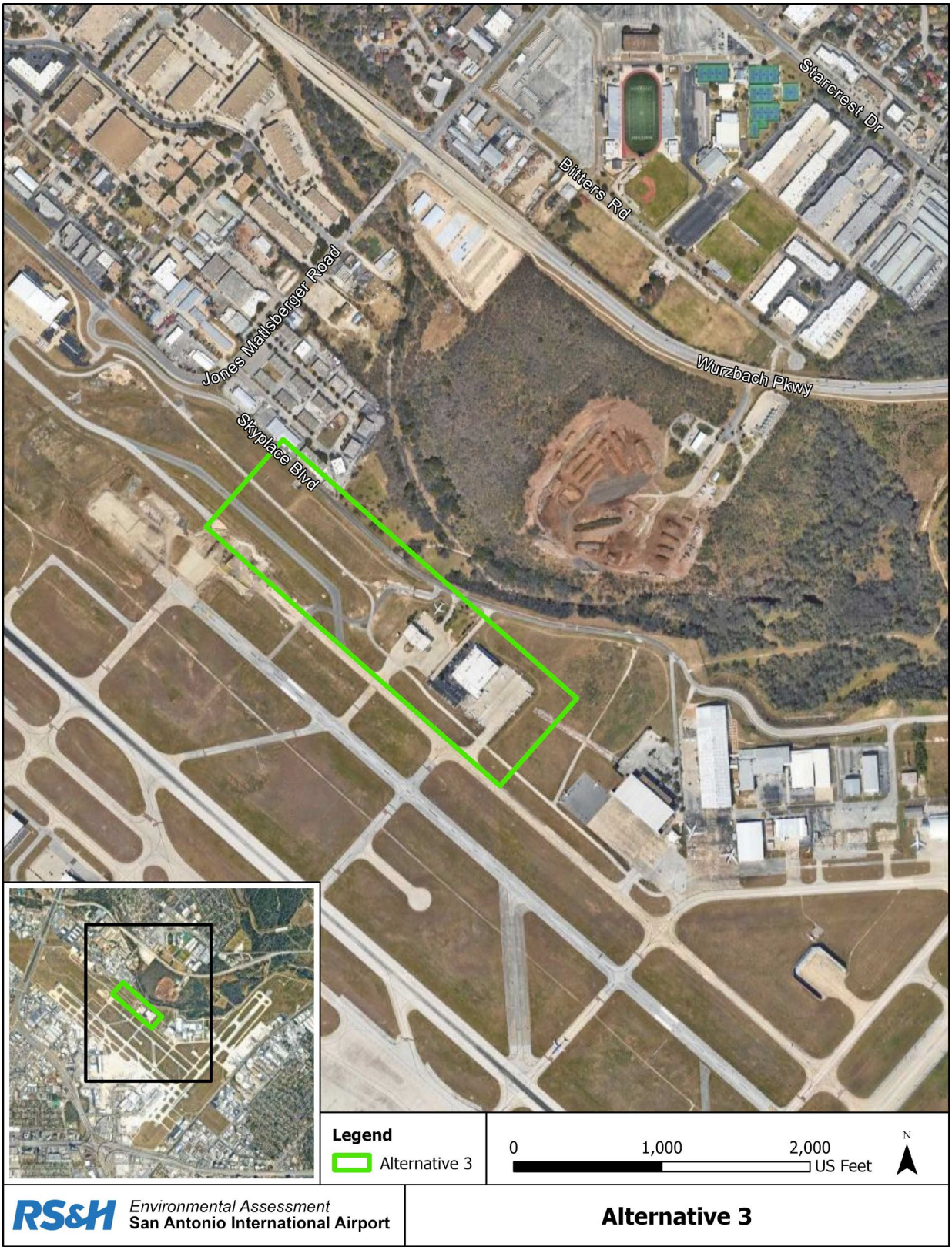
For 2028, it was assumed that each contact gate at SAT would have the same number of enplanements as that which occurred in 2022. It was assumed that the ground load facility would have six departures per day for each of the three gates. Finally, it also was assumed that each of the 19 remote hardstands would have two departures per day. **Table 2-1** provides the number of enplanements that could be accommodated under the No Action Alternative, which is greater than the 6,375,983 enplanements forecast for 2028 and the 7,088,165 enplanements forecast for 2033 (refer to **Appendix A** for aircraft operations and enplanements calculations).

EXHIBIT 2-2
ALTERNATIVE 2: NEW UNIT TERMINAL EXPANDING OVER RUNWAY 4-22



Source: SAAS, 2024.

EXHIBIT 2-3
ALTERNATIVE 3: NEW INDEPENDENT SATELLITE TERMINAL AND PROCESSOR



Source: SAAS, 2024.

EXHIBIT 2-4
ALTERNATIVE 4: NO ACTION ALTERNATIVE HARDSTAND LOCATIONS

Source: SAAS, 2024.

TABLE 2-1
PASSENGER ENPLANEMENTS ACCOMMODATED UNDER THE NO ACTION ALTERNATIVE

	Total Enplanements
Annual Enplanements at Contact Gates in Terminals A and B	4,581,548 /a/
Annual Enplanements at Ground Load Facility	816.414 /b/
Annual Enplanements at Remote Gates	1,723,540 /c/
TOTAL	**7,121,502**

Notes: /a/ Assumes no increase in the number of departures or in the average number of enplanements per departure from that which occurred in 2022.
/b/ Assumes six departures for each gate at the ground load facility with an average of 124.3 enplanements per departure.
/c/ Assumes two departures for each remote gate with an average of 124.3 enplanements per departure.
Source: RS&H, 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 accommodate the forecast increase in passengers by meeting requirements for the number of aircraft gates, and respectively, the space for ticketing / check-in facilities, passenger security screening, baggage handling facilities, U.S. Customs and Border Protection facilities, gate holdrooms, concessions, and other ancillary facilities and services. Alternatives that would not meet these objectives were eliminated from further consideration.

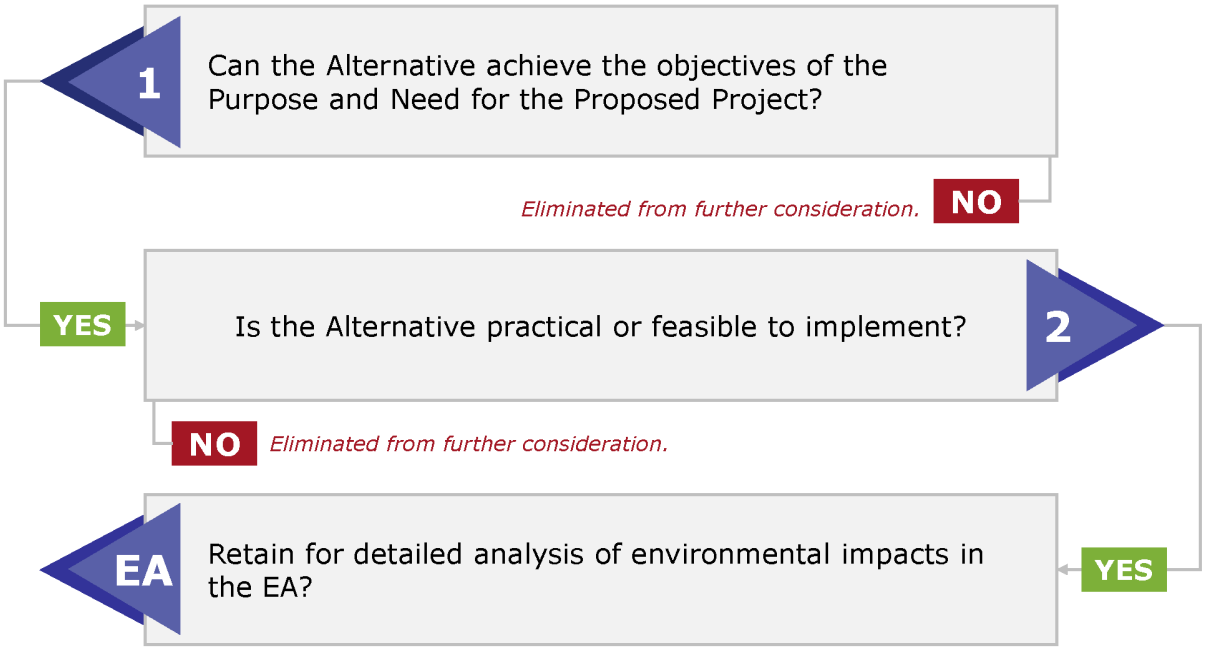
In Step 2, alternatives were eliminated if they would not be practical or feasible to implement from a technical or economic standpoint. This screening criteria includes whether the alternative would have a material effect on airfield operations, a material effect on landside operations, or would be reasonable to construct.[22] 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 2-5**.

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.

[22] "Reasonable to construct" is defined as an alternative that could be implemented using sound engineering judgment, with costs that are not of an extraordinary magnitude, or without a material effect to airfield operations, infrastructure, facilities, or utilities.

EXHIBIT 2-5
ALTERNATIVES SCREENING PROCESS



Source: RS&H, 2024.

2.4.1 Alternative 1: Construct New Terminal (Proposed Project)

The Proposed Project would efficiently accommodate the forecast increase in passengers by providing adequate space and facilities associated with aircraft gates, ticketing / check-in, passenger security screening, baggage handling, U.S. Customs and Border Protection facilities, gate holdrooms, concessions, and other ancillary facilities and services. As a result, this alternative meets the Purpose and Need of the Proposed Project and will be considered in Step 2 Screening.

2.4.2 Alternative 2: New Unit Terminal over Runway 4-22

Alternative 2 would accommodate the forecast increase in passengers by providing adequate space and facilities associated with aircraft gates, ticketing / check-in, passenger security screening, baggage handling, U.S. Customs and Border Protection facilities, gate holdrooms, concessions, and other ancillary facilities and services. As a result, this alternative meets the Purpose and Need of the Proposed Project and will be considered in Step 2 Screening.

2.4.3 Alternative 3: New Independent Satellite Terminal and Processor

Alternative 3 would accommodate the forecast increase in passengers by providing adequate space and facilities associated with aircraft gates, ticketing/check-in, passenger security screening, baggage handling, U.S. Custom and Border

Protection facilities, gate holdrooms, concessions, and other ancillary facilities and services. As a result, this alternative meets the Purpose and Need of the Proposed Project and will be considered in Step 2 Screening.

2.4.4 Alternative 4: No Action Alternative

Alternative 4 (No Action Alternative) would keep the Airport in its existing configuration. In 2028, the existing SAT terminals would be able to meet the required aircraft gates but would not provide adequate space for ticketing / check-in, passenger security screening, baggage handling, U.S. Customs and Border Protection facilities, gate holdrooms, concessions, and other ancillary facilities and services. The annual operations and number of aircraft served at SAT would be the same under the No Action Alternative as the Proposed Project. However, under the No Action Alternative, the forecasted increase in operations would be served by the existing facilities, resulting in less efficient operations, decreased efficiency from an airline staffing perspective, 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 to become available. Airlines may have to use non-contiguous gates throughout the SAT, 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. Airlines also would have to use remote (off-gate) apron parking/loading supported by a busing operation for the passengers to access the parked aircraft. 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.

On the landside, the level of service at both departure and arrivals curbside would worsen because of insufficient curb frontage and increases in passenger activity.

Alternative 4 (No Action Alternative) fails to fulfill the stated purpose and need for the Proposed Project and would exacerbate existing operational constraints at Terminals A and B. 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.

2.4.5 Summary of Step 1 Screening Process

Table 2-2 provides a summary of the Step 1 screening process for the potential alternatives. Alternatives 1, 2 and 3 achieved the objectives of the Purpose and Need of the Proposed Project. These three potential alternatives and Alternative 4 (No Action Alternative) will be considered in the Step 2 Screening process.

TABLE 2-2
SUMMARY OF STEP 1 SCREENING PROCESS

Screening Criteria	Alternative 1 – Construct New Terminal (Proposed Project)	Alternative 2 – New Unit Terminal Expanding over Runway 4-22	Alternative 3 – New Independent Satellite Terminal and Processor	Alternative 4 - No Action Alternative
Meets Aircraft Gate Requirements	**Yes**	**Yes**	**Yes**	**No**
Meets Ticketing / Check-In Requirements	**Yes**	**Yes**	**Yes**	**No**
Meets Passenger Security Screen Requirements	**Yes**	**Yes**	**Yes**	**No**
Meets Baggage Handling System Requirements	**Yes**	**Yes**	**Yes**	**No**
Meets U.S. Custom and Border Protection Requirements	**Yes**	**Yes**	**Yes**	**No**
Meets Concession Requirements	**Yes**	**Yes**	**Yes**	**No**
Meets Other Area Requirements	**Yes**	**Yes**	**Yes**	**No**
Move to Level 2 Screening?	**Yes**	**Yes**	**Yes**	**Yes** /a/

Note: /a/ Required to be included in the EA by 40 CFR § 1502.14(d) (1978).
Source: RS&H, 2024.

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: Construct New Terminal (Proposed Project)

Alternative 1 (Proposed Project) would require the relocation of the employee parking lot in the Purple Lot west of Terminal B. However, relocation of this lot is an enabling project for the construction of the proposed new terminal. An area of approximately 7 acres is anticipated to be needed to accommodate relocated employee parking (approximately 940 spaces) upon the opening of the new terminal, and before a permanent employee parking site is provided. Relocation would require busing of employees from the Red Lot location to the terminal in the interim until a long-term employee lot west of Jones Maltsberger Road is constructed. The relocation of the employee lot would ensure that the operation of the airfield would not be materially affected by the construction of the new terminal.

Furthermore, the existing 22 remain overnight (RON)/hardstand parking positions west of Terminal B are in the footprint of the proposed terminal and would need to be replaced. Some RON/hardstand positions would be unusable during the new terminal construction, and can be relocated to the southwest of Terminal A, on the site of the former Nayak building. The relocation of the hardstand parking positions would ensure that the operation of the airfield would not be materially affected by the construction of the new terminal. As a result, the Proposed Project would not have a material effect on airfield operations. In addition, the Proposed Project would not have a material effect on landside operations and would be reasonable to construct. Thus, Alternative 1 (Proposed Project) would be practical and feasible to implement and has been retained for detailed evaluation in the EA.

2.5.2 Alternative 2: New Unit Terminal over Runway 4-22

Alternative 2 would accommodate the forecast increase in passengers by providing adequate space and facilities associated with aircraft gates, ticketing / check-in, passenger security screening, baggage handling, U.S. Customs and Border Protection facilities, gate holdrooms, concessions, and other ancillary facilities and services. However, Alternative 2 is dependent on the closure of Runway 4-22 early in the planning period and would restrict the number of aircraft operations at SAT. As a result, this alternative would not be feasible and reasonable to implement and was eliminated from further consideration.

2.5.3 Alternative 3: New Independent Satellite Terminal and Processor

Alternative 3 would accommodate the forecast increase in passengers by providing adequate space and facilities associated with aircraft gates, ticketing / check-in, passenger security screening, baggage handling, U.S. Customs and Border Protection facilities, gate hold rooms, concessions, and other ancillary facilities and services. However, Alternative 3 would require and create redundancy of services

and facilities necessary to support airfield operations. Furthermore, a new independent satellite terminal would require busing of passengers to provide connection to existing terminal operations, which would create operational inefficiencies. This alternative also would require additional cost and effort to construct all of the project components. As a result, Alternative 3 is not practical and feasible to implement and has been eliminated from further consideration.

2.5.4 Alternative 4: No Action Alternative

Alternative 4 (No Action Alternative) would result in the continued use of the existing terminals and no construction would occur. Therefore, it is not possible to apply the Step 2 Screening process to Alternative 4 (No Action Alternative).

2.5.5 Summary of Step 2 Screening Process

Table 2-3 provides a summary of the Step 2 screening process for the two potential alternatives that were carried forward from Step 1 Screening. Alternative 1 (Proposed Project) would be practical and feasible to implement.

TABLE 2-3
SUMMARY OF STEP 2 SCREENING PROCESS

Screening Criteria	Would the Alternative be Practical and Feasible to Implement?			
	Alternative 1 – Construct New Terminal (Proposed Project)	Alternative 2 – New Unit Terminal Expanding over Runway 4-22	Alternative 3 – New Independent Satellite Terminal and Processor	Alternative 4 - No Action Alternative
Minimal Effect on Airfield Operations	**Yes**	**No**	**Yes**	**N/A**
Minimal Effect on Landside Operations	**Yes**	**Yes**	**No**	**N/A**
Reasonable to Construct	**Yes**	**No**	**No**	**N/A**
Retain for Detailed Evaluation in EA?	**Yes**	**No**	**No**	**Yes** /a/

Note: /a/ Required to be included in the EA by 40 CFR § 1502.14(d) (1978).
Source: RS&H, 2024.

2.6 ALTERNATIVES RETAINED FOR ANALYSIS IN THIS EA

Based on the two-step screening process, Alternative 1, henceforth referred to as the "Proposed Project" and Alternative 4, henceforth referred to as the "No Action Alternative" have been retained for detailed evaluation in this EA and will be assessed 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 2-4 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
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: *Environmental Impacts: Policies and Procedures* (July 1, 2015) (See also *1050.1F Desk Reference)*
	FAA Order 5050.4B: *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* (April 28, 2006)
	FAA Order 1050.10D: *Environmental Pollution Control and Abatement at FAA Facilities* (September 13, 2004)
	FAA Order 1210.20; *American Indian and Alaska Native Tribal Consultation Policy and Procedures*. (January 28, 2004)
	FAA Order 5100.38D, Change 1, Airport Improvement Program Handbook (February 26, 2019)
	U.S. DOT Order 5650.2: *Floodplain Management and Protection* (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 AND ENVIRONMENTAL CONSEQUENCES

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3.1 INTRODUCTION

This chapter provides an overview of the existing environmental conditions within the Project Study Area and General Study Area. This chapter also describes the significance thresholds, methodology used, and potential environmental effects that the Proposed Project would have on the affected environment, and any proposed mitigation that would be implemented to minimize impacts from the Proposed Project. As required by the Federal Aviation Administration (FAA) Orders 1050.1F[23] and 5050.4B,[24] this Environmental Assessment (EA) considers the following environmental resource categories:

- Air quality
- Biological resources
- Climate
- Coastal resources
- Department of Transportation Act (U.S. DOT), Section 4(f)[25]
- Farmlands
- Hazardous materials, solid waste, and pollution prevention
- Historical, architectural, archeological, and cultural resources
- Land use
- Natural resources and energy supply
- Noise and noise-compatible land use
- Socioeconomics, environmental justice, and children's environmental health and safety risks
- Visual effects
- Water resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)

Regulations associated with each environmental resource category are located in **Appendix B**. The Project Study Area and General Study Area are described in **Section 3.2**. Environmental resource categories listed above that are not affected by the Proposed Project are described in **Section 3.3**. Environmental resource categories listed above that may be affected by the Proposed Project are assessed in detail in **Section 3.4** through **Section 3.15**.

[23] Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

[24] Federal Aviation Administration. 2006. National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions. Retrieved March 2024 from https://www.faa.gov/documentLibrary/media/Order/5050.4B.pdf

[25] Section 4(f) of the U.S. DOT Act provides protection for special properties, including publicly owned parks, recreation areas, wildlife and waterfowl refuges, or any historic and archaeological sites.

3.2 STUDY AREAS

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 areas are identified as the Project Study Area and the General Study Area (see **Exhibit 3-1**)

3.2.1 Project Study Area

The Project Study Area, as seen in **Exhibit 3-1**, encompasses approximately 365 acres and is located on Airport Property. The Project Study Area represents the area where the Proposed Project would occur. The Project Study Area is used to describe the environmental resources that could be directly affected by ground disturbing activities associated with the Proposed Project.

3.2.2 General Study Area

The General Study Area, as seen in **Exhibit 3-1**, encompasses approximately 8,320 acres and is entirely within Bexar County. The General Study Area boundary was based on the Airport's existing Day-Night Average Sound Level (DNL) 65 decibel (dB) noise contour, and the boundary lines were squared off to follow natural boundaries and roadways in the Airport vicinity. The General Study Area is used to address the resource categories that could be indirectly affected by the Proposed Project. This study area was established on a larger geographic area to assess "indirect" impacts that may occur in the surrounding area, such as impacts to air quality, biological resources, noise-sensitive land uses, socioeconomic impacts, Department of Transportation Act Section 4(f) resources, and historic and cultural resources.

3.3 ENVIRONMENTAL RESOURCES NOT AFFECTED

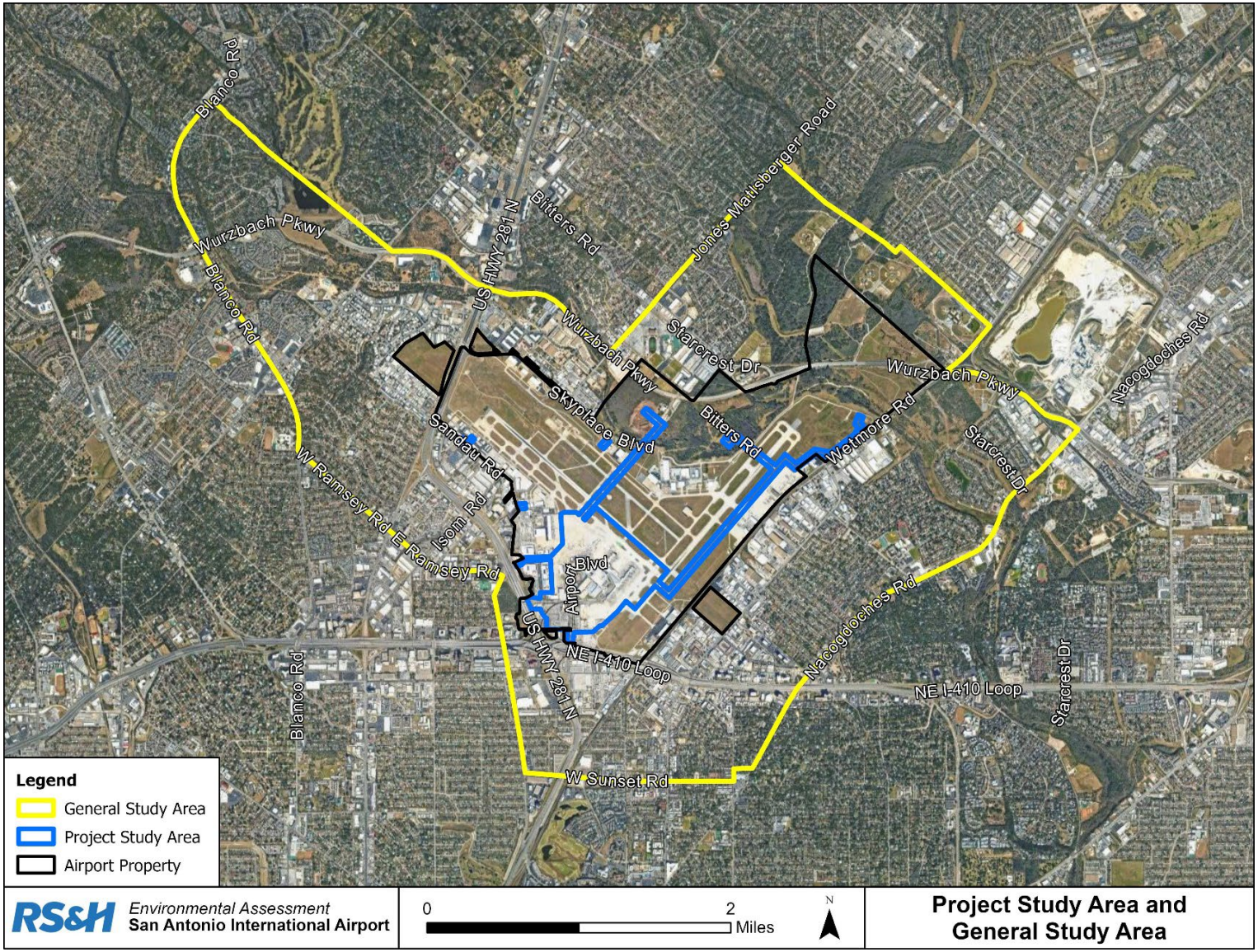
This section describes the environmental resources that would not be affected by the Proposed Project. The environmental resources described in the subsections below are not present in either the Project Study Area or the General Study Area. Therefore, this EA does not evaluate the potential for impacts for these resources, and they are not discussed further in this EA.

3.3.1 Coastal Resources

According to the Texas General Land Office Coastal Zone Boundary Map,[26] the study area is not within the Coastal Zone Management Area (CZMA). The study area is

[26] Texas General Land Office. The Texas Coastal Zone. Retrieved March 2024, from https://www.glo.texas.gov/coast/coastal-management/forms/files/CoastalBoundaryMap.pdf

EXHIBIT 3-1
PROJECT STUDY AREA AND GENERAL STUDY AREA



Source: RS&H, 2024.

located approximately 140 miles northwest of the nearest CZMA. Therefore, the Proposed Project would not affect coastal resources.

3.3.2 Farmlands

Construction of the Proposed Project would occur entirely on Airport property. No farmland would be acquired or converted as a result of the Proposed Project. Under 7 Code of Federal Regulations (CFR) Part 658.2(a)[27] of the Farmland Protection Policy Act (FPPA), land that is committed to urban development[28] is not subject to provisions of the FPPA. The Project Study Area is identified as an "urbanized area" on the 2020 U.S. Census Bureau Map,[29] and therefore does not contain land subject to the FPPA. The Proposed Project would not affect farmlands.

3.3.3 Wild and Scenic Rivers

There are no protected rivers or river segments within or near the General Study Area. The closest Wild and Scenic River is the Rio Grande River, located approximately 250 miles west of the General Study Area.[30] Therefore, the Proposed Project would not affect Wild and Scenic Rivers.

The following Sections (**Section 3.4** through **Section 3.15**) represent environmental resource categories that may be affected by the Proposed Project, and therefore require further analysis in accordance with the National Environmental Policy Act (NEPA), as amended, and Council of Environmental Quality (CEQ) *Regulations for Implementing the Procedural Provisions of NEPA*.[31]

3.4 AIR QUALITY

3.4.1 Regulatory Setting

The U.S. Environmental Protection Agency (USEPA) sets National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. The USEPA identifies the following seven criteria air pollutants for which NAAQS are applicable: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3),

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27 Title 7 Code of Federal Regulations Part 658 – Farmland Protection Policy Act. Retrieved March 2024 from https://www.ecfr.gov/current/title-7/subtitle-B/chapter-VI/subchapter-F/part-658

28 "Committed to urban development" is defined as land with a density of 30 structures per 40-acre area; lands identified as "urbanized area" (UA) on the Census Bureau Map; land with a "tint overprint" on USGS topographical maps; or areas shown as "urban-built-up" on the USDA Important Farmland Maps.

29 U.S. Census Bureau. 2020 Topologically Integrated Geographic Encoding and Referencing (TIGER) Interactive Map. Retrieved March 2024 from https://tigerweb.geo.census.gov/tigerweb2020/

30 U.S. Department of Interior, National Parks Service. National Wild and Scenic Rivers System, Texas. Retrieved March 2024 from https://rivers.gov/texas.php

31 Title 40 Code of Federal Regulations, Subchapter A National Environmental Policy Act Implementing Regulations, Parts 1500-1508. Retrieved March 2024 from https://www.ecfr.gov/current/title-40/chapter-V/subchapter-A

particulate matter (PM_{10} and $PM_{2.5}$), and sulfur dioxide (SO_2). The USEPA[32] describes these pollutants as "criteria" air pollutants because the agency regulates them by developing human health-based and/or environmentally based criteria (science-based guidelines) for setting permissible levels.

Appendix B lists the regulations associated with air quality.

3.4.2 Affected Environment

According to the USEPA, Bexar County[33] is classified as in "attainment" for all criteria air pollutants excluding 8-Hour Ozone (2015). Bexar County is in Moderate classification for 8-Hour Ozone (2015) which is comprised of ozone precursors: nitrogen oxides (NO_x) and volatile organic compounds (VOCs). All construction activity would occur in the Project Study Area, which is also an "attainment" area for all NAAQS excluding 8-Hour Ozone (2015).

3.4.3 Significance Threshold

FAA Order 1050.1F[34] provides the FAA's significance threshold for air quality, which states, "The action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the USEPA under the Clean Air Act (CAA), for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations."

3.4.4 Methodology

Construction of the Proposed Project would include earthwork, grading, leveling, construction equipment storage, and movement activities that are sources of off-road, on-road, and fugitive dust emissions.

Construction emissions are estimated based on these factors: construction schedule; the number of construction vehicles and/or equipment; the types of construction vehicles and/or equipment; types of fuel used to power the equipment and vehicles; vehicle and equipment hourly activity/vehicle miles traveled; construction materials used and their quantities; and the duration of construction.

A Construction Emissions Inventory (CEI) of the Proposed Project was conducted through the USEPA's Motor Vehicle Emissions Simulator 3 (MOVES3.1) program and the Texas Commission on Environmental Quality (TCEQ) TexN2.2 program (refer to **Appendix C**). MOVES3.1 uses approved EPA emission factors for on-road vehicles,

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32 U.S. Environmental Protection Agency. Criteria Air Pollutants. Retrieved March 2024 from https://www.epa.gov/criteria-air-pollutants

33 U.S. Environmental Protection Agency. Green Book: Texas Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Retrieved March 2024 from https://www3.epa.gov/airquality/greenbook/anayo_tx.html

34 Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

while TexN2.2 uses TCEQ-approved emission factors for non-road construction equipment.

For informational purposes, greenhouse gas (GHG) emissions were also analyzed and are further discussed in **Section 3.6 *Climate***. The primary greenhouse gas emissions are Carbon Dioxide (CO_2), Methane (CH_4), and Nitrous Oxide (N_2O).

An operations emissions inventory was not conducted as the Proposed Project would result in no change to aircraft operations (takeoffs and landings), runway configuration, arrival/departures procedures, or runway use percentages when compared to the No Action Alternative following built year (2028) and built + 5 years (2033).

3.4.5 Environmental Consequences

This section describes the potential effects to air quality associated with implementation of the No Action Alternative or Proposed Project.

3.4.5.1 No Action Alternative

Under the No Action Alternative, construction of the Proposed Project would not occur and would not generate emissions that could affect local air quality. The San Antonio Airport System (SAAS) would continue to operate the Airport and serve forecast aviation demands. Therefore, the No Action Alternative would have **no impact** on air quality.

3.4.5.2 Proposed Project

Construction - Construction of the Proposed Project would cause a minor increase in surface vehicles using area roadways to access the construction site. However, pollutants from construction emissions are below *de minimis* thresholds identified by the USEPA and would be temporary, lasting the duration of construction (2024 to 2027). Exhaust and fugitive emission factors were developed using MOVES3.1 and TexN2.2 for non-road construction equipment and on-road vehicles. **Table 3-1**, **Table 3-2**, **Table 3-3**, and **Table 3-4** shows an increase in temporary construction air pollutant emissions for each NAAQS category and CO_2. See **Appendix C** for CEI data and calculations.

Note that construction in the year 2025 is mainly comprised of demolition activities, which would result in higher PM_{10} and $PM_{2.5}$ emissions. Conversely, construction in the year 2025 is not anticipated to include paving activities, resulting in lower VOCs than 2024, 2026, and 2027 when paving activities are planned to occur.

When compared to the No Action Alternative, the Proposed Project would not result in a change in aircraft operations (takeoffs and landings), and the existing runway configuration, arrival/departures procedures, and runway use percentages would

TABLE 3-1
PROPOSED PROJECT MOVES3 RESULTS FOR 2024 (TONS PER YEAR)

							GHGs		
2024	**CO**	**VOC**	**NOx**	**PM_{10}**	**$PM_{2.5}$**	**SOx**	**CO_2**	**CH_4**	**N_2O**
NONROAD (TexN2.2)	4.22	0.61	9.98	0.71	0.69	0.02	5,188.53	N/A	N/A
ONROAD (MOVES 3.1)	9.60	0.23	1.68	0.08	0.07	0.01	1,216.56	0.03	0.00
FUGITIVE	0.53	8.10	0.03	2.70	N/A	0.01	N/A	N/A	N/A
TOTAL	14.35	8.94	11.69	3.49	0.76	0.03	6,405.09	0.03	0.00
Pollutants Out of Attainment De Minimis Levels	N/A	100	100	N/A	N/A	N/A	N/A	N/A	N/A

Note – N/A = not applicable. Totals may not sum due to rounding.
Source: MOVES3.1, TexN2.2, RS&H 2024

TABLE 3-2
PROPOSED PROJECT MOVES3 RESULTS FOR 2025 (TONS PER YEAR)

							GHGs		
2025	**CO**	**VOC**	**NOx**	**PM_{10}**	**$PM_{2.5}$**	**SOx**	**CO_2**	**CH_4**	**N_2O**
NONROAD (TexN2.2)	5.24	0.78	13.53	0.90	0.87	0.03	8,260.85	N/A	N/A
ONROAD (MOVES 3.1)	13.35	0.28	1.96	0.09	0.08	0.01	1,645.03	0.04	0.01
FUGITIVE	0.05	0.72	0.00	1.86	N/A	0.00	N/A	N/A	N/A
TOTAL	18.63	1.78	15.49	2.85	0.96	0.04	9,905.88	0.04	0.01
Pollutants Out of Attainment De Minimis Levels	N/A	100	100	N/A	N/A	N/A	N/A	N/A	N/A

Note – N/A = not applicable. Totals may not sum due to rounding.
Source: MOVES3.1, TexN2.2, RS&H 2024.

TABLE 3-3
PROPOSED PROJECT MOVES3 RESULTS FOR 2026 (TONS PER YEAR)

							GHGs		
2026	**CO**	**VOC**	**NOx**	**PM_{10}**	**$PM_{2.5}$**	**SOx**	**CO_2**	**CH_4**	**N_2O**
NONROAD (TexN2.2)	4.84	0.68	12.57	0.81	0.79	0.02	7,619.90	N/A	N/A
ONROAD (MOVES 3.1)	23.22	0.24	1.18	0.05	0.04	0.01	2,147.62	0.07	0.01
FUGITIVE	1.13	26.20	0.07	2.06	N/A	0.01	N/A	N/A	N/A
TOTAL	29.19	27.12	13.83	2.92	0.83	0.05	9,767.52	0.07	0.01
Pollutants Out of Attainment De Minimis Levels	N/A	100	100	N/A	N/A	N/A	N/A	N/A	N/A

Note – N/A = not applicable. Totals may not sum due to rounding.
Source: MOVES3.1, RS&H 2024.

TABLE 3-4
PROPOSED PROJECT MOVES3 RESULTS FOR 2027 (TONS PER YEAR)

							GHGs		
2027	**CO**	**VOC**	**NOx**	**PM_{10}**	**$PM_{2.5}$**	**SOx**	**CO_2**	**CH_4**	**N_2O**
NONROAD (TexN2.2)	3.46	0.54	10.02	0.60	0.59	0.03	8,984.45	N/A	N/A
ONROAD (MOVES 3.1)	21.44	0.21	1.04	0.04	0.04	0.01	2,035.77	0.06	0.01
FUGITIVE	1.27	19.55	0.08	0.75	N/A	0.01	N/A	N/A	N/A
TOTAL	26.18	20.30	11.15	1.40	0.62	0.05	11,020.22	0.06	0.01
Pollutants Out of Attainment De Minimis Levels	N/A	100	100	N/A	N/A	N/A	N/A	N/A	N/A

Note – N/A = not applicable. Totals may not sum due to rounding.
Source: MOVES3.1, TexN2.2, RS&H 2024.

remain unchanged. Therefore, there would be no change in aircraft emissions when comparing the No Action Alternative to the Proposed Project in 2028 and 2033. With only a minor and temporary increase in emissions during construction, the Proposed Project would have **no significant impact** on air quality.

3.4.6 Mitigation Measures

Construction of the Proposed Project would not cause significant direct or indirect effects to air quality. Mitigation measures are not required or proposed.

3.5 BIOLOGICAL RESOURCES

3.5.1 Regulatory Setting

Appendix B lists the regulations associated with biological resources.

3.5.2 Affected Environment

3.5.2.1 Observable Habitats and Conservation Areas

3.5.2.1.1 Project Study Area

The Project Study Area lies within a low- to medium-density urban area of San Antonio near the intersection of U.S. Highway 281 and Interstate 410, approximately 8 miles north of downtown San Antonio. At an elevation around 809 feet above mean sea level (AMSL), the area was historically Blackland Prairie Habitat characterized by fertile dark clay soils, gentle rolling hills, and tall-growing grasses.[35] The climate is modified subtropical (Köppen classification) with hot, humid summers and mild to cool winters; the average annual rainfall is around

[35] Texas Parks and Wildlife Department. The Blackland Prairies. Retrieved February 2024 from https://tpwd.texas.gov/wildlife/wildlife-diversity/wildscapes/wildscapes-plant-guidance-by-ecoregion/the-blackland-prairies/

29 inches, and average temperatures range from the 50 degrees Fahrenheit in winter to 80 degrees Fahrenheit in summer.[36]

The Project Study Area is largely developed with Airport infrastructure. Vegetation on Airport property is mostly landscaped and includes grasses, particularly St. Augustine grass (*Stenotaphrum secundatum*), ornamental trees, and ornamental shrubs adjacent to Airport infrastructure. Within the airfield, grass is mowed to a height of 6 to 12 inches to minimize wildlife attractants and habitat structure in compliance with FAA AC 150/5200-33C, *Hazardous Wildlife Attractants on or near Airports*[37] and FAA CertAlert No. 98-05, *Grasses Attractive to Hazardous Wildlife*.[38] Developed areas within the Project Study Area provide minimal habitat value due to the high levels of human activity; lack of native, diverse plant species; and lack of water resources. Therefore, only wildlife species that are tolerant of high-intensity human development would likely be present, such as fox squirrel (*Sciurus niger*), deer mouse (*Peromyscus maniculatus*), mourning dove (*Zenaida macroura*), blue jay (*Cyanocitta cristata*), and a variety of insects and invertebrates.[39]

The undeveloped portions of the Project Study Area include Salado Creek and an unnamed tributary to Olmos Creek, and their associated wetland habitats. Both Salado Creek and Olmos Creek are intermittent tributaries to the San Antonio River.[40, 41] A preliminary wetland delineation performed within portions of the Project Study Area on January 8-9, 2024 (**Appendix D**), identified the following plant species along Salado Creek and the unnamed tributary to Olmos Creek:

- **Trees**: honey mesquite (*Prosopis glandulosa*), sugarberry (*Celtis laevigata var. reticulata*), black ash (*Fraxinus nigra*), cedar elm (*Ulmus crassifolia*), oaks (*Quercus* sp.) and maples (*Acer* sp.).
- **Shrubs**: false willow (*Baccharis neglecta*) and saplings of tree species.
- **Grasses**: eastern gamagrass (*Tripsacum dactyloides*), Bermuda grass (*Cynodon dactylon*), torpedo grass (*Panicum repens*), Sideoats grama (*Bouteloua curpendula*), Turkey-Tangle (*Phyla nodiflora*), and St. Augustine grass (*Stenotaphrum secundatum*)

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36 National Oceanic and Atmospheric Administration. 2010. San Antonio Climate Summary. Retrieved February 2024 from https://www.edwardsaquifer.org/wp-content/uploads/2019/02/2010_NASA_SanAntonioClimate.pdf

37 Federal Aviation Administration. 2020. Advisory Circular 150/5200-33C. Hazardous Wildlife Attractants on or near Airports. Retrieved January 2024 from https://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5200-33C.pdf

38 Federal Aviation Administration. 1998. CertAlert No. 98-05. Grasses Attractive to Hazardous Wildlife. Retrieved January 2024 from https://www.faa.gov/sites/faa.gov/files/airports/airport_safety/wildlife/resources/cert9805.pdf

39 Poznecki-Camarillo, Inc. 2018. Environmental Inventory Technical Report, Airport Master Plan Phase 1. Prepared for City of San Antonio Aviation Departments, Bexar County, Texas

40 Texas Commission on Environmental Quality. Total Maximum Daily Load Program: Salado Creek. Retrieved January 2024 from https://www.tceq.texas.gov/waterquality/tmdl/11-salado.html

41 U.S. Army Corps of Engineers. 2006. Planning Design Report and Environmental Assessment for Olmos Creek Section 206 Aquatic Ecosystem Restoration Project, Bexar County, Texas: Retrieved January 2024 from https://www.swf.usace.army.mil/Portals/47/docs/ContinuingAuthoritiesProgram/Olmos%20Creek/Olmos_Creek_Planning_Design_Report_and_Environmental_Assessment.pdf?ver=2015-09-02-111319-777

- **Forbs**: erect spadeleaf (*Centella erecta*), Florida paspalum (*Paspalum floridanum*), Aster (*Symphyotrichum* sp.), bastard cabbage (*Rapistrum rugosum*), common sowthistle (*Sonchus oleraceus*), prostrate sandmat (*Euphorbia prostrata*), Florida paspalum (*Paspalum floridanum*), silver bluestem (*Bothriochloa laguroides*), caesarweed (*Urena lobata*), and horse herb (*Calyptocarpus vialis*).

The habitat along Salado Creek within the Project Study Area contains mature palustrine forested (PFO) wetlands with widely-spread trees, few shrubs, and an herbaceous understory. Salado Creek is relatively protected from human development and likely provides important habitat to many wildlife species.

The Project Study Area runs adjacent to the unnamed tributary to Olmos Creek in at one location, and crosses at a second location: the first near the intersection of Dee Howard Way and U.S. Highway 281 and the second approximately 0.25-mile upstream of that location. Both locations have been disturbed from existing uses as a utility corridor and grading for stormwater conveyance (see **Appendix D**). The unnamed tributary to Olmos Creek contains a narrow band PFO wetlands with sparse trees, few shrubs, and an herbaceous understory. See **Section 3.15.1 *Wetlands*** and **Section 3.15.3 *Surface Waters*** for more details.

The Natural Resources Conservation Service (NRCS) Web Soil Survey[42] identifies 12 soil types within the Project Study Area, with Branyon clay, 0 to 1 percent slopes (48.6 percent) and Lewisville silty clay, 1 to 3 percent slopes (23.8 percent) representing the dominant soil types. Branyon clay soils consist of deep, clay soils up to 80 inches, typically found on stream terraces. Branyon clay soils have low permeability, and are therefore moderately well-drained and have high surface runoff. Lewisville silt clay soils are also deep (up to 80 inches) and are typically found on stream terraces. However, Lewisville silt clay soils have moderate permeability and are well-drained with medium surface runoff. Neither Branyon clay nor Lewisville silt clay soils are rated as hydric, an indicator of wetland soils. Soils excavated as a part of the preliminary wetland delineation within the Project Study Area were mucky clay, silty clay, clay, or sandy clay in texture.

3.5.2.1.2 General Study Area

In the General Study Area, there are six parks and natural areas[43] providing varying amounts of wildlife habitat. The General Study Area also contains reaches of Mud Creek, Lorence Creek, and Panther Springs Creek that are tributaries to Salado Creek, along with several unnamed tributaries.

[42] U.S. Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey. Retrieved February 2024 from https://websoilsurvey.nrcs.usda.gov/app/

[43] City of San Antonio Parks & Recreation. Find A Park Interactive Map. Retrieved February 2024 from https://gis.sanantonio.gov/ITSD/ParkSearch/index.html

McAllister Park, Salado Creek Greenway, and Walker Ranch Natural Areas contain large segments of protected native habitat (see **Exhibit 3-2**). McAllister Park,[44] located in the northeast corner of the General Study Area, encompasses 976 acres and straddles portions of Mud Creek and Lorence Creek and includes wetland forests, mesquite and prickly pear savannah, and Ashe juniper and oak woodlands. Salado Creek Greenway,[45] which crosses the northern portion of the General Study Area, is a trail system along 25 miles of Salado Creek that connects users to 13 other parks and trailheads and includes dense woodlands of oak, pecan (*Carya* sp.), and cedar elm, native grasslands, and wetland habitat. Walker Ranch Natural Areas,[46] located in the northwest corner of General Study Area, is near the confluence of Panther Springs Creek and Salado Creek and includes wetland and grassland habitats.

According to the U.S. Fish and Wildlife Service (USFWS) map of karst zones within Bexar County,[47] the entire Project Study Area and the majority of the General Study Area are within Zone 3, which is defined as "areas that probably do not contain listed invertebrate karst species" (see **Exhibit 3-2**). Karst species live in caves and other small openings in karst limestone and are currently only known to occur in certain areas of Bexar, Travis, and Williamson counties[48] (refer to **Section 3.5.2.2** for federally- and state-listed karst species that may occur in the area). The southern portion of General Study Area contains Zone 2, "areas having high probability", and Zone 1, "areas known to contain listed invertebrate karst species" mapped habitat. Zone 1 is the location of USFWS Designated Critical Habitat for two endangered karst species (refer to **Section 3.5.2.2**).

A review of spatial data from the Texas Natural Resources Information System (TNRIS),[49] Texas Parks and Wildlife Department (TPWD),[50] USFWS National Wildlife Refuge System Map,[51] U.S. Geological Survey (USGS) National Map,[52] U.S. Forest

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44 City of San Antonio Parks & Recreation. Parks & Facilities Details: McCalister Park. Retrieved February 2024 from https://www.sanantonio.gov/ParksAndRec/Parks-Facilities/All-Parks-Facilities/Parks-Facilities-Details/ArtMID/14820/ArticleID/2578/McAllister-Park

45 City of San Antonio Parks & Recreation. Greenway Trails: Salado Creek Greenway (North of Loop 1604 to Rittman Road). Retrieved February 2024 from https://www.sanantonio.gov/ParksAndRec/Parks-Facilities/Trails/Greenway-Trails#158963930-salado-creek-greenway-system-north--south

46 City of San Antonio Parks & Recreation. Parks & Facilities Details: Walker Ranch Historic Landmark Park. Retrieved February 2024 from https://www.sanantonio.gov/ParksAndRec/Parks-Facilities/All-Parks-Facilities/Parks-Facilities-Details/ArtMID/14820/ArticleID/2467/Walker-Ranch-Historic-Landmark-Park

47 U.S. Fish and Wildlife Service. Map of Karst Zones, Bexar County. Retrieved February 2024 from https://www.arcgis.com/home/item.html?id=ab0d8006d50c423e860e6b7f2f89aac6

48 U.S. Fish and Wildlife Service. Terrestrial Karst Invertebrates. Retrieved February 2024 from https://www.fws.gov/library/collections/terrestrial-karst-invertebrates

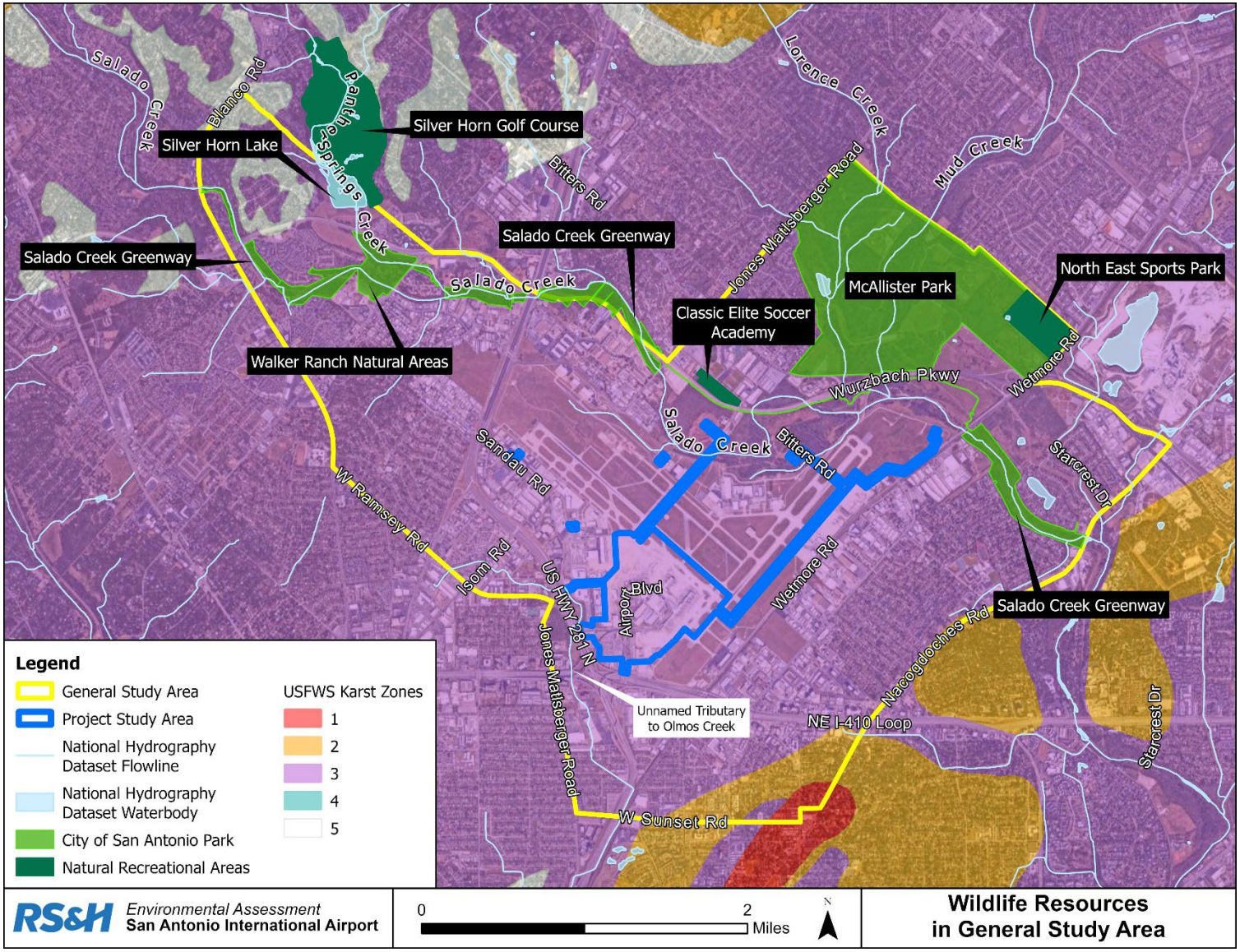
49 Texas Natural Resources Information System. TNRIS Data Hub. Retrieved February 2024 from https://data.tnris.org/

50 Texas Parks and Wildlife Department. Geographic Information Systems: Interactive Web Maps. Retrieved February 2024 from https://tpwd.texas.gov/gis/

51 U.S. Fish and Wildlife Service. Map: National Wildlife Refuge System. Retrieved February 2024 from https://www.fws.gov/sites/default/files/documents/NWRS-National-Map.pdf

52 U.S. Geological Survey. National Map Viewer. Retrieved February 2024 from https://apps.nationalmap.gov/viewer/

EXHIBIT 3-2
WILDLIFE RESOURCES WITHIN GENERAL STUDY AREA AND PROJECT STUDY AREA



Source: USFWS, 2024; RS&H, 2024.

Service (USFS) Interactive Map,[53] and U.S. National Parks Service (NPS) Parks Finder,[54] did not identify any state parks, Wildlife Management Areas, National Wildlife or Waterfowl Refuge lands, National Forests, or fish hatcheries within the General Study Area.

3.5.2.2 Species

3.5.2.2.1 Federally-Listed Species

USFWS Information for Planning and Consultation (IPaC)[55] identified 20 federally-listed or proposed threatened, endangered, or candidate species under the Endangered Species Act (ESA) for the General Study Area (see **Appendix E**). Please refer to **Table 3-5** for the 20 federally-listed, proposed or candidate species, including documented occurrences in the Texas Natural Diversity Database (TxNDD) in relation to the General Study Area, and habitat requirements. The USFWS IPaC identified Designated Critical Habitat for the Cokendolpher Cave Harvestman (*Texella cokendolpheri*) and Robber Baron Cave Meshweaver (*Cicurina baronia*) that overlaps the southern border of the General Study Area (see **Exhibit 3-3**). The Project Study Area does not contain any USFWS Designated Critical Habitat or TxNDD-mapped occurrences for the 20 federally-listed, proposed, or candidate species. Only two species, the Cokendolpher Cave Harvestman and Robber Baron Cave Meshweaver, have Designated Critical Habitat and TxNDD-mapped occurrences within the General Study Area, as shown in **Exhibit 3-3**.

3.5.2.2.2 State-Listed and Species of Greatest Conservation Need

The TPWD Rare, Threatened, and Endangered Species website identified 124 Species of Greatest Conservation Need (SGCN), threatened, or endangered species with the potential to occur in Bexar County[56] (see **Appendix E**). Based field observations recorded in the TxNDD, [57] approximately 30 state-listed SGCN, threatened, or endangered species have been observed within 10 miles of the General Study Area. Six of those species are also federally-listed and included in **Table 3-5**, the other 24 species are included in **Table 3-6**. State-listed SGCN, threatened, or endangered species in proximity to the General Study Area are shown in **Exhibit 3-3**.

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53 U.S. Department of Agriculture, U.S. Forest Service. Interactive Visitor Map. Retrieved March 2024 from https://www.fs.usda.gov/ivm/

54 U.S. Department of Interior, National Parks Service. National Parks System maps. Retrieved February 2024 from https://www.nps.gov/planyourvisit/maps.htm

55 U.S. Fish and Wildlife Service. Information for Planning and Conservation (IPaC). Retrieved January 2024 from https://ecos.fws.gov/ipac/

56 Texas Parks and Wildlife Department. Rare, Threatened, and Endangered Species, Bexar County. Retrieved December 2023 from https://tpwd.texas.gov/gis/rtest/

57 Texas Parks and Wildlife Department. Texas Natural Diversity Database. Retrieved January 2024 from https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/txndd/

TABLE 3-5
FEDERALLY-LISTED SPECIES, MAPPED OCCURRENCES, AND HABITAT

Species	Federal Listing	*TxNDD Mapped Occurrences*[1] Habitat Requirements[2]
Amphibians		
San Marcos Salamander (*Eurycea nana*)	Threatened	*No documented occurrences in Bexar County.* Endemic to clear springs at the headwaters of the San Marcos River.
Texas Blind Salamander (*Eurycea rathbuni*)	Endangered	*No documented occurrences in Bexar County.* Endemic to water-filled caves of the Edwards Aquifer in San Marcos.
Arachnids		
Cokendolpher Cave Harvestman (*Texella cokendolpheri*)	Endangered*	*Designated Critical Habitat and mapped species occurrence overlaps southern boundary of General Study Area, approx. 1 mile south of Project Study Area.* Endemic to Robber Baron Cave, a karst limestone cave that runs underneath a heavily urbanized area of San Antonio.
Government Canyon Bat Cave Meshweaver (*Cicurina vespera*)	Endangered	*Mapped species occurrence approx. 13.4 miles west of General Study Area at its nearest point.* Endemic to karst limestone caves and mesocaverns in Bexar County.
Government Canyon Bat Cave Spider (*Tayshaneta microps*)	Endangered	*While there are no documented occurrences within the TxNDD database, the USFWS has documented this species in Bexar County.* Endemic to karst limestone caves and mesocaverns in Bexar County.
Madla Cave Meshweaver (*Cicurina madla*)	Endangered*	*Mapped species occurrence approx. 9.7 miles northwest of General Study Area at its nearest point.* Endemic to karst limestone caves and mesocaverns in Bexar County.
Robber Baron Cave Meshweaver (*Cicurina baronia*)	Endangered*	*Designated Critical Habitat and mapped species occurrence overlaps southern boundary of General Study Area, approx. 1 mile south of Project Study Area.* Endemic to Robber Baron Cave, a karst limestone cave that runs underneath a heavily urbanized area of San Antonio.
Birds		
Golden-cheeked Warbler (*Setophaga chrysoparia*)	Endangered*	*Mapped historic species occurrence approx. 3.5 miles northwest of the General Study Area at its nearest point.* In Texas, old-growth woodlands with Ashe juniper, oaks, and other hardwood trees with dense canopy cover.
Piping Plover (*Charadrius melodus*)	Threatened	*No documented occurrences in Bexar County.* In Texas, occur in bare or very sparsely vegetated tidal mudflats, sand flats, or algal flats along lakes, reservoirs, and rivers.
Rufa Red Knot (*Calidris canutus rufa*)	Threatened	*No documented occurrences in Bexar County.* In Texas, winter in muddy or sandy coastal areas, such as bays and estuaries, tidal flats, and tidal inlets.

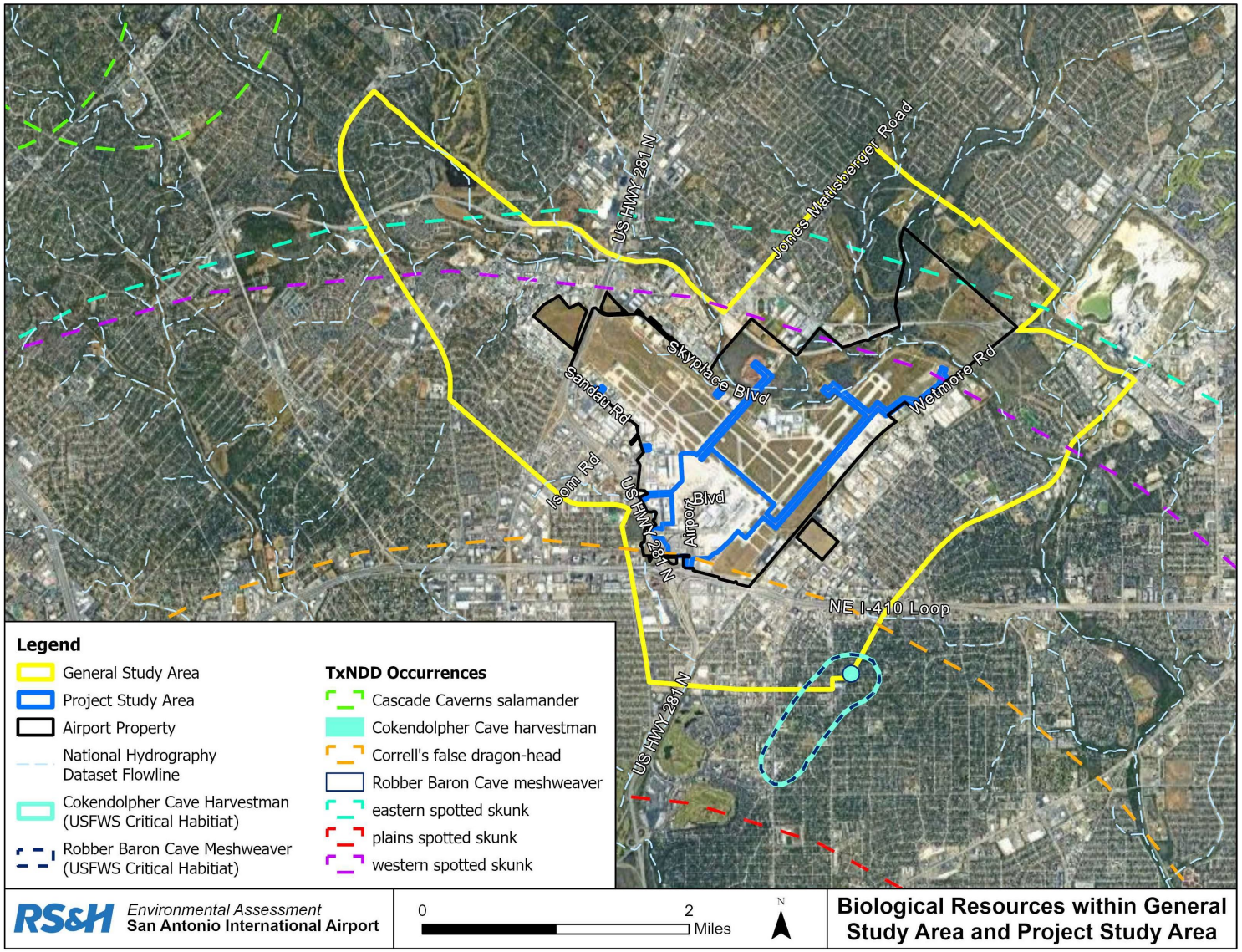
Species	Federal Listing	*TxNDD Mapped Occurrences*[1] Habitat Requirements[2]
Crustaceans		
Peck's Cave Amphipod (*Stygobromus pecki*)	Endangered	*No documented occurrences in Bexar County.* Endemic to headwaters of Comal and Hueco Springs of Edwards Aquifer.
Fish		
Fountain Darter (*Etheostoma fonticola*)	Endangered	*No documented occurrences in Bexar County.* Endemic to clean, spring-fed waters with aquatic vegetation of the San Marcos and Comal River headwaters.
Mammals		
Tricolored Bat (*Perimyotis subavus*)	Proposed Endangered	*Mapped roost and species occurrence approx. 5.4 miles northeast of General Study Area at its nearest point*. During winter, hibernate in caves, mines, and occasionally roadside culverts. Roost in live and dead deciduous hardwood trees or at times barns, porch roofs, and bridges.
Insects		
Beetle (*Rhadine exilis*)	Endangered*	*Mapped species occurrence approx. 4.6 miles northwest of General Study Area at its nearest point.* Endemic to karst limestone caves and mesocaverns in Bexar County.
Beetle (*Rhadine infernalis*)	Endangered*	*Mapped species occurrence approx. 4.6 miles northwest of General Study Area at its nearest point.* Endemic to karst limestone caves and mesocaverns in Bexar County.
Comal Springs Dryopid (*Stygoparnus comalensis*)	Endangered	*No documented occurrences in Bexar County.* Endemic to Comal and Fern Bank Springs of Edwards Aquifer containing gravel and cobble substrate with aquatic vegetation.
Comal Springs Riffle Beetle (*Heterelmis comalensis*)	Endangered	*No documented occurrences in Bexar County.* Endemic to Comal and Fern Bank Springs of Edwards Aquifer containing gravel and cobble substrate with aquatic vegetation.
Helotes Mold Beetle (*Batrisodes venyivi*)	Endangered	*Mapped species occurrence approx. 10.3 miles west of General Study Area at its nearest point.* Endemic to karst limestone caves and mesocaverns in Bexar County.
Monarch Butterfly (*Danaus plexippus*)	Candidate	*While there are no documented occurrences within the TxNDD database, monarch butterfly migration through Bexar County is well documented.* Rely on obligate milkweed during breeding and larval stages, and nectar from a wide range of flowering plants as adults.
Plants		
Texas Wild-rice (*Zizania texana*)	Endangered	*No documented occurrences in Bexar County.* Grows in cool, clear, flowing waters of spring-fed water bodies. Endemic to upper San Marcos River.

* Species are also State-listed.

[1] Texas Parks and Wildlife Department. Wildlife Diversity Program: Texas Natural Diversity Database (TxNDD). Retrieved December 2023 from https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/txndd/data.phtml

[2] U.S. Fish and Wildlife Service. Species Profiles. Retrieved January 2024 from https://www.fws.gov/species

EXHIBIT 3-3
BIOLOGICAL RESOURCES WITHIN GENERAL STUDY AREA AND PROJECT STUDY AREA



Source: TxNDD, 2024; USFWS, 2024; USGS, 2024; RS&H, 2024.

TABLE 3-6
STATE-LISTED AND SGCN SPECIES, MAPPED OCCURENCES, AND HABITAT

Species	State Listing	*TxNDD Mapped Occurences*[1] Habitat Requirements[2]
Amphibians		
Cascade Caverns Salamander (*Eurycea latitans*)	Threatened	*Mapped species occurrence approx. 0.8 miles northwest of General Study Area at its nearest point.* Endemic to central Texas. Occur in perennial springs, streams, and caves with rocky or cobble beds.
Texas Salamander (*Eurycea neotenes*)	Threatened	*Mapped species occurrence approx. 3.8 miles northwest of General Study Area at its nearest point.* Endemic to central Texas. Occur in perennial springs, streams, and caves with rocky or cobble beds.
Birds		
Black-Capped Vireo (*Vireo atricapilla*)	SGCN	*Mapped species occurrence approx. 7.8 miles northwest of General Study Area at its nearest point.* Occur in oak-juniper woodlands with dense shrub and tree foliage mixed with open, grassy spaces.
Crustaceans		
Ezell's Cave amphipod (*Stygobromus flagellates*)	SGCN	*Mapped species occurrence approx. 5.1 miles south of General Study Area at its nearest point.* Endemic to Ezell's Cave of the Edwards Aquifer in San Marcos and other karst caves in Bexar County.
Fish		
Guadalupe bass (*Micropterus treculii*)	SGCN	*Mapped species occurrence approx. 7.9 miles northeast of General Study Area at its nearest point.* Endemic to streams of Edwards Plateau north of San Antonio, with clear water and relatively consistent temperatures.
Texas Shiner (*Notropis amabilis*)	SGCN	*Mapped species occurrence approx. 2.4 miles south of General Study Area at its nearest point.* Occur typically in springs and headwater tributaries with clear water, deep pools, and sand or gravel substrates.
Toothless Blindcat (*Trogloglanis pattersoni*)	Threatened	*Mapped species occurrence approx. 5.2 miles south of General Study Area at its nearest point.* Endemic to artesian wells penetrating the San Antonio Pool of the Edwards Aquifer.
Widemouth Blindcat (*Satan eurystomus*)	Threatened	*Mapped species occurrence approx. 5.2 miles south of General Study Area at its nearest point.* Endemic to artesian wells penetrating the San Antonio Pool of the Edwards Aquifer.
Mammals		
Eastern Spotted Skunk (*Spilogale putorius*)	SGCN	*Mapped species occurrence overlaps Project Study Area.* Occur in a variety of habitats, preferring woodlands, brushlands, and tall-grass prairies.

Species	State Listing	*TxNDD Mapped Occurences*[1] Habitat Requirements[2]
Plains Spotted Skunk (*Spilogale putorius interrupta*)	SGCN	*Mapped species occurrence approx. 0.8 miles south of General Study Area at its nearest point.* Occur in a variety of habitats, preferring woodlands and tall-grass prairies with rocky canyons and outcrops.
Western Hog-nosed Skunk (*Conepatus leuconotus*)	SGCN	*Mapped species occurrence approx. 3.8 miles northwest of General Study Area at its nearest point.* Occur in woodlands, grasslands, and brushlands, preferring areas with rocky canyons and outcrops.
Western Spotted Skunk (*Spilogale gracilis*)	SGCN	*Mapped species occurrence overlaps Project Study Area.* Occur in a variety of habitats, preferring brushlands with rocky outcrops on hillsides and walls of canyons.
Mollusks		
Hueco cavesnail (*Phreatodrobia conica*)	SGCN	*Mapped species occurrence approx. 5.2 miles south of General Study Area at its nearest point.* Endemic to Bexar and Comal counties in springs, wells, and caves.
Plants		
Big Red Sage (*Salvia pentstemonoides*)	SGCN	*Mapped species occurrence approx. 8.7 miles northwest of General Study Area at its nearest point.* Endemic to seeps on limestone ledges and banks along streams in the central Edwards Plateau north of San Antonio.
Bracted Twistflower (*Streptanthus bracteatus*)	Threatened	*Mapped species occurrence approx. 5.5 miles northwest of General Study Area at its nearest point.* Endemic to Texas. Grows in shallow, well-drained gravelly clay loams over limestone in oak-Ash juniper woodlands with open canopy.
Buckley Tridens (*Tridens buckleyanus*)	SGCN	*Mapped species occurrence approx. 4.9 miles northwest of General Study Area at its nearest point.* Endemic to Edwards Plateau north of San Antonio. Grows in oak-juniper woodlands on steep rocky banks along streams.
Correll's false dragon-head (*Physostegia correllii*)	SGCN	*Mapped species occurrence overlaps southern portions of General Study Area and Project Study Area.* Grows in wet, silty clay loams on streambanks, in creek beds, irrigation channels and roadside drainage ditches.
Glass Mountains Coral-Root (*Hexalectris nitida*)	SGCN	*Mapped species occurrence approx. 8.2 miles northwest of General Study Area at its nearest point.* Grows in canyons with oak-Ashe juniper woodlands, often growing in under leaf or needle litter over limestone.
Hairy Sycamore-leaf Snowbell (*Styrax platanifolius ssp. Stellatus*)	SGCN	*Mapped species occurrence approx. 8.7 miles northwest of General Study Area at its nearest point.* Endemic to Edwards Plateau north of San Antonio. Grows in oak-juniper woodlands on steep rocky banks along streams.

Species	State Listing	*TxNDD Mapped Occurences*[1] Habitat Requirements[2]
Heller's marbleseed (*Onosmodium helleri*)	SGCN	*Mapped species occurrence approx. 5.5 miles northwest of General Study Area at its nearest point.* Endemic to Texas. Grows in loamy calcareous soils in mesic oak-juniper woodlands on rocky limestone slopes.
Plateau Milkvine (*Matelea edwardsensis*)	SGCN	*Mapped species occurrence approx. 6.4 miles northeast of General Study Area at its nearest point.* Endemic to Edwards Plateau north of San Antonio. Grows in stony or gravelly soils in juniper-oak and oak-juniper woodlands.
Texas Fescue (*Festuca versuta*)	SGCN	*Mapped species occurrence approx. 2.1 miles south of General Study Area at its nearest point.* Grows in alkaline soils on stream terraces, canyon slopes in Mesic woodlands.
Texas seymeria (*Seymeria texana*)	SGCN	*Mapped species occurrence approx. 4.1 miles west of General Study Area at its nearest point.* Endemic to Texas. Primarily grows in grassy openings in juniper-oak woodlands on dry rocky slopes
Reptiles		
Texas Garter Snake (*Thamnophis sirtalis annectens*)	SGCN	*Mapped species occurrence approx. 9.0 miles west of General Study Area at its nearest point.* Endemic to Texas. Occurs in grasslands and open areas near bodies of water where there are damp soils and debris for cover.

* Species are also ESA federally-listed.

[1] Texas Parks and Wildlife Department. Wildlife Diversity Program: Texas Natural Diversity Database (TxNDD). Retrieved December 2023 from https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/txndd/data.phtml

[2] Texas Parks and Wildlife Department. Rare, Threatened, and Endangered Species, Bexar County. Retrieved December 2023 from https://tpwd.texas.gov/gis/rtest/

3.5.2.2.3 Migratory Bird Species

Migratory bird species identified in **Table 3-5** and **Table 3-6** are further protected under the Migratory Bird Treaty Act (MBTA). In addition, TxNDD[58] identified two colonial wading bird[59] rookeries within Bexar County. One rookery is along Olmos Creek, approximately 2.5 miles south of the General Study Area. The second rookery is along Pecan Creek, approximately 10 miles northwest of the General Study Area. The MBTA also protects non-listed migratory birds that may occur within the Project Study Area.

3.5.3 Significance Threshold

FAA Order 1050.1F provides the FAA's significance threshold for biological resources. This order states that a significant impact would occur if the USFWS or National Marine Fisheries Service (NMFS) "determines that the action would be

[58] Texas Parks and Wildlife Department. Texas Natural Diversity Database. Retrieved January 2024 from https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/txndd/

[59] Colonial wading birds refer to birds that nest together as a group, such as egrets, herons, and ibises.

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, the additional factors to consider include compliance with the MBTA and Bald Eagle and Golden Eagle Protect Act; 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.

3.5.4 Methodology

To identify the habitat and the presence of species of concern within the Project Study Area and General Study Area, a desktop analysis was performed using Geographic Information Systems (GIS) and other readily available data from local, state, and federal agencies. Sources of spatial data include the TNRIS,[60] TPWD Interactive Web Maps,[61] USFWS National Wildlife Refuge System Map,[62] USGS National Map,[63] USFS Interactive Map,[64] and U.S. NPS Parks Finder,[65] USFWS Map of Karst Zones,[66] and City of San Antonio Parks and Recreation Interactive Map.[67]

A wetland and wildlife biologist performed a site visit on January 8-9, 2024, and recorded vegetation communities, sensitive environmental features, and additional habitat within the Project Study Area (refer to **Appendix D**).

Next, the extent to which the Proposed Action and No Action Alternative could impact biological resources was evaluated based on FAA significance thresholds and guidelines noted in **Section 3.5.3**.

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60 Texas Natural Resources Information System. TNRIS Data Hub. Retrieved February 2024 from https://data.tnris.org/

61 Texas Parks and Wildlife Department. Geographic Information Systems: Interactive Web Maps. Retrieved February 2024 from https://tpwd.texas.gov/gis/

62 U.S. Fish and Wildlife Service. Map: National Wildlife Refuge System. Retrieved February 2024 from https://www.fws.gov/sites/default/files/documents/NWRS-National-Map.pdf

63 U.S. Geological Survey. National Map Viewer. Retrieved February 2024 from https://apps.nationalmap.gov/viewer/

64 U.S. Department of Agriculture, U.S. Forest Service. Interactive Visitor Map. Retrieved March 2024 from https://www.fs.usda.gov/ivm/

65 U.S. Department of Interior, National Parks Service. National Parks System maps. Retrieved February 2024 from https://www.nps.gov/planyourvisit/maps.htm

66 U.S. Fish and Wildlife Service. Map of Karst Zones, Bexar County. Retrieved February 2024 from https://www.arcgis.com/home/item.html?id=ab0d8006d50c423e860e6b7f2f89aac6

67 City of San Antonio Parks & Recreation. Find A Park Interactive Map. Retrieved February 2024 from https://gis.sanantonio.gov/ITSD/ParkSearch/index.html

3.5.5 Environmental Consequences

This section describes the potential effects to biological resources associated with implementation of the No Action Alternative or Proposed Project.

3.5.5.1 No Action Alternative

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

3.5.5.2 Proposed Project

As shown on **Exhibit 1-7** in **Section 1.4**, the majority of the Proposed Project occurs on previously developed and paved surfaces on Airport property that do not provide habitat for federally-listed, state-listed, SGCN, or migratory bird species.

The Proposed Project would result in the loss or temporary disturbance of mowed and maintained grassland from the construction of the Office Support Building (S-5) and/or installation of hydrant fuel transmission lines (S-2) in the Alternative C location (refer to **Exhibit 1-7** and **Exhibit 1-9** [in **Section 1.4.5**]). These vegetation impacts would reduce habitat for species that inhabit mowed and maintained grasslands.

Installation of hydrant fuel transmission lines (S-2) under Salado Creek in the Alternative A or B locations (see **Exhibit 1-9**) and utility line upgrades (U-2) under the unnamed tributary to Olmos Creek (see **Exhibit 1-7**) would be installed via horizontal directional drilling under the creeks and adjacent wetland habitats, thereby avoiding impacts to surface waters and wetlands. Boreholes would be placed in adjacent upland areas, temporarily impacting grassland habitat.

To exclude wildlife from excavated areas, the contractor would implement Best Management Practices (BMPs) that could include: (1) installing a modified sediment control fence or similar fence around boreholes; (2) monitoring boreholes, open trenches, and excavation areas daily; and (3) providing safe egress to trapped wildlife prior to commencing construction. The contractor would contact Airport staff regarding any species unable to leave the site, and Airport staff would contact the TPWD Wildlife Permits Office to relocate any state-listed species, as needed. Where feasible, the contractor would limit the duration of open trenches and excavation areas and cover them overnight. In addition, to avoid entanglement hazards to wildlife, the contractor would avoid using materials with loosely woven fibers.

As the Proposed Project occurs on Airport property in areas that have been previously developed or paved, and Best Management Practices (BMPs) would be implemented during construction, there would be minimal indirect affects to biological resources.

3.5.5.2.1 Federally-Listed Species

Based on the habitat present within the Project Study Area, and habitat requirements identified in **Table 3-5**, potential habitat may occur within the Project Study Area for the monarch butterfly, a Candidate species for ESA federal listing.

Monarch butterflies migrate through Texas in both spring and fall between their breeding grounds in the north and wintering areas in Mexico.[68] In San Antonio, monarch migration occurs during the fall, typically in October and November.[69] During migration, monarch butterflies forage for nectar from a wide range of flowering plant species, including milkweed.[70]

Milkweed and flowering plant species may occur throughout the Project Study Area. However, pollinator habitat would be very limited on the Airport property where grass is regularly mowed and maintained. Ample, quality habitat is likely available in the vicinity of the Project Study Area, particularly along Salado Creek, the unnamed tributary to Olmos Creek, and adjacent grasslands.

As noted previously, installation of hydrant fuel transmission lines (S-2) in the Alternative A or B locations under Salado Creek and utility line upgrades (U-2) under the unnamed tributary to Olmos Creek would be installed via horizontal directional drilling, thereby avoiding impacts to potential monarch butterfly habitat. Pollinator habitat is not likely to occur in other locations in the Project Study Area where construction activities are proposed. If monarch butterflies are encountered during construction, monarchs would likely relocate to available, suitable habitat in the vicinity and remain unharmed. As construction would avoid impacts to potential monarch habitat within the Project Study Area, the Proposed Project would have no effect on the monarch butterfly.

3.5.5.2.2 State-Listed and SGCN Species

Based on the habitat present within the Project Study Area, and habitat requirements identified in **Table 3-6**, potential habitat may occur for the following state-listed or SGCN species: black-capped vireo, eastern spotted skunk, plains spotted skunk, western hog-nosed skunk, western spotted skunk, Correll's false dragon-head, and Texas garter snake.

The black-capped vireo is found in Texas only during the breeding and nesting season from April to July.[71] Breeding and nesting typically occurs in low, dense

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[68] Texas Parks and Wildlife Department. 2016. Texas Monarch and Native Pollinator Conservation Plan. Retrieved February 2024 from https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/publications/media/monarchs-pollinators-of-texas.pdf

[69] Texas Parks and Wildlife Department. The Monarch Butterfly and Other Insect Pollinators. Retrieved February 2024 from https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/texas_nature_trackers/monarch/

[70] U.S. Fish and Wildlife Service. 2020. Monarch (*Danaus plexippus*) Species Status Assessment Report, Version 2.1. Retrieved February 2024 from https://www.fws.gov/sites/default/files/documents/Monarch-Butterfly-SSA-Report-September-2020.pdf

[71] Texas Parks and Wildlife Department. Black-capped Vireo (*Vireo atricapilla*). Retrieved February 2024 from https://tpwd.texas.gov/huntwild/wild/species/bcv/

thickets of oak-juniper shrubs under 10 feet in height adjacent to open grassland.[72] As described in **Section 3.5.2.1.1**, wetland habitats along Salado Creek and the unnamed tributary to Olmos Creek within the Project Study Area contain few species within the shrub stratum. Further, trees and shrubs that are present are widely spread, and do not form dense thickets suitable for breeding or nesting. Dense oak-juniper woodland habitat preferred by the black-capped vireo may be present in McAllister Park, approximately 0.4 miles north of the Project Study Area. Due to the low likelihood of occurrence and lack of suitable breeding and nesting habitat within the Project Study Area, the Proposed Project is not anticipated to adversely affect the back-capped vireo or its habitat.

The eastern spotted skunk,[73] plains spotted skunk,[74] western hog-nosed skunk,[75] and western spotted skunk[76] occupy similar habitats that include woodlands, brushlands, and tall-grass prairies; they are often associated with rocky canyons and outcrops, and are less common in the short-grass plains where there is little protection from predators. As such, grass on Airport property that is regularly mowed and maintained is unlikely to provide suitable habitat. All four skunk species may utilize the PFO wetlands and adjacent grasslands within the Project Study Area. Since installation of hydrant fuel transmission lines (S-2) under Salado Creek (Alternative A or B locations) and utility line upgrades (U-2) under the unnamed tributary to Olmos Creek would be installed via horizontal directional drilling, impacts to potential skunk habitat would be avoided. If encountered during construction, these species would likely relocate to available, suitable habitat in the vicinity and remain unharmed. Therefore, the Proposed Project is not anticipated to adversely affect the eastern spotted skunk, plains spotted skunk, western hog-nosed skunk, and western spotted skunk, or their habitats.

Correll's false dragon-head grows in forested and herbaceous wetlands with silty clay loam soils.[77] The Project Study Area contains 2.39 acres of PFO wetlands as well as clay and silty clay soils that may provide suitable habitat for Correll's false dragon-head. However, direct effects to Correll's false dragon-head and its habitat would be avoided via horizontal directional drilling for the hydrant fuel transmission line (S-2) under Salado Creek (Alternative A or B locations) and for utility line upgrades (U-2) under the unnamed tributary to Olmos Creek. Therefore, the

[72] U.S. Fish and Wildlife Service. Species Profile: Black-capped Vireo. Retrieved February 2024 from https://www.fws.gov/species/black-capped-vireo-vireo-atricapilla

[73] Texas Tech University. Eastern Spotted Skunk, *Spilogale putorius*. Retrieved February 2024 from https://www.depts.ttu.edu/nsrl/mammals-of-texas-online-edition/Accounts_Carnivora/Spilogale_putorius.php

[74] U.S. Fish and Wildlife Service. 2022. Plains Spotted Skunk (*Spilogale interrupta*) Species Status Assessment Report. Retrieved February 2024 from https://ecos.fws.gov/ServCat/DownloadFile/238510

[75] Texas Tech University. Hog-Nosed Skunk, *Conepatus leuconotus*. Retrieved February 2024 from https://www.depts.ttu.edu/nsrl/mammals-of-texas-online-edition/Accounts_Carnivora/Conepatus_leuconotus.php

[76] Texas Tech University. Western Spotted Skunk, *Spilogale gracilis*. Retrieved February 2024 from https://www.depts.ttu.edu/nsrl/mammals-of-texas-online-edition/Accounts_Carnivora/Spilogale_putorius.php

[77] U.S. Fish and Wildlife Service. Correll's False Dragonhead. Retrieved February 2024 from https://www.fws.gov/species/corrells-false-dragonhead-physostegia-correllii

Proposed Project is not anticipated to adversely affect the Correll's false dragon-head or its habitat.

Texas garter snake occurs in grasslands and open stream-side habitats, typically with damp soils and debris providing cover.[78] The Project Study Area contains 2.39 acres of PFO wetlands with open tree canopy and adjacent grasslands that may provide suitable habitat for the Texas garter snake. Grass on Airport property is unlikely to provide suitable habitat as it does not contain damp soil or debris cover. Since installation of hydrant fuel transmission lines (S-2) under Salado Creek (Alternative A or B locations) and utility line upgrades (U-2) under the unnamed tributary to Olmos Creek would be installed via horizontal directional drilling, impacts to potential habitat would be avoided. If encountered during construction, the Texas garter snake would likely relocate to available, suitable habitat in the vicinity of the construction site and remain unharmed. Therefore, the Proposed Project is not anticipated to adversely affect the Texas garter snake or its habitat.

3.5.5.2.3 Migratory Bird Species

Of the migratory bird species listed in **Table 3-5** and **Table 3-6**, potential habitat may occur for the black-capped vireo, an SGCN and migratory bird species. Non-listed migratory birds may also occur within developed and undeveloped portions of the Project Study Area depending on their tolerance to high-intensity human development.

As discussed in the previous section, the Project Study Area does not contain suitable breeding or nesting habitat for the black-capped vireo. If encountered during construction, the black-capped vireo would likely relocate to available, suitable habitat in the vicinity, such as McAllister Park, and remain unharmed.

Non-listed migratory birds may use the PFO wetlands and adjacent grasslands within the Project Study Area. However, these areas will be avoided during construction via the use of horizontal directional drilling for installation of the hydrant fuel transmission lines (S-2) under Salado Creek (Alternative A or B locations) and utility line upgrades (U-2) under the unnamed tributary to Olmos Creek. If encountered during construction, migratory birds would likely relocate to available, suitable habitat in the vicinity of the construction site and remain unharmed.

The removal of ornamental trees and shrubs around the terminal area would be avoided to the greatest extent practicable, and landscaping would include regionally adapted tree and shrub species. The contractor would remove trees and shrubs outside of the March 15 – September 15 nesting season or confirm that trees and shrubs do not contain active nests prior to removal.

Therefore, the Proposed Project would result in "no take" of migratory bird species.

[78] Dixon, James R. and Werler, John E. 2000. Texas Snakes: A Field Guide. Austin, Texas: University of Texas Press. pp. 284–285.

3.5.5.2.4 Proposed Project Environmental Consequences Conclusion

Per the significance thresholds described in **Section 3.5.3**, the Proposed Project would have **no significant impact** on biological resources.

3.5.6 Mitigation Measures

All disturbed areas would be rehabilitated and re-seeded following construction with a seed mix containing species appropriate for the region. Landscaping would include regionally adapted tree and shrub species.

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

3.6 CLIMATE

3.6.1 Regulatory Setting

Appendix B lists the regulations associated with climate.

3.6.2 Affected Environment

As described previously, Bexar County[79] is classified as "attainment" for all criteria air pollutants excluding 8-Hour Ozone (2015). Bexar County is in Moderate classification for 8-Hour Ozone (2015) which is comprised of ozone precursors: NOx and VOCs. In 2021, the GHG emissions[80] for the U.S. were 6,307.2 million metric tons (MMT) of carbon dioxide equivalent (CO_2e), and the State of Texas was 873.1 MMT CO_2e.

3.6.3 Significance Threshold

While FAA 1050.1F[81] does not provide a significance threshold for aviation-related GHG emissions, the projected increase in GHG emissions from the Proposed Project is discussed in the context of national and global GHG emissions from all sources. The FAA 1050.1F Desk Reference[82] 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."

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79 U.S. Environmental Protection Agency. Green Book: Texas Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Retrieved March 2024 from https://www3.epa.gov/airquality/greenbook/anayo_tx.html

80 U.S. Environmental Protection Agency. Greenhouse Gas Inventory Data Explorer. Retrieved March 2024 from https://cfpub.epa.gov/ghgdata/inventoryexplorer/#allsectors/allsectors/allgas/econsect/all

81 Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

82 Federal Aviation Administration. 2020. 1050.1F Desk Reference: Climate. Retrieved March 2024 from https://www.faa.gov/sites/faa.gov/files/about/office_org/headquarters_offices/apl/3-climate.pdf

Although there are no federal standards for aviation-related GHG emissions, it is well established that GHG emissions can affect climate. The Council on Environmental Quality (CEQ) has indicated that climate should be considered in NEPA analyses. In 2024, the CEQ issued draft guidance, *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change,*[83] to assist agencies in analyzing GHG and climate change effects of a Proposed Project under NEPA. Since 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.

3.6.4 Methodology

The CEQ identified Social Cost-Greenhouse Gases (SC-GHG)[84] 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. The three GHGs[85] that are analyzed are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), which represent more than 97% of U.S. GHG emissions. To calculate SC-GHG, the carbon dioxide equivalent CO_2e[86] must be calculated first. CO_2e is calculated using the Global Warming Potential (GWP) metric to compare the impact a gas has on the global climate concerning CO_2. GWP values are based on the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report.[87] For example, CH_4 has 28 times the GWP of CO_2 and absorbs 28 times more energy in the atmosphere when compared to CO_2.

The Interagency Working Group (IWG) developed average discount rates to assess climate impacts over time. The higher the discount rate, the lower the social climate cost (SCC) for future generations. Three integrated assessment models were used to develop discount rates that were 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). The IWG average discount rates are 5 percent, 3 percent, 2.5 percent, and the 95th percentile estimate at the 3 percent discount rate, which represents the potential for low-probability catastrophic climate impacts. The IWG average discount rates represent a range of possible climate impacts to future generations. The 5 percent average rate

[83] Council on Environmental Quality. 2024. Revised Draft Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas and the Effects of Climate Change in NEPA Reviews. Retrieved March 2024 https://energy.gov/sites/prod/files/2014/12/f19/CEQ%20Guidance%20on%20Greenhouse%20Gas%20Emissions%20-%20Revised%20Draft%20for%20Public%20Comment2014-30035.pdf

[84] Interagency Working Group. 2021. Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide. Interim Estimates under Executive Order 13990. Retrieved March 2024 from https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf

[85] These three GHGs are identified in the CEQ's National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change.

[86] CO_2e: Number of metric tons of CO2 emissions with the same global warming potential as one metric ton of another greenhouse gas.

[87] Intergovernmental Panel on Climate Change. 2023. Climate Change 2023 Synthesis Report. Retrieved March 2024 from https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf

represents a situation where future generations are best suited to manage potential climate impacts from the Proposed Project, leading to a minimal social cost impact. The IWG determined the social cost of CO_2 (SC-CO_2) through 2050 and assigned a monetary value[88] for each additional metric ton of CO_2 produced. SC-CO_2 is equivalent to SC-GHGs and represents the social costs of the total greenhouse gases converted to the CO_2e equivalent. The SC-CO_2 helps weigh the benefits of climate mitigation against its costs.

3.6.5 Environmental Consequences

3.6.5.1 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. SAAS would continue to operate the Airport and serve forecast aviation demands. Therefore, the No Action Alternative would have **no impact** on climate.

3.6.5.2 Proposed Project

Construction GHG Emissions – The Proposed Project would generate GHG emissions during construction. Refer to **Table 3-1**, **Table 3-2**, **Table 3-3**, and **Table 3-4** for the estimated GHG construction emissions from 2024 to 2027 (see **Appendix C** for additional information). Using fossil fuel-powered machinery during the construction of the Proposed Project would emit GHGs such as CO_2. Increasing the number of construction-related personal vehicles traveling to and from the Airport would increase vehicle-related GHG emissions. For this EA, it is assumed that most construction-related workers already live and work in the region; therefore, the region's vehicle-related GHG emissions would not significantly change. Therefore, the construction of the Proposed Project would not have a significant effect on GHG emissions for the State of Texas, the U.S., or the global climate.

Social Costs of Greenhouse Gases (SC-GHGs) - The calculated social costs are estimates only and subject to change depending on various factors (e.g., energy supply, advancements in technology).[89] These calculations are for information purposes only and represent the potential social costs from construction emissions through 2024 to 2027. The social cost calculations represent a range of possibilities and are not guaranteed to occur. As shown in **Table 3-7**, the range of potential social costs for 2024 to 2027 from construction emissions is approximately $102,500 to $1,100,600 for 2024, $168,500 to $1,675,000 for 2025, $166,000 to $1,690,500 for 2026, and $198,450 to $1,950,000 for 2027. This cost range

[88] 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).

[89] Institute for Policy Integration et al. 2014. Omitted Damages: What's Missing from the Social Cost of Carbon. Retrieved March 2024 from https://costofcarbon.org/files/Omitted_Damages_Whats_Missing_From_the_Social_Cost_of_Carbon.pdf

TABLE 3-7
SOCIAL COST – CARBON DIOXIDE FOR THE PROPOSED PROJECT

Year	Proposed Project CO_2e Construction Emissions	Average Estimate at 5% Discount Rate	Average Estimate at 3% Discount Rate	Average Estimate at 2.5% Discount Rate	95th Percentile Estimate at 3.0% Discount Rate
2024	6,407.13	$102,514.06	$352,392.07	$525,384.55	$1,063,583.35
2025	9,908.57	$168,445.62	$554,879.68	$822,410.96	$1,674,547.62
2026	9,771.50	$166,115.53	$556,975.61	$820,806.16	$1,690,469.84
2027	11,023.95	$198,431.01	$650,412.76	$948,059.28	$1,940,214.34

Note: Per the 2023 IPCC Sixth Assessment Report, CO_2e equivalent for SC-GHG were calculated using the Interagency Working Group average discount rates: 5 percent, 3 percent, 2.5 percent, and the 95th percentile estimate applying the 3 percent discount rate. CO_2e Values are multiplied by the discount rate to calculate SC-CO_2. Per the 2023 IPCC Sixth Assessment Report, the CO_2 equivalent for N_2O is calculated by multiplying the N_2O emissions by the GWP of 265. The CO_2 equivalent for CH_4 is calculated by multiplying the CH_4 emissions by the GWP of 28. For example, the 2024 Average Estimate at a 5% Discount Rate was calculated using the 2024 CO2e value of 6407.13 multiplied by 2024's $16 determined value for the 5% Discount Rate.
Sources: Interagency Working Group, 2021, IPCC Sixth Assessment 2023, RS&H, 2024.

represents the potential social costs of adding GHGs to the atmosphere in a given year. It includes the value of all climate change impacts, including (but not limited to) changes in net agricultural productivity, human health effects, property damage from increased flood risk natural disasters, disruption of energy systems, risk of conflict, environmental migration, and the value of ecosystem services.[90] It is important to note that this climate analysis does not include positive impacts from the Proposed Project (e.g., to meet the existing and future needs of the greater San Antonio area and provide facilities that would accommodate forecasted increases in enplanements and airport operations at an adequate level of service).

In considering the impact of climate change on the Proposed Project, the foreseeable state of the environment is not expected to change significantly over the limited construction duration of the Proposed Project, which spans four years, since effects are typically felt on decadal time scales. Therefore, the Proposed Project is anticipated to have **no significant impact** on climate.

3.6.6 Mitigation Measures

As these calculations are for information purposes only and represent the potential social costs from construction emissions through 2024 to 2027, no mitigation measures are required or proposed.

[90] Interagency Working Group. 2021. Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide. Interim Estimates under Executive Order 13990. Retrieved March 2024 from https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf

3.7 DEPARTMENT OF TRANSPORTATION SECTION 4(F)

3.7.1 Regulatory Setting

Section 4(f) of the U.S. DOT Act of 1966 (Title 43 CFR Part 774)[91] provides protection for publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites eligible for listing in the National Register of Historic Places (NRHP), unless it is determined there is no feasible and prudent alternative and a proposed project includes all possible planning to minimize harm.

A proposed project can "use" a Section 4(f) property physically or constructively. A physical use occurs when there is a taking of a Section 4(f) property through the purchase of land, certain easements, physical occupation of a portion or all of the property, or alteration of structures or facilities on the property. A constructive use occurs if an action indirectly impacts a Section 4(f) property's value through noise, air pollution, water pollution, or other indirect effects, and those effects substantially impair the activities, features, or attributes that qualify the property for protection under Section 4(f).

The Area of Potential Effect (APE) under Section 106, described in **Section 3.9**, corresponds to the Project Study Area under Section 4(f).

Refer to **Appendix B** for more details on regulations associated with Section 4(f).

3.7.2 Affected Environment

3.7.2.1 Project Study Area / Area of Potential Effect

The only Section 4(f) property located in the APE is the historic Building 1322, which was determined eligible for listing in the NRHP under Criterion C for its New Formalism architectural style. Further details on the historic nature and eligibility of Building 1322 are addressed in **Section 3.9**. Refer to **Appendix F** for the Historic Resources Survey conducted by Environmental Research Group LLC (ERG) (formerly AmaTerra Environmental Inc. [AmaTerra]), Peer Review conducted by LSA Associates Inc. (LSA), SAT General Aviation (GA) memorandum prepared by RS&H, and documentation of Section 106 consultation by the FAA, including consultation with the Texas Historical Commission (THC), Advisory Council on Historic Preservation (ACHP), Alabama-Coushatta Tribe of Texas, Apache Tribe of Oklahoma, Comanche Nation of Oklahoma, Coushatta Tribe of Louisiana, Mescalero Apache Tribe of the Mescalero Reservation in New Mexico, Tāp Pīlam Coahuiltecan Nation, Tonkawa Tribe of Indians of Oklahoma, City of San Antonio Office of Historic Preservation (OHP), San Antonio Conservation Society, Bexar County Historical

[91] Title 43 Code of Federal Regulations Part 774 - Policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites. Retrieved March 2024 from https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-774?toc=1

Commission, Med Tex Mod, Preservation Texas, Power of Preservation, and the American Institute of Architects San Antonio Chapter.

There are no publicly owned parks, recreation areas, wildlife refuges, waterfowl refuges, or NRHP-listed properties located within the Project Study Area/APE.

3.7.2.2 General Study Area

Section 4(f) properties located in the General Study Area include six publicly owned parks and recreational areas, and one NRHP-eligible historic property (Building 1322 described in the previous section). Based on a review of the U.S. NPS NRHP database,[92] the General Study Area does not contain any NRHP-listed properties.

Public parks in the General Study Area include Walker Ranch Natural Areas, Salado Creek Greenway, McAllister Park, Northeast Sports Park, Silver Horn Golf Course (containing Silver Horn Lake), and Classic Elite Soccer Academy. Refer to **Exhibit 3-10** for a map of public parks within the General Study Area and vicinity.

There are no wildlife or waterfowl refuges located within the General Study Area. The nearest National Wildlife Refuge is the Balcones Canyonlands,[93] located over 73 miles north of the General Study Area. The nearest Wildlife Management Area is the James E. Daughtrey Wildlife Management Area,[94] located over 70 miles south of the General Study Area. The nearest U.S. National Forest is the Sam Houston National Forest,[95] located over 180 miles east of the General Study Area.

3.7.3 Significance Threshold

FAA Order 1050.1F,[96] provides the FAA's significance threshold for Section 4(f), which states that a significant impact would occur if "the action involves more than a minimal physical use of a Section 4(f) resource or constitutes a 'constructive use' based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource."

3.7.4 Methodology

The Project Study Area/APE and General Study Area were reviewed for any publicly owned parks, recreational areas, wildlife or waterfowl refuges, or historic sites.

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92 U.S. Department of Interior, National Park Service. National Register of Historic Places. Retrieved January 2024 from https://npgallery.nps.gov/nrhp

93 U.S. Fish and Wildlife Service. Map: National Wildlife Refuge System. Retrieved February 2024 from https://www.fws.gov/sites/default/files/documents/NWRS-National-Map.pdf

94 Texas Parks and Wildlife Department. James E. Daughtrey WMA. Retrieved March 2024 from https://tpwd.texas.gov/huntwild/hunt/wma/find_a_wma/list/?id=46

95 U.S. Department of Agriculture, U.S. Forest Service. Interactive Visitor Map. Retrieved March 2024 from https://www.fs.usda.gov/ivm/

96 Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

To identify historic sites within the APE, a historic resources survey and Historic Resources Survey Report prepared by ERG (formerly AmaTerra) in December 2023, Peer Review conducted by LSA in January 2024, and SAT GA research conducted by RS&H in March 2024. Section 106 consultation with THC, federally-recognized tribal communities, ACHP, and participating stakeholders listed in **Section 3.7.2.1** was conducted by the FAA (refer to **Appendix F**). The FAA also prepared a Section 4(f) Evaluation and initiated consultation with the Department of the Interior (DOI) Office of Environmental Policy and Compliance (OEPC) on September 11, 2024; the DOI OEPC concurred with the FAA's Section 4(f) determination on October 8, 2024 (see **Appendix G**).

Information regarding publicly owned parks, recreational areas, wildlife or waterfowl refuges, and NRHP-listed properties was gathered from public resources and spatial data from the City of San Antonio,[97] Texas Parks and Wildlife Department,[98] Texas Natural Resources Information System,[99] USFWS National Wildlife Refuge System Map,[100] USFS Interactive Map,[101] U.S. NPS Parks Finder,[102] U.S. NPS NRHP database,[103] and recent and past aerial imagery.

Following the historic resources survey, additional research, and Section 106 consultation, the No Action Alternative and Proposed Project was evaluated to determine whether there would be a physical or constructive use of any Section 4(f) property. The results of the Aircraft Noise Technical Report (**Appendix I**), Air Quality Inventory (**Appendix C**), water resources analysis (**Section 3.15**), and other resource categories evaluated in this EA were used to determine if changes in aircraft noise, air quality, water quality, or other impacts, would result in a constructive use of Section 4(f) properties.

3.7.5 Environmental Consequences

This section describes the potential effects to Section 4(f) resources associated with implementation of the No Action Alternative or Proposed Project.

97 City of San Antonio Parks & Recreation. Find A Park Interactive Map. Retrieved February 2024 from https://gis.sanantonio.gov/ITSD/ParkSearch/index.html

98 Texas Parks and Wildlife Department. Geographic Information Systems: Interactive Web Maps. Retrieved February 2024 from https://tpwd.texas.gov/gis/

99 Texas Natural Resources Information System. TNRIS Data Hub. Retrieved February 2024 from https://data.tnris.org/

100 U.S. Fish and Wildlife Service. Map: National Wildlife Refuge System. Retrieved February 2024 from https://www.fws.gov/sites/default/files/documents/NWRS-National-Map.pdf

101 U.S. Department of Agriculture, U.S. Forest Service. Interactive Visitor Map. Retrieved March 2024 from https://www.fs.usda.gov/ivm/

102 U.S. Department of Interior, National Parks Service. National Parks System maps. Retrieved February 2024 from https://www.nps.gov/planyourvisit/maps.htm

103 U.S. National Park Service. National Register of Historic Places. Retrieved January 2024 from https://npgallery.nps.gov/nrhp

3.7.5.1 No Action Alternative

Under the No Action Alternative, the Airport Sponsor would not implement any improvements or other associated actions. The No Action Alternative would not physically or constructively use any Section 4(f) properties. Therefore, the No Action Alternative would have **no impact** on Section 4(f) resources.

3.7.5.2 Proposed Project

Based on the results of the Aircraft Noise Technical Report (**Appendix I**), Air Quality Inventory (**Appendix C**), water resources analysis (**Section 3.15**), and other resource categories evaluated in this EA, the Proposed Project would not constructively use Section 4(f) resources.

The Proposed Project would demolish the existing Badge and ID Office (Building 1322), referred to as project component D-1 on **Exhibit 1-9** in **Section 1.4.5**. This would result in an adverse effect on historic properties and physical use of a Section 4(f) property. The Proposed Project includes mitigation to resolve adverse effects to historic properties by appropriately documenting Building 1322 for airport users and the public (refer to **Section 3.7.6** below). These mitigation measures are outlined in a Memorandum of Agreement (MOA) between the FAA, Airport Sponsor, THC, and the San Antonio OHP (see final attachment in **Appendix F**).

The FAA prepared a Section 4(f) Evaluation that determined there are no feasible and prudent alternatives to the use of Building 1322, a Section 4(f) resource, and that the Proposed Project includes all possible planning to minimize harm resulting from such physical use. Other alternatives considered would either fail to meet the Purpose and Need of the Proposed Project or would not be feasible and prudent to implement. In compliance with Section 4(f) of the U.S. DOT Act of 1966, the FAA has submitted the Section 4(f) Evaluation to the DOI OEPC and initiated consultation on September11, 2024; the DOI OEPC concurred with the FAA's Section 4(f) determination on October 8, 2024 (refer to **Appendix G**).

Based on the results of the Section 106 and Section 4(f) consultation process and through compliance with MOA mitigation measures, the Proposed Project would have **no significant impact** on Section 4(f) resources.

3.7.6 Mitigation Measures

The Airport Sponsor is responsible for carrying out the following seven mitigation measures, summarized below, associated with the removal of Building 1322 to resolve adverse effects to historic properties, also protected under Section 4(f):

- Measure 1: Prepare documentation of Building 1322 to meet modified Historic American Building Survey (HABS) Level I-like standards. Submit the HABS documentation to City of San Antonio archives, the City of San Antonio Public Library, and the Texas Historical Commission.

- Measure 2: Prepare and provide educational information to the public regarding Building 1322 in the form of an interpretive sign to be placed adjacent to the pedestrian corridor between the new terminal and the ground transportation center. The interpretive sign will detail the history of Building 1322 as well as the history of San Antonio International Airport.
- Measure 3: Prepare a timed-lapsed video of the demolition of Building 1322. This video is intended to provide information about the construction methods and materials associated with Building 1322.
- Measure 4: Prepare a historic context for posting on the San Antonio International Airport website that discusses the development of Building 1322 and the relationship of the company who constructed Building 1322 to SAAS.
- Measure 5: Prepare an article entry for posting to Texas State Historical Association (TSHA) Handbook of Texas, a digital state encyclopedia that is free and accessible to the public.
- Measure 6: Prepare 3D modeling on Building 1322 for posting on the San Antonio International Airport website linked to a QR Code and as an attachment to the modified HABS Level I documentation (see Measure 1).
- Measure 7: Every effort shall be made to salvage and reuse materials and design elements from Building 1322. At a minimum this includes travertine cladding and the reinforced concrete Y columns. If salvage and reuse is determined to not be possible, then the new pedestrian walkway must include design elements that reference the demolished structure which may include Y columns and / or a curvilinear roof form.

Refer to the MOA in **Appendix F** for more details on mitigation measures, stipulations, and implementation requirements. In accordance with FAA Order 1050.1F, a Section 4(f) Evaluation was completed and is available as **Appendix G**.

3.8 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

3.8.1 Regulatory Setting

Appendix B lists the regulations associated with hazardous materials, solid waste, and pollution prevention.

3.8.2 Affected Environment

3.8.2.1 Hazardous Materials

According to the USEPA Cleanups in My Community Map, the nearest hazardous waste site to the Project Study Area is the Montgomery Ward Store #2336 at

Windsor Park Mall, located approximately 3.4 miles southeast of the General Study Area.[104]

Given the age of some buildings proposed to be demolished as part of the Proposed Project, SAAS completed a hazardous materials assessment in July 2018 for any asbestos found in the affected buildings. These asbestos survey reports are included in **Appendix H**. According to the asbestos surveys prepared for this EA, asbestos was found in the following areas:

- Building 1039 – Asbestos is present in the tile flooring and black mastic of the break room. Asbestos is also present in the tile flooring of the computer room.
- Building 1320 – Asbestos is present in the exhaust flue of the mechanic room, in the black mastic of the restroom, and in the tile flooring and black mastic of the building.
- Building 1322 – Asbestos is present in the heating, ventilation, and air conditioning duct sealant.

Commercial passenger aircraft at SAT are currently fueled with fuel trucks, managed by Allied Aviation, with trucks going between the apron and the load rack by the fuel farm. In addition, Allied Aviation manages the fueling storage tanks used by ground surface equipment (GSE) at SAT. Based on information provided by the Airport Sponsor, GSE unleaded gasoline usage was 97,417 gallons and diesel usage was 24,076 gallons in 2022.

There are three sites within the Project Study Area where unregistered landfills used to operate: Bitters Landfill Site, Old Bitters Strip Pits, and the Wetmore Road Landfill. Bitters Landfill Site has since closed in the 1990s and is now used as a mulch laydown area (Bitters Brush Recycling Center) within the Project Study Area. The Bitters Brush Recycling Center is accessible from Jones Maltsberger Road and Wurzbach Parkway. Bitters Road Strip Pits was located south of Skyplace Road and west of Runway 4-22 that has also been closed since the 1990s. Lastly, Wetmore Road Landfill was located west of Wetmore Road and south of Starcrest Road.

A landfill waste assessment inventory report was conducted for the Airport in 1991 (refer to **Appendix H**) and found that the Bitters Landfill Site was used for the disposal of construction debris, municipal waste, and brush cuttings; the Bitters Road Strip Pits was used for the disposal of construction and demolition waste; and the Wetmore Road Landfill was used for the disposal of municipal and industrial waste. The report concluded that the waste disposed at the Bitters Landfill Site had low corrosivity potential for concrete and a high corrosivity potential for steel. In addition, various levels of hazardous materials were detected in the leachate from the Bitters Landfill Site. The Old Bitters Strip Pits were not chemically tested

[U] U.S. Environmental Protection Agency. Cleanups In My Community. Retrieved January 2024 from https://cimc.epa.gov/ords/cimc/f?p=cimc:MAP::::71:P71_WELSEARCH:TX|State|TX|||true|true|true|true|true|true||-1|sites|N|basic

because construction and demolition waste is generally not considered hazardous. However, hazardous materials were detected in groundwater samples from the strip pits. Groundwater samples from the Wetmore Road Landfill site contained traces of hazardous materials; however, hazardous material levels were below detection limits in the soil borings collected from the site.

SAAS previously operated a fire training area (FTA) on Airport property from the mid-1970s until 1991. Historic fire-fighting activities may have led to a release of per-and polyfluoroalkyl substances (PFAS) to the north of the Aircraft Rescue and Fire Fighting (ARFF) station up to Skyplace Boulevard and west of the ARFF station and up to the perimeter road, which is the same location as the proposed Office Support Building (Project Component S-5), and at the location of the Alternative B hydrant fuel transmission line (Project Component S-2) north of Salado Creek (refer to **Exhibit 1-7** and **Exhibit 1-9** in **Section 1.4** and **Section 1.4.5**, respectively). SAAS is conducting a TDP Baseline Environmental Investigation for PFAS at the proposed Terminal C location; this study is still in progress. For areas where soils would be excavated, any soils known to contain PFAS above contamination thresholds set by the State of Texas would be managed or remediated in compliance with TCEQ cleanup standards.[105]

A Phase III Site Investigation (refer to **Appendix H**) was previously conducted at the FTA and determined the presence of total petroleum hydrocarbons (TPH) contamination at various depths throughout the site due to the release of a variety of combustible chemicals burned during historic fire training activities. An above ground storage tank, and its associated piping and other containerized materials, that has since been removed, and may have contributed to the finding of TPH contamination at the FTA site.

3.8.2.2 Solid Waste

The Terminal Services Team at SAT is responsible for collecting waste from the terminals, and Republic Services hauls and manages the waste from the Airport to Tessman Road Landfill, located approximately 7.7 miles southeast of the General Study Area and has 29 years of life remaining.[106] In addition, there are several other transfer stations, compost facilities, and medical waste processing facilities in Bexar County. The Airline Consortium contracts its own company to haul waste for airline operations.

[105] Texas Commission on Environmental Quality. 2024. Texas Risk Reduction Program. Retrieved September 2024 from https://www.tceq.texas.gov/remediation/trrp/trrppcls.html

[106] Texas Commission on Environmental Quality. 2023. *Municipal Solid Waste in Texas: A Year in Review, 2022 Data Summary and Analysis.* Retrieved January 2024 from https://www.tceq.texas.gov/downloads/permitting/waste-permits/publications/as-187-23.pdf

3.8.3 Significance Threshold

The FAA has not established a significance threshold for hazardous materials, solid waste, or pollution prevention. However, FAA Order 1050.1F[107] does provide a number of factors to consider in evaluating the context and intensity of potential environmental impacts. These 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.

3.8.4 Methodology

Information regarding existing hazardous materials and solid waste within the Project Study Area and General Study Area was obtained from publications obtained from the USEPA,[108] Texas Commission on Environmental Quality,[109] Airport Sponsor-provided studies, and an Asbestos Survey performed for this EA (refer to **Appendix H**).

An analysis was then performed to determine the potential increase in hazardous materials and waste at the Airport under the No Action Alternative and Proposed Project, including construction and operation activities, and how those materials and waste would be handled and stored at the Airport.

3.8.5 Environmental Consequences

This section describes the potential effects related to hazardous materials, solid waste, and pollution prevention associated with the implementation of the No Action Alternative and the Proposed Project.

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[107] Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

[108] U.S. Environmental Protection Agency. Cleanups In My Community. Retrieved January 2024 from https://cimc.epa.gov/ords/cimc/f?p=cimc:MAP::::71:P71_WELSEARCH:TX|State|TX|||true|true|true|true|true|true||-1|sites|N|basic

[109] Texas Commission on Environmental Quality. 2023. *Municipal Solid Waste in Texas: A Year in Review, 2022 Data Summary and Analysis.* Retrieved January 2024 from https://www.tceq.texas.gov/downloads/permitting/waste-permits/publications/as-187-23.pdf

3.8.5.1 No Action Alternative

The No Action Alternative does not require any disruption of land or soil. Therefore, it would not affect the hazardous materials that exist at SAT. The forecast increase in aircraft operations would result in a commensurate increase in the use of aviation fuel at SAT. An increase in the volume of solid waste would occur as a result of the forecast increase in passengers at SAT. Given the capacity of the Tessman Road Republic Services Landfill, this increase in solid waste would not have a significant impact. Therefore, the No Action Alternative would have **no significant impact** on hazardous materials, solid waste, and pollution prevention.

3.8.5.2 Proposed Project

The Proposed Project would demolish several buildings on Airport property (see **Exhibit 1-7** in **Section 1.4**). SAAS has completed a hazardous materials survey to document the presence of asbestos found in these buildings and is in the process of performing abatement activities to remove any asbestos found. SAAS would complete all abatement activities prior to starting any demolition of these buildings.

The Proposed Project would disturb the Bitters Brush Recycling Center (previously Bitters Landfill Site) or the previous Wetmore Road Landfill site during the construction of hydrant transmission fuel lines (Project Component S-2) if either the Alternative A or C location was selected (refer to **Exhibit 1-9** in **Section 1.4.5**), respectively. The Proposed Project would also disturb soils where PFAS may have been historically released, specifically at the location of the Office Support Building (Project Component S-5) and hydrant fuel transmission lines (Project Component S-2), if the Alternative B location was selected (refer to **Exhibit 1-7** and **Exhibit 1-9**). Prior to excavating soils at locations suspected of containing PFAS, the Airport Sponsor would comply with the SAT Soil Management Plan,[110] which provides stipulations for soil screening, sampling, management, and disposal for excavated/imported soils that may be contaminated. For areas where soils would be excavated, any soils known to contain PFAS above contamination thresholds set by the State of Texas would be managed or remediated in compliance with TCEQ cleanup standards.[111] Through compliance with the SAT Soil Management Plan, any hazardous or contaminated soils would be properly identified, managed, and disposed in compliance with federal, state, and local rules and regulations prior to construction.

Some construction activities have the potential to generate hazardous waste and use construction materials (fuel, oil, lubricants, paints, etc.) that may contain hazardous substances. Prior to project initiation, the general contractor would

[110] San Antonio Airport System. 2012. San Antonio International Airport Soil Management Plan. SAAS Environmental Stewardship Division, San Antonio, Texas

[111] Texas Commission on Environmental Quality. 2024. Texas Risk Reduction Program. Retrieved September 2024 from https://www.tceq.texas.gov/remediation/trrp/trrppcls.html

obtain a Construction General Permit (CGP) from TCEQ, and the Airport Sponsor would update their Texas Pollutant Discharge Elimination System (TPDES) Permit (No. TXR050000) to cover construction and operation of the Proposed Project. A Stormwater Pollution Prevention Plan (SWP3) would be implemented by the contractor to comply with the CGP and TPDES Permit. The SWP3 includes Best Management Practices (BMPs) for spill prevention, response, and pollution prevention measures to minimize or prevent the release of hazardous substances into the environment during construction activities. Any hazardous substances generated or encountered during construction would be managed and disposed of in compliance with federal, state, and local hazardous materials management guidelines. The contractor would dispose of construction and demolition waste at a facility authorized by TCEQ and obtain special waste authorization from TCEQ for the disposal of asbestos-containing material, as needed.

No significant impacts related to solid waste are expected, as impacts related to construction waste are temporary.

Following construction, the Proposed Project would not result in a greater number of annual aircraft operations compared to the No Action Alternative. Therefore, the Proposed Project would not result in a greater increase in the amount of aviation fuel used at SAT compared to the No Action Alternative. All fueling operations would continue to operate in compliance with federal, state, and local hazardous materials guidelines and would not be a significant impact.

Likewise, the Proposed Project would not result in a greater increase in amount of solid waste generated at SAT compared to the No Action Alternative because the forecast increase in passengers under the Proposed Project is the same as that of the No Action Alternative. Given the capacity of the Republic Services Tessman Road Landfill, this increase in solid waste would not be a significant impact.

Through avoidance and minimization measures, asbestos abatement, compliance with the SAAS Soil Management Plan, and implementation of SWP3 during construction, the Proposed Project would have **no significant** impact on hazardous materials, solid waste, and pollution prevention.

3.8.6 Mitigation Measures

All work would be conducted in compliance with the SAT Soil Management Plan, and general contractor's CGP that includes development of a SWP3 with BMPs for spill prevention, response, and pollution prevention measures. Additional mitigation measures are not proposed.

3.9 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

3.9.1 Regulatory Setting

Appendix B lists the regulations associated with historical, architectural, archaeological, and cultural resources.

Per Section 106 of the National Historic Preservation Act implementing regulations (36 CFR Part 800),[112] the FAA identified and evaluated historic properties within the Area of Potential Effects (APE), made a determination of project effects, and consulted with the Texas Historical Commission (THC) acting as the State Historic Preservation Officer (SHPO), Federally-recognized tribal communities, and participating stakeholders (see **Section 3.9.4**). Refer to **Appendix F** for Section 106 documentation.

3.9.2 Affected Environment

3.9.2.1 Project Study Area

3.9.2.1.1 Historical and Architectural Resources

The following historic resources survey, research, and FAA determination of NRHP-eligible resources for the Project Study Area is available in **Appendix F**. Based on a review of the U.S. NPS National Register of Historic Places (NRHP) database,[113] the APE does not contain any NRHP-listed historical or architectural resources.

Historic Resources Survey

To identify potential historic properties within the APE, a historic resources survey was performed in December 2023 by Environmental Research Group LLC (ERG) (formerly AmaTerra) to assess the eligibility of Buildings 1312 (Hangar 6), 1316 (Hangar 4), 1320 (Police Department Building), and Building 1322 (Badging and ID Office) for listing in the NRHP. ERG concluded Building 1312, which was constructed in the early 1980s, does not meet the requirements for special significance under Criterion G for resources less than 50 years of age. ERG recommended Buildings 1316 and 1320 as individually eligible for listing in the NRHP under Criterion A under Community Planning and Development. ERG recommended Building 1322 as individually eligible for listing in the NRHP under Criterion A under Community Planning and Development, and Transportation and under Criterion C for its New Formalism architectural style.

Historic Resources Additional Research

[112] Title 36 Code of Federal Regulations Part 800 – Protection of Historic Places. Retrieved March 2024 from https://www.ecfr.gov/current/title-36/chapter-VIII/part-800?toc=1

[113] U.S. National Park Service. National Register of Historic Places. Retrieved January 2024 from https://npgallery.nps.gov/nrhp

LSA Associates, Inc. (LSA) conducted a Peer Review of the Historic Resources Survey Report in January 2024. The Peer Review concluded that the information regarding Buildings 1316 and 1320 did not support the recommendation for individual eligibility in the NRHP in the area of Community Planning and Development.

In addition to the Peer Review, SAAS staff conducted additional research into Dee Howard, a notable person that ERG associated with Building 1322, and informed their recommendation that Building 1322 was eligible for listing under Criterion A. Based on their findings, SAAS staff concluded Dee Howard was not associated with Building 1322.

Lastly, RS&H conducted additional research at the request of THC into the role of General Aviation at the San Antonio Airport and prepared a memorandum of findings in March 2024.

FAA Determination and THC Concurrence of Historic Resources Eligibility

After review of the Historic Resources Survey Report, Peer Review, and additional research provided by SAAS, the FAA determined that Buildings 1316 and 1320 are *not eligible* for listing in the NRHP, and Building 1322 is *eligible* for listing in the NRHP under Criterion C for its New Formalism architectural style. THC reviewed the FAA's determination and SAT GA memorandum prepared by RS&H, and concurred with the FAA's determination on March 14, 2024 (refer to **Appendix F**).

3.9.2.1.2 Archaeological and Cultural Resources

A survey for archaeological and cultural resources has not been conducted within the Project Study Area. The Project Study Area is largely developed with Airport infrastructure. Landscaped areas adjacent to Airport infrastructure have been graded and disturbed from prior construction. Due to existing infrastructure and prior disturbance, developed areas within the Project Study Area are unlikely to contain archaeological resources. Undeveloped portions of the Project Study Area are relatively small and include areas near Salado Creek and an unnamed tributary to Olmos Creek.

Based on a review of the U.S. NPS NRHP database,[114] the Project Study Area does not contain any NHRP-listed archaeological or cultural resources.

3.9.2.2 General Study Area

According to the U.S. NPS NRHP database,[115] the nearest NRHP-listed property is the Stations of the Cross and Grotto at the Shrine of St. Anthony de Padua, located approximately 0.3-mile south of the General Study Area, and over 1 mile south of the Project Study Area. The General Study Area does not contain any NRHP-listed

[114] U.S. National Park Service. National Register of Historic Places. Retrieved January 2024 from https://npgallery.nps.gov/nrhp

[115] U.S. National Park Service. National Register of Historic Places. Retrieved January 2024 from https://npgallery.nps.gov/nrhp

historical, architectural, archeological, or cultural resources. Building 1322 is the only known NRHP-eligible resource within the General Study Area.

3.9.3 Significance Threshold

FAA Order 1050.1F[116] 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. Resolution of adverse effects under 36 CFR Part 800.6[117] may be sufficient for the FAA to make no significant impact determination under NEPA.

3.9.4 Methodology

To identify historic and architectural resources within the General Study Area, the U.S. NPS NRHP database[118] was reviewed for all NRHP-listed properties in the City of San Antonio. The historic resources survey, research, FAA determination of NRHP-eligible resources and project effects, and Section 106 consultation for the Project Proposed, summarized below, are available in **Appendix F**.

Section 106 Consultation on APE – Texas Historical Commission
The FAA initiated Section 106 consultation with THC to determine the APE on September 28, 2023. THC concurred with the FAA-recommended APE on October 13, 2023.

Section 106 Consultation with FAA Determination – Texas Historical Commission
The FAA submitted the results of the Historic Resources Survey, Peer Review, additional research by SAT, and FAA determination of NRHP-eligible properties and project effects to THC on February 15, 2014. The FAA submitted the SAT GA memorandum to THC on March 7, 2024. THC concurred with the FAA's determination of eligible properties and project effects on March 14, 2024.

[116] Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf
[117] Title 36 Code of Federal Regulations Part 800, Subpart B, 800.6 – Resolution of Adverse Effects. Retrieved March 2024 from https://www.ecfr.gov/current/title-36/chapter-VIII/part-800/subpart-B/section-800.6
[118] U.S. National Park Service. National Register of Historic Places. Retrieved January 2024 from https://npgallery.nps.gov/nrhp

Section 106 Consultation – Federally-Recognized Tribal Communities
The FAA initiated Section 106 consultation with the following tribal communities on April 4, 2024: Alabama-Coushatta Tribe of Texas, Apache Tribe of Oklahoma, Comanche Nation of Oklahoma, Coushatta Tribe of Louisiana, Mescalero Apache Tribe of the Mescalero Reservation in New Mexico, Tāp Pīlam Coahuiltecan Nation, and Tonkawa Tribe of Indians of Oklahoma. The consultation letter invited tribal communities to comment on the Proposed Project and invited them to participate in the development of a Memorandum of Agreement (MOA) that outlines minimization and mitigation stipulations for adverse impacts to historic properties. None of the seven tribal communities requested to be a Consulting Party for the MOA.

Section 106 Consultation – Participating Stakeholders

The FAA submitted a letter to the following stakeholders on April 4, 2024, with an invitation to participate in the development of an MOA that outlines minimization and mitigation stipulations for adverse impacts to historic properties: San Antonio Office of Historic Preservation (OHP), San Antonio Conservation Society, Bexar County Historical Commission, Mid Tex Mod, Preservation Texas, Power of Preservation, and the American Institute of Architects San Antonio Chapter. One organization, the San Antonio OHP, requested to be a Consulting Party.

Section 106 Consultation - Advisory Council on Historic Preservation
The FAA notified the ACHP of the determination of adverse effect and intention to enter into a MOA with specified documentation on July 3, 2024. The ACHP chose not to participate in the consultation on July 17, 2024.

Section 106 Consultation – Memorandum of Agreement
The FAA hosted an online kickoff meeting on May 14, 2024, with SAAS, THC, and OHP to discuss the TDP project, Building 1322, MOA procedures, and mitigation measures. The SAAS held an onsite meeting with the THC, San Antonio OHP, and three commissioners from the City of San Antonio Historic and Design Review Commission on June 14, 2024, to discuss the TDP, Building 1322, and to present proposed mitigation measure options. Mitigation measures were identified during the online kickoff meeting, refined through subsequent coordination, and outlined in a MOA between the FAA, Airport Sponsor, and THC. The Consulting Parties signed the MOA on September 12, 2024.

Next, the extent to which the Proposed Action and No Action Alternative could impact historical, architectural, archeological, or cultural resources was evaluated based on FAA significance thresholds and guidelines noted in **Section 3.9.3**.

3.9.5 Environmental Consequences

This section describes the potential impacts to historical, architectural, archeological, and cultural resources associated with implementation of the No Action Alternative or Proposed Project.

3.9.5.1 No Action Alternative

Under the No Action Alternative, no physical changes to Airport configuration, buildings or infrastructure would occur, resulting in no direct or indirect affects to NRHP-listed or eligible historic properties. Therefore, the No Action Alternative would have **no effect/impact** on historical, architectural, archeological, and cultural resources.

3.9.5.2 Proposed Project

The FAA determined the Proposed Project would have an Adverse Effect on Historic Properties through the removal of the NRHP-eligible Building 1322 (Badging and ID Office). THC concurred that the project would have an Adverse Effect on Historic Properties in their concurrence letter dated March 14, 2024.

Due to prior disturbance within the APE where construction of the Proposed Project would occur, archaeological resources are unlikely to be present.

As described in **Section 3.9.4**, the FAA invited seven tribal communities, seven organizations, and the ACHP to be Consulting Parties on an MOA outlining minimization and mitigation stipulations for adverse impacts to historic properties. Consulting Parties for the MOA included the FAA, Airport Sponsor, and THC. Mitigation measures agreed upon within the MOA (see final attachment in **Appendix F**) and summarized in **Section 3.9.6** would be implemented as part of the Section 106 process to resolve Adverse Effects.

Through implementation of mitigation measures that resolve Adverse Effects to historic properties, the Proposed Project would have **no significant impact** on historical, architectural, archeological, and cultural resources.

3.9.6 Mitigation Measures

In the event that archeological resources are discovered during construction, FAA and THC would treat each discovery as a post-review discovery under Section 106 and, if necessary, as a late discovery under Section 4(f) of the DOT Act. FAA and THC consultation would determine each site's NRHP eligibility according to the National Parks Service's guidelines for evaluating NRHP eligibility. If the discovered archeological site(s) are determined to be eligible for NRHP listing, FAA and THC would consult regarding the effect of the project on the NRHP-qualifying characteristics of the discovered site(s).

The seven mitigation measures summarized in **Section 3.7.6** associated with the removal of Building 1322 would be carried out by the Airport Sponsor to resolve adverse effects to historic properties.

The MOA in **Appendix F** (final attachment) provides additional details on mitigation measures, stipulations, implementation actions, and timelines.

3.10 LAND USE

3.10.1 Regulatory Setting

Appendix B lists the regulations associated with land use.

3.10.2 Affected Environment

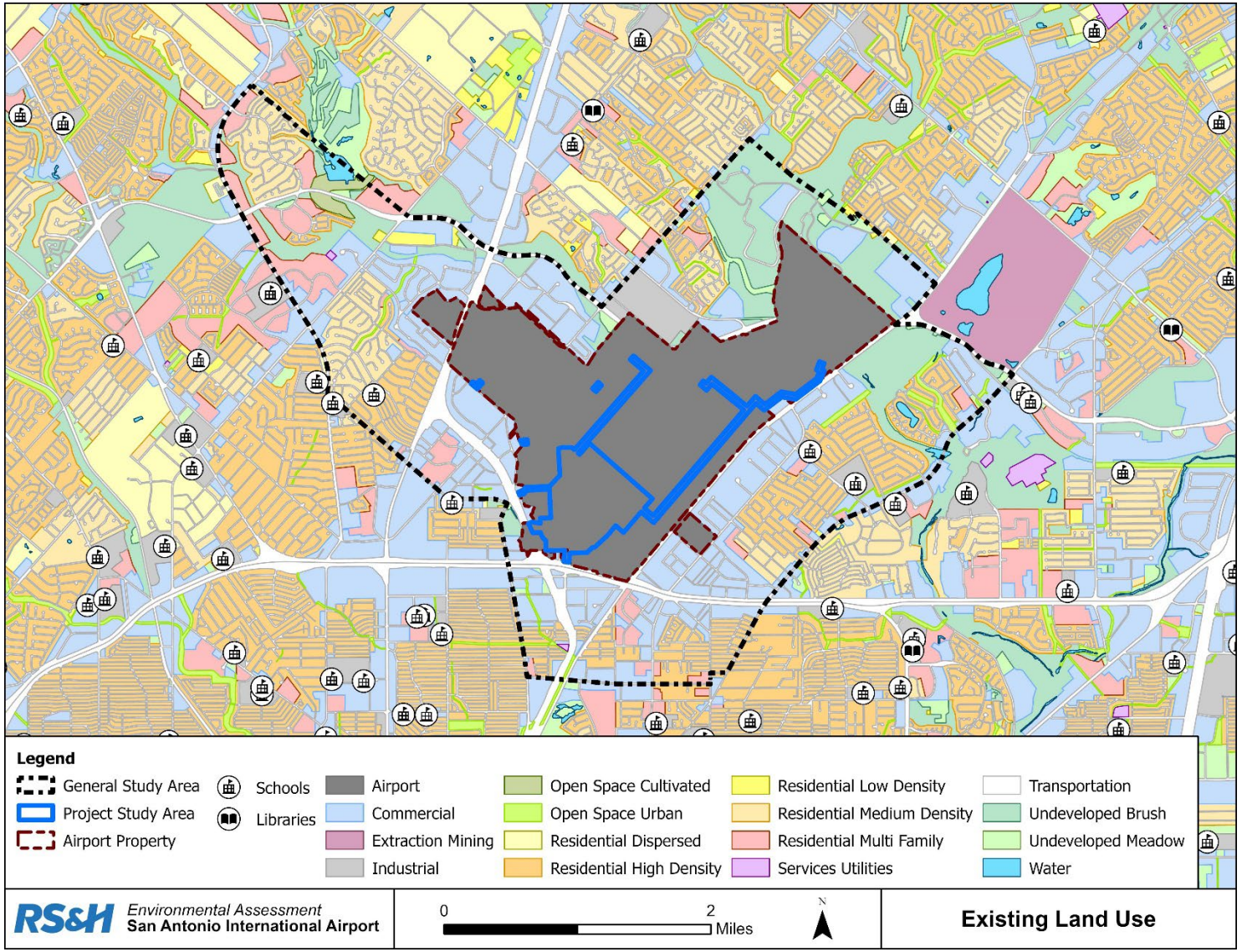
The Airport is located in the City of San Antonio and is entirely within Bexar County. The entire Airport, including the Project Study Area, is currently used for aviation services with a land use designation defined as "Airport."[119] Land uses within the General Study Area include airport use, industrial use, extraction mining, low density residential, medium density residential, high density residential, multi-family residential, water, commercial use, open space cultivated, transportation use, services utilities use, and undeveloped (see **Exhibit 3-4**)[120]. Compatible land uses surrounding the Airport are defined by the Airport Hazards Overlay District that restricts certain uses within the zoning district that would obstruct air space required for the safe operation and control of aircraft (see **Exhibit 3-5**).[121]

[119] City of San Antonio. City of San Antonio One Stop Map. Retrieved March 2024 from https://gis.sanantonio.gov/DSD/OneStop/Index.html

[120] San Antonio River Authority. 2022. Bexar Future Land Use & Cibolo Future/Existing Land Use (2020). Retrieved March 2024 from https://geoportal-mpo.opendata.arcgis.com/maps/90138edf2dc74930aa9fe84839731957/about

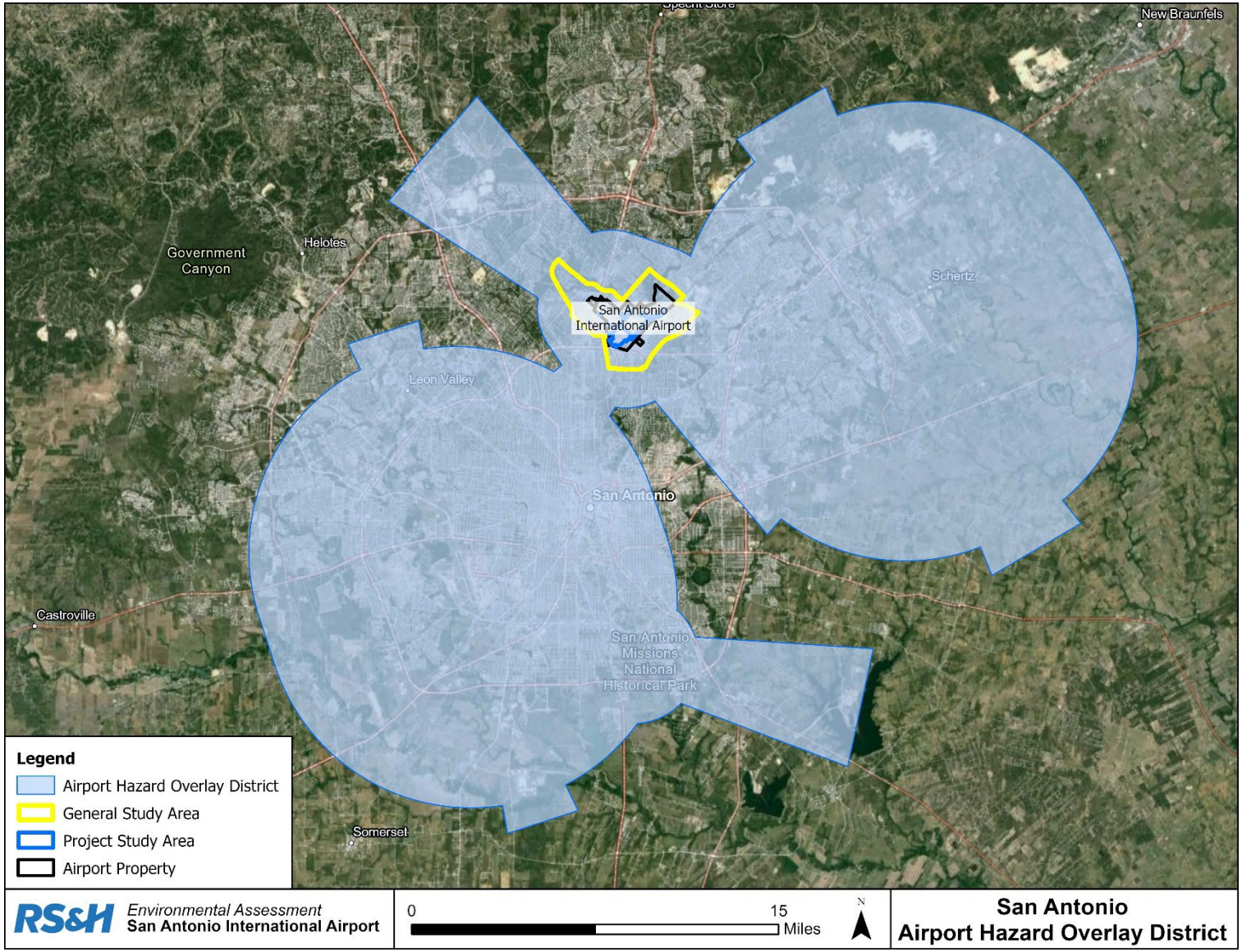
[121] City of San Antonio. Unified Development Cod. *Sec. 34-331. "AHOD" Airport Hazard Overlay District"*. Retrieved March 2024 from https://library.municode.com/tx/san_antonio/codes/unified_development_code?nodeId=ARTIIIZO_DIV4OVDIS35-331AHAIHAOVDI

EXHIBIT 3-4
LAND USES WITHIN GENERAL STUDY AREA AND PROJECT STUDY AREA



Source: City of San Antonio, 2024; San Antonio River Authority, 2022; RS&H, 2024.

EXHIBIT 3-5
SAN ANTONIO AIRPORT HAZARD OVERLAY DISTRICT



Source: City of San Antonio, 2024; RS&H, 2024.

3.10.3 Significance Threshold

Per FAA Order 1050.1F,[122] while there are no established significance thresholds or specific independent factors to consider for land use impacts, the Order does state that "determination of significant impacts exist in the Land Used impact category is normally dependent on the significance of other impacts." Any conflict with state and/or locally designated land uses and zoning may not individually result in a significant impact. Potential effects related to noise and noise-compatible land use, socioeconomics, environmental justice, and children's environmental health and safety risks could also result in significant land use impacts. These are discussed in **Section 3.13**.

3.10.4 Methodology

The compatibility of existing and planned land uses with an aviation or aerospace proposal is usually associated with noise impacts, as described in FAA 1050.1F Desk Reference, *Chapter 11 Noise and Noise Compatible Land Use*.[123] The most current land use designations within Bexar County were obtained for the General Study Area. The land use analysis considered the existing land uses within the General Study Area and evaluated the Proposed Project to determine whether it would be compatible with land use guidelines as well as local noise ordinances within Bexar County. An adverse impact or incompatible land use would occur if the Proposed Project does not comply with current land use designations.

3.10.5 Environmental Consequences

This section describes the potential impacts to land uses associated with the implementation of the No Action Alternative and the Proposed Project.

3.10.5.1 No Action Alternative

Under the No Action Alternative, no physical changes to Airport configuration, buildings or infrastructure would occur. SAAS would continue to operate the Airport and serve forecast aviation demands. Therefore, the No Action Alternative would have **no impact** on land use.

3.10.5.2 Proposed Project

Construction of the Proposed Project would occur entirely on Airport property and would be compatible with the existing Airport environment. As described in

[122] Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

[123] Federal Aviation Administration. 2020. 1050.1F Desk Reference: Noise and Noise-Compatible Land Use. Retrieved March 2024 from https://www.faa.gov/sites/faa.gov/files/about/office_org/headquarters_offices/apl/11-noise.pdf

Section 3.10.2, the current land use designation is "Airport" and has an aviation hazard overlay district designation.[124] This designation allows for airport related uses that are compatible with or supports airport aviation and services.

As described in **Section 3.12 *Noise and Noise-Compatible Land Use***, the change to the noise contour would not affect noise-sensitive land uses. In addition, the Proposed Project would not change the land use at the Airport or be incompatible with land uses in the General Study Area. Therefore, the Proposed Project would have **no impact** on land use.

3.10.6 Mitigation Measures

Construction and operation of the Proposed Project would not affect land use. Therefore, no mitigation is proposed.

3.11 NATURAL RESOURCES AND ENERGY SUPPLY

3.11.1 Regulatory Setting

Appendix B lists the regulations associated with natural resources and energy supply.

3.11.2 Affected Environment

Operation of the Airport requires the use of consumable materials to maintain various landside and airside facilities and services. Materials needed to maintain landside and airside facilities may include 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. Electrical power is necessary to keep the terminal, administerial buildings, and airfield operational and safe. Lighting within the Project Study Area consists of airfield navigational aids, runway, taxiway edge lighting, terminal building lighting, and administerial building lighting.

Utilities at the Airport include electrical, natural gas, stormwater, public water, sewer, solid waste and recycling, and telecommunication services. The Airport's electricity and Natural Gas is supplied to all developed areas and provided by CPS Energy. The stormwater drainage system is owned and operated by San Antonio Water System, while the Airport is responsible for maintaining the system. Public water and sewer services are also provided by the San Antonio Water System. Solid waste and recycling services are provided by Republic Services. Lastly,

[124] City of San Antonio. Unified Development Cod. *Sec. 34-331. "AHOD" Airport Hazard Overlay District"*. Retrieved March 2024 from https://library.municode.com/tx/san_antonio/codes/unified_development_code?nodeId=ARTIIIZO_DIV4OVDIS35-331AHAIHAOVDI

telecommunication services are provided by Verizon, for Airport Tenants, and AT&T, for City of San Antonio.

3.11.3 Significance Threshold

FAA Order 1050.1F provides policy and procedures related to airport actions implemented under NEPA but does not establish a significance threshold for the use of natural resources and energy supply. The Order does not identify a factor to consider when evaluating the context and intensity of potential environmental impacts related to natural resources and energy supply (see Exhibit 4-1 of FAA Order 1050.1F).[125] As indicated in this exhibit, the Proposed Project may result in a significant impact if it could cause demand to exceed current or future supplies of a natural resource or an energy supply.

3.11.4 Methodology

This EA evaluates the potential effects of the Proposed Project related to the use of natural resources and energy supplies in terms of construction activity, aircraft operations, and building efficiency. Energy usage calculations are based on annual electricity consumption data for commercial building space provided by the U.S. Department of Energy.[126] In addition, the U.S. Department of Energy's Commercial Building Energy Consumption Survey was referenced for variances in the electricity demand of the Proposed Project and No Action Alternative. The following industry information related to sustainable design and sustainable practices was reviewed to determine whether mitigation measures would be necessary to reduce the potential demands on natural resources and energy supplies:

- Airport Cooperative Research Program Synthesis 10, Airport Sustainability Practices,[127] and
- Sustainable Aviation Guidance Alliance Database.[128]

3.11.5 Environmental Consequences

This section describes the potential impacts to natural resources and energy supply associated with implementation of the No Action Alternative and the Proposed Project.

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125 Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

126 U.S. Energy Information Agency. 2012. Commercial Buildings Energy Consumption Survey, Consumption & Efficiency, 2012 CBECS Survey Data. Retrieved January 2024 from https://www.eia.gov/consumption/commercial/data/2003/index.php?view+consumption#c1a

127 Airport Cooperative Research Program. 2008. Airport Sustainability Practices: A Synthesis of Airport Practice. Retrieved March 2024 from https://crp.trb.org/acrp0715/wp-content/themes/acrp-child/documents/077/original/ACRP_10_Airport_Sustainability_Practices.pdf

128 Sustainable Aviation Guidance Alliance. Sustainable Principals and Practices. Retrieved March 2024 from http://www.airportsustainability.org/

3.11.5.1 No Action Alternative

Under the No Action Alternative, SAAS would not implement the Proposed Project. SAAS 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.

3.11.5.2 Proposed Project

The Proposed Project would increase the demand for electricity for additional lighting of the new terminal and support facilities, and for cooling capacity. Project component U-1 (central utility plant), shown on **Exhibit 1-7** in **Section 1.4**, is included as part of the Proposed Project to ensure there is adequate cooling capacity to accommodate operation of the new terminal and support facilities.

Additionally, the Proposed Project would require increased demand for water utility. Project U-2 (upgrade to utility corridor) is included to ensure there is adequate capacity and locations of utility infrastructure, primarily for sanitary, storm, and water utilities.

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.

Construction of the Proposed Project would temporarily increase the use of natural resources at the Airport. These resources, which would include building

components, aggregate, soils, sub-base materials, and oils, are not rare or in short supply. In addition, the quantity of building materials required for the Proposed Project would not place an undue strain on supplies when compared to the No Action Alternative. Therefore, the Proposed Action would have **no significant impact** on natural resources and energy supply.

3.11.6 Mitigation Measures

As 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,[129] no mitigation measures are required. However, SAAS would incorporate energy efficiency and sustainability measures wherever possible to further reduce energy consumption as a result of the Proposed Project.

3.12 NOISE AND NOISE-COMPATIBLE LAND USE

3.12.1 Regulatory Setting

Appendix B lists the regulations associated with noise. An Aircraft Noise Technical Report has been prepared and is included in **Appendix I.**

Guidelines regarding the compatibility of land uses within various day-night average sound level (DNL) contour intervals are specified in Appendix A of 14 CFR Part 150.[130] As a function of annual (365-day average) DNL values, the FAA determined that all land uses listed in the table are compatible with aircraft noise exposure below the 65 DNL contour. This table is shown in **Appendix I**. When evaluating land use compatibility, attention is therefore focused on land uses within the 65 DNL contour and greater.

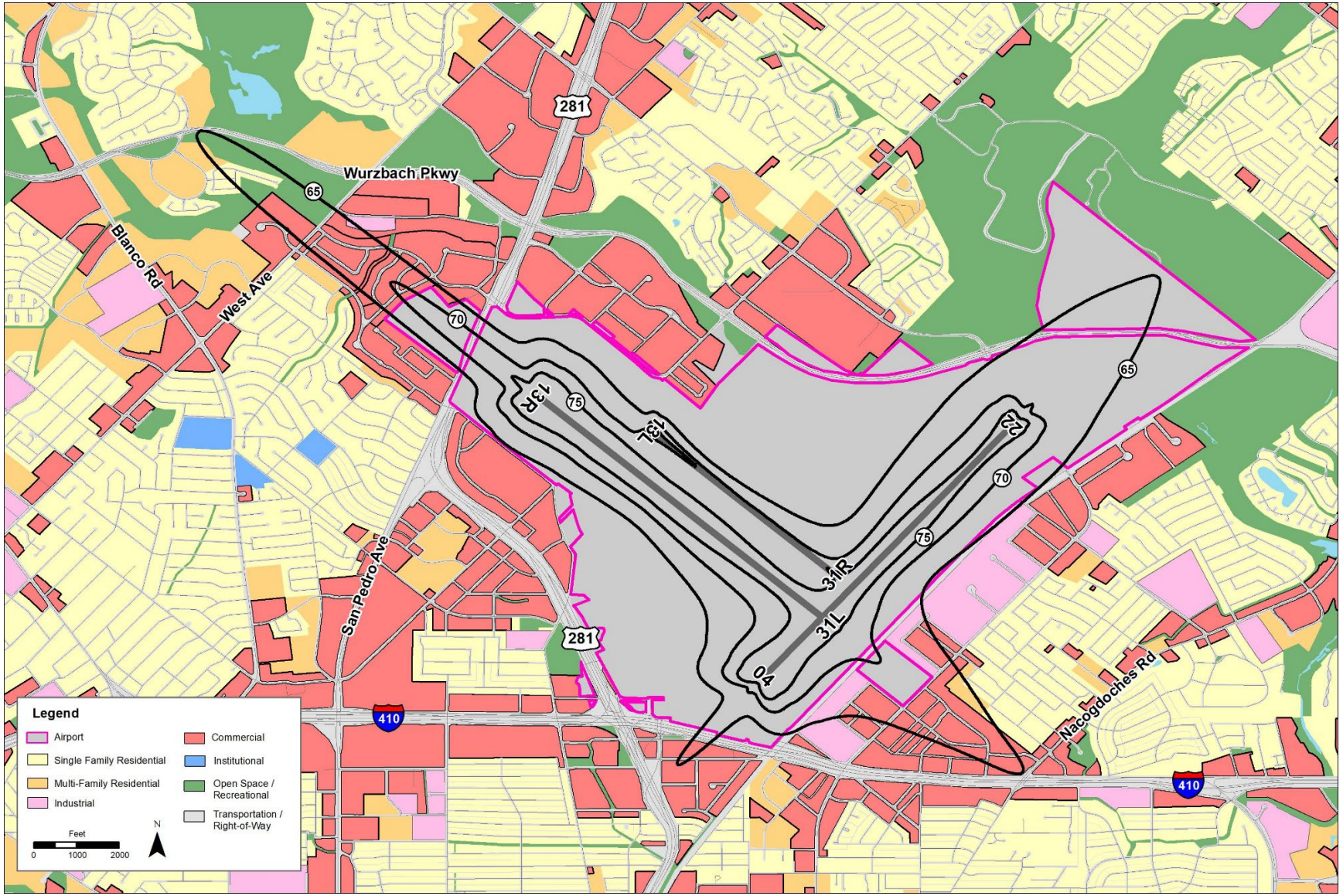
3.12.2 Affected Environment

The 2022 65, 70, and 75 DNL contours are provided on **Exhibit 3-6**. **Table 3-8** summarizes the acreage by land use category located within the DNL contour intervals. The total area encompassed by the 2022 65 DNL contour is 1,700 acres. As shown in **Table 3-8**, the 2022 65 DNL and higher contours contain approximately 9 acres of single family residential and 10 acres of multi-family residential land use between the 65 and 70 DNL contours. The vast majority of the land use exposed to aircraft noise of 65 DNL and higher is on Airport property (1,350 acres). Other compatible land uses within the 2022 65 DNL and higher

[129] Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

[130] Title 14 Code of Federal Regulations Part 150 – Airport Noise Compatibility Planning. Retrieved March 2024 from https://www.ecfr.gov/current/title-14/chapter-I/subchapter-I/part-150

EXHIBIT 3-6
2022 65, 70, AND 75 DNL CONTOURS



Source: San Antonio River Authority, 2022; RS&H, 2024.

TABLE 3-8
LAND USE AND POPULATION WITHIN THE 2022 DNL CONTOURS

Land Use Category	Land Uses Exposed to 65 DNL and Higher (acres)					
	65-70 DNL	70-75 DNL	75+ DNL	Total	Housing Units	Estimated Population
Single Family Residential	9			9	72	146
Multi-Family Residential	10			10	272	551
Commercial	162	2		164		
Industrial	30			30		
Transportation/Right-of Way	88	8		96		
Open Space / Recreation	41			41		
Airport Property	672	394	284	1,350		
Total	1,012	404	284	1,700	344	697

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

contours include 164 acres of commercial, 30 acres of industrial, 96 acres of transportation/right-of-way, and 41 acres of open space/recreation.

The number of housing units within the contours was determined by using parcel data and aerial imagery. The population within the contours was determined by calculating the average number of persons per household in the 2020 census blocks within the 65 DNL contour and multiplying that number by the number of housing units. The 2020 census data showed an average of 2.03 persons per household within the 65 DNL. The estimated population was rounded to the nearest whole number. There are approximately 344 housing units located within the limits of the 2022 65 DNL contour. The 344 housing units account for 697 people. Of the 344 housing units, there are 72 single family and 272 multi-family housing units located between the 65 and 70 DNL. There are no housing units located within the 70 and greater DNL contours.

Under the 1991 Noise Compatibility Program and the Residential Acoustical Treatment Program,[131] the Airport acoustically treated[132] 10 schools, 19 religious facilities, one library, and two nursing homes, 1,582 single family residences, 332 condominium units. and 1,399 apartment units. All other eligible homes within the current 65 dB day/night contour and neighborhood equity areas, whose owners were interested in participating in the program, have already been treated.

[131] San Antonio International Airport. Noise Program. Retrieved April 2024 from https://flysanantonio.com/business/about-saas/noise-programs/

[132] Acoustic treatments are solutions that help to absorb or diffuse sound to improve the acoustic quality of a space.

3.12.3 Significance Threshold

Per FAA Order 1050.1F,[133] "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.

3.12.4 Methodology

The methodology for assessing noise impacts included comparing DNL contours for the No Action Alternative and Proposed Project for the years 2028 (built year) and 2033 (built +5 year). Under the No Action Alternative, noise would increase as a result of the forecast growth in aircraft operations. When compared to the No Action Alternative, the Proposed Project would not result in a change to aircraft operations (takeoffs and landings), runway configuration, arrival/departures procedures, or runway use percentages. Therefore, there would be no change in aircraft noise exposure when comparing the No Action Alternative to the Proposed Project in 2028 and 2033. Refer to **Appendix I** for the Aircraft Noise Technical Report. The number of housing units within the contours was determined by using parcel data and aerial imagery. The population within the contours was determined by calculating the average number of persons per household in the 2020 census blocks within the 65 DNL contour and multiplying that number by the number of housing units.

3.12.5 Environmental Consequences

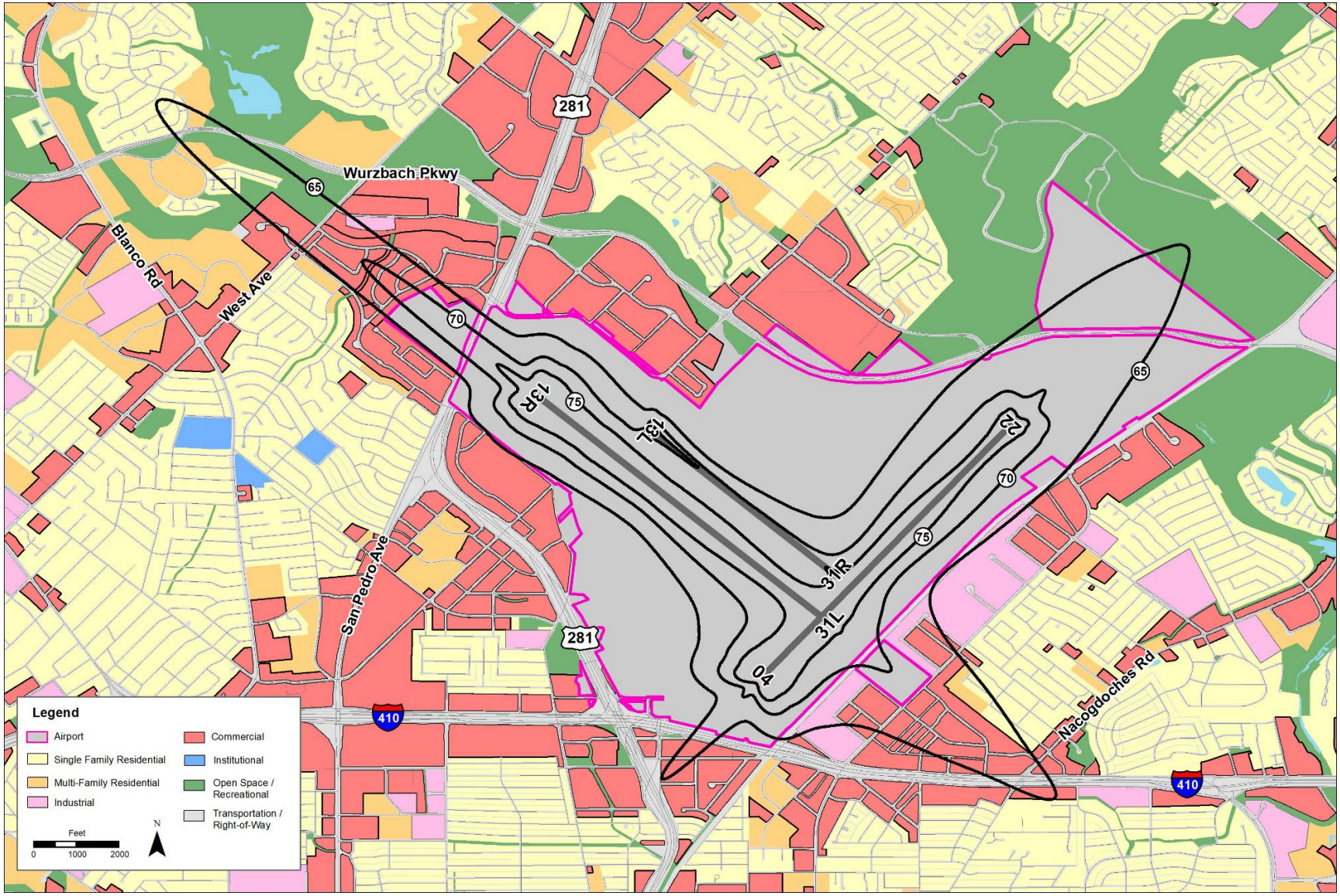
This section describes the potential impacts to noise compatible land use associated with implementation of the No Action Alternative and the Proposed Project.

3.12.5.1 2028 No Action Alternative and Proposed Project DNL Contours

Exhibit 3-7 presents the 2028 No Action Alternative and Proposed Project 65, 70, and 75 DNL contours. As shown in **Table 3-9**, the 2028 No Action Alternative and Proposed Project 65 DNL and higher contours contain approximately 29 acres of single family residential and 20 acres of multi-family residential land use between the 65 and 70 DNL contours. The vast majority of the land use exposed to aircraft noise of 65 DNL and higher is on Airport property (1,488 acres). Other compatible land uses within the, the 2028 No Action Alternative and Proposed Project 65 DNL and higher contours contain approximately 29 acres of single family residential and

[133] Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

EXHIBIT 3-7
2028 65, 70, AND 75 DNL CONTOURS



Source: San Antonio River Authority, 2022; RS&H, 2024.

TABLE 3-9
LAND USE AND POPULATION WITHIN THE 2028 NO ACTION AND PROPOSED PROJECT DNL CONTOURS

Land Use Category	Land Uses Exposed to 65 DNL and Higher (acres)					
	65-70 DNL	70-75 DNL	75+ DNL	Total	Housing Units	Estimated Population
Single Family Residential	29			29	148	300
Multi-Family Residential	20			20	484	980
Commercial	210	9		219		
Industrial	42			42		
Transportation/Right-of Way	134	13		147		
Open Space / Recreation	67			67		
Airport Property	727	438	323	1,488		
Total	1,229	460	323	2,012	632	1,280

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

20 acres of multi-family residential land use between the 65 and 70 DNL contours. The vast majority of the land use exposed to aircraft noise of 65 DNL and higher is on Airport property (1,488 acres). Other compatible land uses within the 2028 No Action and Proposed Project 65 DNL and higher contours include 219 acres of commercial, 42 acres of industrial, 147 acres of transportation/right-of-way, and 67 acres of open space/recreation.

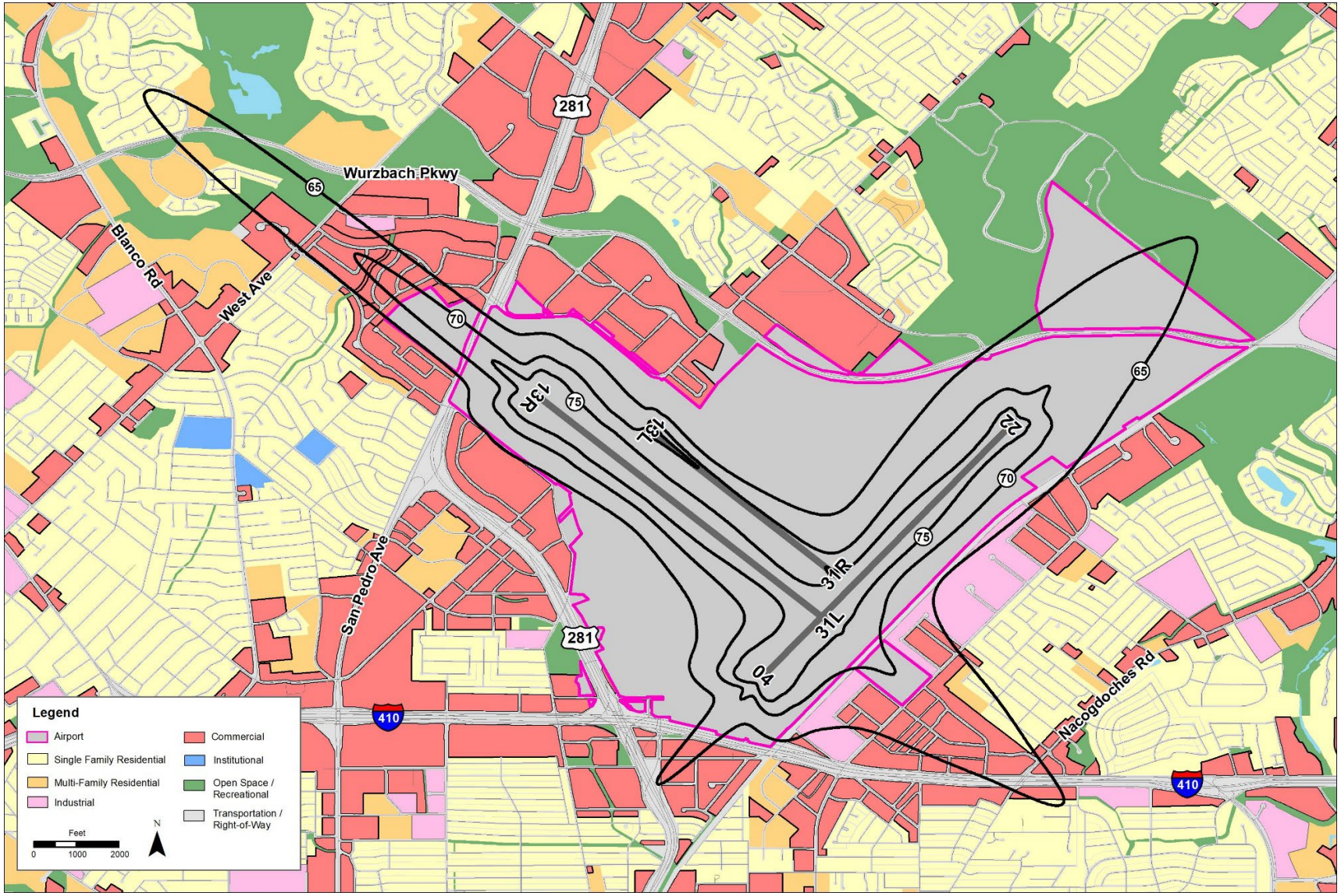
There are approximately 632 housing units located within the limits of the 2028 No Action and Proposed Project 65 DNL contour. The 632 housing units account for 1,280 people. Of the 632 housing units, there are 148 single family and 484 multi-family housing units located between the 65 and 70 DNL. There are no housing units located within the 70 and greater DNL contours.

3.12.5.2 2033 No Action Alternative and Proposed Project DNL Contours

Exhibit 3-8 presents the 2033 No Action and Proposed Project 65, 70, and 75 DNL contours. As shown in **Table 3-10**, the 2033 No Action and Proposed Project 65 DNL and higher contours contain approximately 40 acres of single family residential and 22 acres of multi-family residential between the 65 and 70 DNL contours. The majority of land use exposed to 65 DNL and higher is on Airport property (1,524 acres). Other compatible land uses within the 2033 No Action and Proposed Project 65 DNL and higher contours include 236 acres of commercial, 47 acres of industrial, 160 acres of transportation/right-of-way, and 78 acres of open space/recreation.

There are approximately 689 housing units located within the limits of the 2033 No Action and Proposed Project 65 DNL contour. The 689 housing units account for 1,395 people. Of the 689 housing units, there are 185 single family and 504 multi-family housing units located between the 65 and 70 DNL. There are no housing units located within the 70 and greater DNL contours. However, all housing units

EXHIBIT 3-8
2033 65, 70, AND 75 DNL CONTOURS



Source: San Antonio River Authority, 2022; RS&H, 2024.

TABLE 3-10
LAND USE AND POPULATION WITHIN THE 2033 NO ACTION AND PROPOSED PROJECT DNL CONTOURS

Land Use Category	Land Uses Exposed to 65 DNL and Higher (acres)					
	65-70 DNL	70-75 DNL	75+ DNL	Total	Housing Units	Estimated Population
Single Family Residential	40			40	185	375
Multi-Family Residential	22			22	504	1,020
Commercial	224	12		236		
Industrial	47			47		
Transportation/Right-of Way	145	15		160		
Open Space / Recreation	78			78		
Airport Property	735	453	336	1,524		
Total	1,291	480	336	2,107	689	1,395

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

within the 2033 No Action and Proposed Project 65 DNL contour have already been acoustically treated as a part of the Residential Acoustical Treatment Program.

3.12.5.3 Environmental Consequences Conclusion

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

3.12.6 Mitigation Measures

Noise impacts resulting from the normal projected growth at an airport do not trigger mitigation. Since there would be no change in aircraft operations when comparing the No Action Alternative to the Proposed Project, there are no noise impacts beyond that of normal airport growth, and no mitigation is needed.

3.13 SOCIOECONOMICS, SURFACE TRAFFIC, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

3.13.1 Socioeconomics

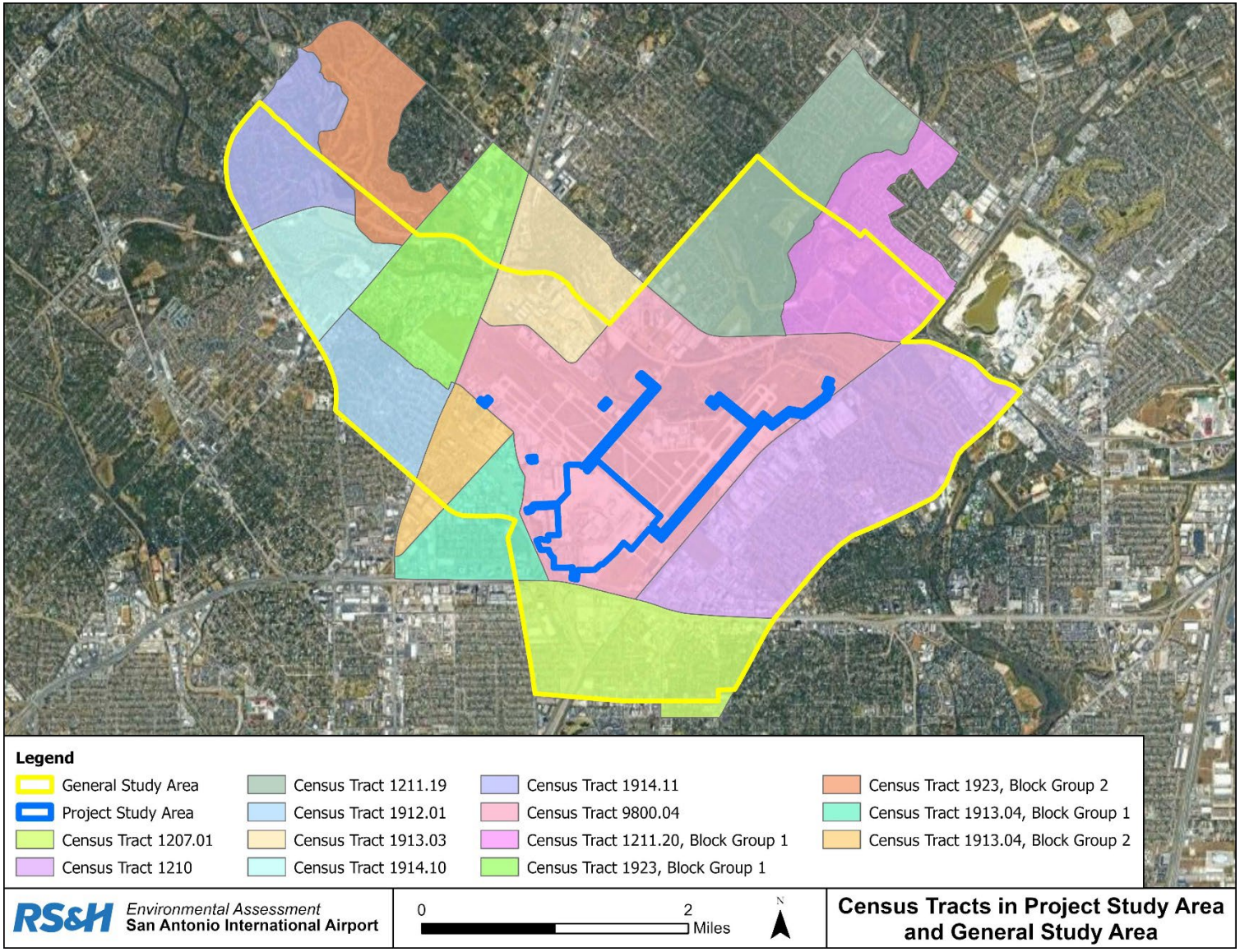
3.13.1.1 Regulatory Setting

Appendix B lists the regulations associated with socioeconomics.

3.13.1.2 Affected Environment

The Project Study Area is within one census tract: Census Tract 9800.04 (see **Exhibit 3-9**). The General Study Area is within multiple census tracts: Census Tract 1207.01, Census Tract 1210, Census Tract 1211.19, Census Tract 1912.01,

EXHIBIT 3-9
GENERAL STUDY CENSUS TRACTS



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

Census Tract 1913.03, Census Tract 1913.04, Census Tract 1914.10, Census Tract 1914.11, Census Tract 9800.04, Census Tract 1211.20 Block Group 1, Census Tract 1923 Block Group 1, and Census Tract 1923 Block Group 2.[134] The census tract and block group boundaries extend beyond the Project Study Area and General Study Area. Therefore, the data provided for analysis is broad and may not be representative of those living within the Project Study Area or General Study Area.

3.13.1.2.1 Population and Housing

Table 3-11 shows the population and housing data for the census tracts that are within the Project Study Area and the General Study Area.[135] Data from these census tracts, the City of San Antonio, and Bexar County were included for comparison purposes. The Project Study Area does not contain a high-density residential area. The General Study Area contains some high-density residential areas located around the Airport. A total of about 41,429 people live in these census tracts, which is around two percent of the total population of Bexar County.

According to the US Census Bureau, 89.5 percent of the housing within these census tracts are occupied.

TABLE 3-11
POPULATION AND HOUSING CHARACTERISTICS IN PROJECT STUDY AREA, GENERAL STUDY AREA, AND BEXAR COUNTY

Population and Housing Characteristics	Census Tracts within the Project Study Area	Census Tracts within the General Study Area	Bexar County
Total Population	0	41,429	2,014,059
Total Households	0	17,739	730,119
Average Persons per Household	N/A	2.22	2.58
Percent Housing Occupied	N/A	89.5%	92.1%

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

There are no persons living in the Project Study Area. **Table 3-12** shows that the General Study area has an unemployment rate of 4.33 percent. This is compared to

[134] It should be noted that not all block groups within a census tract were included in the analysis. Only if all or a portion of a block group was within the General Study Area was it then included in the analysis. It should also be noted that census tract and block group boundaries are determined by the U.S. Census Bureau and cannot be changed to exactly fit the General Study Area. Therefore, analysis presented in this EA includes the two census tracts in the Project Study Area and the twelve census tracts in the General Study Area.

[135] U.S. Census Bureau. 2022: ACS 5-Year Estimates, Household Type By Household Size. Retrieved January 2024 from: https://data.census.gov/table/ACSDT5Y2022.B11016?t=Housing&g=050XX00US48029_1500000US480291207011,480291207012,480291207013,480291207014,480291207015,480291210001,480291210002,480291210003,480291210004,480291210005,480291210006,480291211191,480291211192,480291211193,480291211201,480291912011,480291912012,480291912013,480291913031,480291913041,480291913042,480291914101,480291914102,480291914103,480291914111,480291914112,480291923001,480291923002,480299800041_160XX00US4865000

TABLE 3-12
UNEMPLOYMENT RATE IN PROJECT STUDY AREA, GENERAL STUDY AREA, BEXAR COUNTY, AND STATE OF TEXAS

	Project Study Area	General Study Area	Bexar County	Texas
Percent Unemployed	N/A	4.33	5.41	5.18

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

a 5.41 percent unemployment rate in Bexar County and a 5.18 percent unemployment rate in the State of Texas.[136]

Approximately 5,900 people are employed at the Airport.

3.13.1.3 Significance Threshold

There is no formal significance threshold provided by FAA Order 1050.1F[137] regarding socioeconomic impacts. However, the consequences of the Proposed Project can be evaluated using the following factors:

If the Proposed Project would…

- Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing a project in an undeveloped area);
- Cause extensive relocation when sufficient replacement housing is unavailable;
- Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities; or
- Produce a substantial change in the community tax base.

3.13.1.4 Methodology

This section examines consequences of the No Action Alternative and the Proposed Project to move people from their homes in the Project Study Area, move businesses in the Project Study Area, or create a notable change in employment in the Project Study Area.

[136] U.S. Census Bureau. 2022: ACS 5-Year Estimates, Employment Status for the Population 16 Years and Over. Retrieved January 2024 from: https://data.census.gov/table/ACSDT5Y2022.B23025?q=b23025&t=Employment&g=040XX00US48_050XX00US48029_1500000US480291207011,480291207012,480291207013,480291207014,480291207015,480291210001,480291210002,480291210003,480291210004,480291210005,480291210006,480291211191,480291211192,480291211193,480291211201,480291912011,480291912012,480291912013,480291913031,480291913041,480291913042,480291914101,480291914102,480291914103,480291914111,480291914112,480291923001,480291923002,480299800041

[137] Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

3.13.1.5 Environmental Consequences

This section describes the potential impact on socioeconomics associated with implementation of the No Action Alternative and the Proposed Project.

3.13.1.5.1 No Action Alternative

Under the No Action Alternative, SAAS would not implement the Proposed Project. SAAS 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 impact** on population or housing.

Employment

Under the No Action Alternative, no development would occur. No temporary construction-related employment opportunities would be created as a result of the No Action Alternative. However, employment at the Airport would increase with the forecast growth in aircraft operations and passenger enplanements. Therefore, any change in employment opportunities within the Project Study Area would be beneficial to the employment community. Therefore, the No Action Alternative would have **no impact** on population or housing.

3.13.1.5.2 Proposed Project

Under the Proposed Project, SAAS would construct and operate the Proposed Project.

Population and Housing

The Proposed Project would not relocate residents or housing units within the General Study Area. The Proposed Project would create a temporary increase in construction-related employment. However, the Proposed Project would not need an additional increase in employment to serve the forecast increase in passengers 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 available or projected housing units in the General Study Area and City of San Antonio. These employment opportunity increases are minimal and would likely be filled by existing residents in the greater San Antonio metropolitan area. As a result, no change in population would occur as a result of the Proposed Project compared to the No Action Alternative. Therefore, the Proposed Project would have **no impact** on population or housing.

Employment

The Proposed Project would positively affect employment by creating a temporary demand for construction employees. However, the Proposed Project would not require any additional employees to serve the forecast increase in passengers at the Airport compared to the No Action Alternative. Both temporary and permanent

employment positions would likely be filled by existing residents in the greater San Antonio metropolitan area and can be considered as a positive impact.

Construction of the Proposed Project would include the demolition of currently occupied office buildings at the Airport (the existing Badging and ID Office, San Antonio Police Department building, and airside operations building). However, employees would be relocated to temporary office trailers (Project Component S-8) so they would not experience interruption in performing their duties. The Flight Safety International building is also being demolished; however, the building is currently vacant.

Construction of the Project Component S-2 (*Fuel Hydrant System and Transmission Lines*) consists of drilling and boring fuel transmission lines underneath Bitters Brush Recycling Center. However, the transmission lines would not connect to any bulk fuel storage or source. Therefore, operation of the Proposed Project would not disrupt the functions of the recycling center, and the recycling center would not need to be temporarily or permanently closed.

Overall, the Proposed Project would have **no significant impact** on employment.

3.13.1.6 Mitigation Measures

The Proposed Project would not result in significant impacts to socioeconomics. Therefore, no mitigation measures are proposed.

3.13.2 Surface Traffic

3.13.2.1 Regulatory Setting

Appendix B lists the regulations associated with surface traffic.

3.13.2.2 Affected Environment

The Airport is served by several major thoroughfares along with a system of arterial and collector streets[138]. Loop 410 is an interstate highway, under the jurisdiction of Texas Department of Transportation, that provides east-west connections and is located south of the Airport. U.S. Highway 281 is a north-south controlled-access facility that binds the Airport on the west side. An elevated ramp provides direct access from northbound U.S. Highway 281 to the Airport parking and terminals. Southbound U.S. Highway 281 traffic can exit to a frontage road that leads to a signalized intersection with Dee Howard Way which connects to the Airport. Wurzbach Parkway is an east-west super arterial roadway that borders a portion of the Airport's boundary along the north side, which has increased traffic in the area and added entrances and exits to the northern Airport areas.

[138] City of San Antonio. Major Thoroughfare Plan 2024. Retrieved March 2024 from https://www.sanantonio.gov/Portals/0/Files/GIS/Maps/MTP_8.5x11.pdf

There are five roadways that directly serve the Airport:

- Airport Boulevard is a secondary arterial type A roadway that runs north-south from the Airport and connects Terminal Drive, Loop 410, and U.S. Highway 281.
- South Terminal Drive, Terminal Drive, West Terminal Drive are roadways that switch between being two and three lanes, direct traffic through the Airport terminals, provide access to Airport long- and short-term parking and CONRAC, and connect to Airport Boulevard and Dee Howard Way.
- Dee Howard Way is a four-lane secondary arterial type A roadway that runs east-west from the Airport and connects directly to Airport Boulevard, Terminal Drive, and U.S. Highway 281.
- Northern Boulevard is a two-lane east-west roadway that runs from McAllister Freeway to Airport Boulevard.
- John Saunders Road is a two-lane north-south roadway that comes off of Dee Howard Way and provides access to Airport employee parking, public parking (green lot), and tenant uses.

The existing terminal curbs serving both Terminal A and Terminal B at SAT are configured as follows:

- The upper-level departures curb is 735 linear feet long, consists of four lanes, and allows all types of private and commercial vehicles for departing passenger drop-offs. Of the four lanes, the two lanes closest to the curb allow for double-parking while dropping off passengers while the outer two lanes are for through traffic.
- The lower-level inner arrivals curb is 660 linear feet long, consists of four lanes, is reserved for private vehicle pick-ups, and has an area assigned for hotel shuttle pick-ups beyond the end of Terminal B.
- The lower-level outer arrivals curb is 905 linear feet long, consists of three lanes, and is reserved for commercial vehicle pick-ups (i.e. taxis, ridesharing, parking shuttles, and buses).

Currently, vehicles heading for Terminal A tend to cause bunching and double-park at the initial section of the curb, close to the first door of Terminal A and where the two-lane Terminal Drive approach transitions to a four-lane roadway, even though it is currently marked as a no-stopping zone. In addition, the outermost lane is seldom used by Terminal B vehicles to bypass Terminal A, which further contributes to traffic buildup. A similar situation occurs on the lower-level inner arrivals curb.

On both the upper and lower levels, the two-lane Terminal Drive approach does not widen to four lanes until after the first curve on Terminal Drive. Drivers do not appear to want to use the outer lanes to get to the second or third doors of

Terminal A or to Terminal B and bypass the traffic buildup behind the first door at Terminal A.

3.13.2.3 Significance Threshold

There is no formal significance threshold provided by FAA Order 1050.1F[139] regarding surface traffic impacts. However, the consequences of the Proposed Project can be evaluated using the following factors: if the Proposed Project would:

- Disrupt local traffic patterns and substantially reduce the levels of service of roads that service an airport and its surrounding communities.

3.13.2.4 Methodology

This section examines the consequences of the No Action Alternative and the Proposed Project on the level of service of roadways and terminal curbs directly serving the Airport.

A Level of Service (LOS)[140] study was conducted in 2018 to establish a baseline of delay during the morning (10:30 AM-11:30 AM) and mid-day peak hour (11:30 AM -12:30 PM) passenger aircraft flight schedules for eastbound, northbound, and southbound traffic exiting the terminal loop. The intersection performed at an overall LOS 'D' with over 42 seconds of delay during the morning peak and at an overall LOS 'E' with over 63 seconds of delay during the midday peak[141] A traffic analysis conducted in 2018 revealed that approximately 14% of morning (7:00 AM -9:00 AM) and early evening (4:00 PM-6:00 PM) was cut-through traffic traveling from U.S Highway 281 southbound to Interstate 410. For the same periods up to 32% of northbound traffic from Northern Boulevard to U.S. Highway 281 was cut-through traffic.[142]

A LOS study was conducted in 2018 to establish a baseline of vehicle volumes measured by traffic tube counters during peak departure (4:00 AM-6:30 AM and 3:00 PM-5:00 PM) and arrival (3:00 PM-7:00 PM and 10:30 PM-12:00 AM) times.[143] During peak departure hours, the study found 713 vehicles to arrive at the curb and drop-off and estimate of 2,040 passengers. During peak arrival hours, the study also found 1,088 vehicles to arrive at the curb and pick-up an estimate of 2,030 passengers.

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139 Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

140 For surface traffic, LOS is a calculation that classifies traffic flow from LOS A (free-flow traffic conditions) to LOS F (over capacity and severely congested).

141 Synchro 11, Intersection LOS Operational Analysis performed by Kimley-Horn, 2022, and documented in the San Antonio International Airport Program Definition Manual – Advanced Terminal Planning Program Volume 1, June 2023.

142 Cut-through Traffic Analysis performed by WSP, 2018 and documented in the San Antonio International Airport Strategic Development Plan – 2021 Airport Master Plan, June 2021

143 Curb LOS and Traffic Survey performed by Hirsh Associates, 2018, and documented in the San Antonio International Airport Strategic Development Plan – 2021 Airport Master Plan Chapter 4, Retrieved March 2024.

3.13.2.5 Environmental Consequences

This section describes the potential impacts on surface traffic associated with the implementation of the No Action Alternative and the Proposed Project.

3.13.2.5.1 No Action Alternative

Under the No Action Alternative, SAAS would not implement the Proposed Project and would continue to operate and serve forecast aviation demands with existing roadways facilities. The Airport access roadway would continue to operate inefficiently and traffic around the terminal curbside would likely become more congested with the forecast increase in passengers at SAT, which could result in **significant impacts** on surface road traffic.

3.13.2.5.2 Proposed Project

Construction of the Proposed Project would include improvements to be made to Airport access roadways and terminal curbside roadways. The proposed roadway realignments and improvements would reduce traffic congestion in the passenger terminal area and allow for an acceptable LOS during peak hours, syphon off cut-through traffic away from the terminal loop, create a central flow of inbound traffic, reconfigure and improve access points into the existing parking lots, improve lane decision-making space, and upgrade inbound guide signs.

Terminal curbside roadway improvements would include the widening of the upper-level roadway to accommodate two additional lanes while reconstructing and widening the up-ramp to the upper-level roadway to allow for smoother transitions to the curb and provide access to the bypass roadway. This improvement would also clear up the congestion that currently builds up behind the first door of Terminal A curb. In addition, access to the lower-level roadway would be realigned to the right side of the elevated roadway ramp to smoothen the roadway transitions.

Construction of roadway realignments and improvement may require temporary roadway closures; however, roadway detour and reroutes would be coordinated with City of San Antonio staff in order to minimize traffic impacts. Temporary roadway closures could include stipulations related to closure during peak hours of traffic and/or requirements for overnight labor. Nonetheless, roadway construction would require a strategic phasing plan in order to maintain adequate access to all areas of the Airport during construction. Construction of terminal curbside improvements would not interfere with access to existing terminal curbside for any terminal. Therefore, the Proposed Project is not likely to cause significant traffic impacts and would have **no significant impact** on surface road traffic.

3.13.2.6 Mitigation Measures

The FAA has not established any significance thresholds for surface traffic impacts. As a result, no significant impacts would occur under the Proposed Project

compared to the No Action Alternative. However, it is envisioned that surface traffic congestion in the passenger terminal area would improve with the proposed roadway realignments and developments.

3.13.3 Environmental Justice

3.13.3.1 Regulatory Setting

Appendix B lists the regulations associated with environmental justice.

3.13.3.2 Affected Environment

Table 3-13 shows the total minority presence[144] and the population living in poverty[145] in the Project Study Area, General Study Area, City of San Antonio, and Bexar County. The General Study Area, City of San Antonio, and Bexar County are predominantly white with the highest minority populations, 60.0 percent and 57.6 percent, located in the two census tracts south and southwest of the Airport. There are no persons living in the census tracts within the Project Study Area. Therefore, there are no minority populations within the Project Study Area. **Table 3-13** also shows that the City of San Antonio has the highest percent of people living below the poverty line (17.7 percent) when compared to the General Study Area (12.9 percent) and Bexar County (15.2 percent).

TABLE 3-13
ENVIRONMENTAL JUSTICE POPULATIONS IN PROJECT STUDY AREA, GENERAL STUDY AREA, CITY OF SAN ANTONIO, AND BEXAR COUNTY

Environmental Justice Characteristics	Project Study Area	General Study Area	City of San Antonio	Bexar County
Percent Minority	N/A	40.5	43.4	42.9
Percent Living Below Poverty Line	N/A	12.9	17.7	15.2

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

[144] U.S. Census Bureau. 2022: ACS 5-Year Estimates, Race. Retrieved January 2024 from: https://data.census.gov/table/ACSDT5Y2022.B02001?q=B02001&g=050XX00US48029_1500000US480291207011,480291207012,480291207013,480291207014,480291207015,480291210001,480291210002,480291210003,480291210004,480291210005,480291210006,480291211191,480291211192,480291211193,480291211201,480291912011,480291912012,480291912013,480291913031,480291913041,480291913042,480291914101,480291914102,480291914103,480291914111,480291914112,480291923001,480291923002,480299800041_160XX00US4865000

[145] U.S. Census Bureau. 2022: ACS 5-Year Estimates, Poverty. Retrieved January 2024 from: https://data.census.gov/table/ACSDT5Y2022.B17021?q=b17021&g=050XX00US48029_1500000US480291207011,480291207012,480291207013,480291207014,480291207015,480291210001,480291210002,480291210003,480291210004,480291210005,480291210006,480291211191,480291211192,480291211193,480291211201,480291912011,480291912012,480291912013,480291913031,480291913041,480291913042,480291914101,480291914102,480291914103,480291914111,480291914112,480291923001,480291923002,480299800041_160XX00US4865000

3.13.3.3 Significance Threshold

FAA Order 1050.1F[146] provides guidance for the preparation of environmental justice analysis. Although the FAA does not provide a significance threshold for environmental justice, factors that indicate a significant impact may occur if the action would have the potential to lead to a disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations due to:

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

3.13.3.4 Methodology

Based on a review of the direct and indirect effects and the population characteristics of the area around the Airport, the resource categories were analyzed to determine if environmental justice populations would endure a disproportionately high and adverse human health and environmental effect of significant impacts. For purposes of assessing potential environmental justice impacts related to significant impacts, the following criteria were used to identify census block groups where minority and low-income population will be counted:[147]

- Census tracts that have a population of 50 percent or more exceeding the poverty guideline
- Census tracts that have a population of 50 percent or more exceeding the minority guideline

[146] Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

[147] U.S. Environmental Protection Agency. 2016. *Technical Guidance for Assessing Environmental Justice in Regulatory Analysis*. Retrieved March 2024 from https://www.epa.gov/sites/default/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf

3.13.3.5 Environmental Consequences

This section describes the potential impacts on environmental justice populations associated with the implementation of the No Action Alternative and the Proposed Project.

3.13.3.5.1 No Action Alternative

Under the No Action Alternative, SAAS would not implement the Proposed Project. SAAS 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 impact** on environmental justice populations.

3.13.3.5.2 Proposed Project

The Proposed Project would not result in the acquisition of land, the relocation of residences, or cause significant environmental impacts that would affect minority and/or low-income populations. In addition, there are no residents or businesses within the area that would need to be relocated for the construction of the Proposed Project. Because **no significant impacts** would occur as a result of the Proposed Project compared to the No Action Alternative, there are no disproportionately high and adverse effects to environmental justice populations.

3.13.3.6 Mitigation Measures

The Proposed Project would not result in significant environmental justice impacts. No mitigation measures are proposed.

3.13.4 Children's Environmental Health and Safety Risks

3.13.4.1 Regulatory Setting

Appendix B lists the regulations associated with Children's Environmental Health and Safety Risks.

3.13.4.2 Affected Environment

Areas of particular concern for children's environmental health risks and safety include schools, day cares, children health clinics, and child friendly recreation facilities. Three schools[148] (Harmony Hills Elementary, Regency Place Elementary, and Douglas MacArthur High School), six children's day care facilities (St. Matthew's UMC Day School, Prodigal Sons & Daughters Learning Center, Mac Arthur Park Lutheran School, Kiddie Klub Learning Center 2, Parliament KinderCare, and Phoebe Daycare), five children's health clinics or hospitals (Cook Children's Home Health San Antonio, Blossom Center for Children, South Texas Children's Clinic of San Antonio, Texas Inpatient Pediatrics, and Sunshine Pediatric Dentistry and Orthodontics), and three child-friendly recreation facilities (Walker Ranch Natural

[148] Bexar County. *Schools*. Retrieved February 2024, from https://gis-bexar.opendata.arcgis.com/search?collection =Dataset&q=school

Areas, Salado Creek Greenway, and McAllister Park) are in the General Study Area (see **Exhibit 3-10**).

3.13.4.3 Significance Threshold

There is no formal significance threshold provided by FAA Order 1050.1F[149] regarding children's environmental health and safety risks. However, the consequences of the Proposed Project can be evaluated based on the potential creation of disproportionate environmental risks to children.

3.13.4.4 Methodology

This section examines consequences of the No Action Alternative and the Proposed Project, including potential to generate disproportionate environmental risks to the health or safety of children. Data relating to children's resources were collected from the City of San Antonio and Bexar County.

3.13.4.5 Environmental Consequences

This section describes the potential impact regarding children's environmental health and safety risks associated with implementation of the No Action Alternative and the Proposed Project.

3.13.4.5.1 No Action Alternative

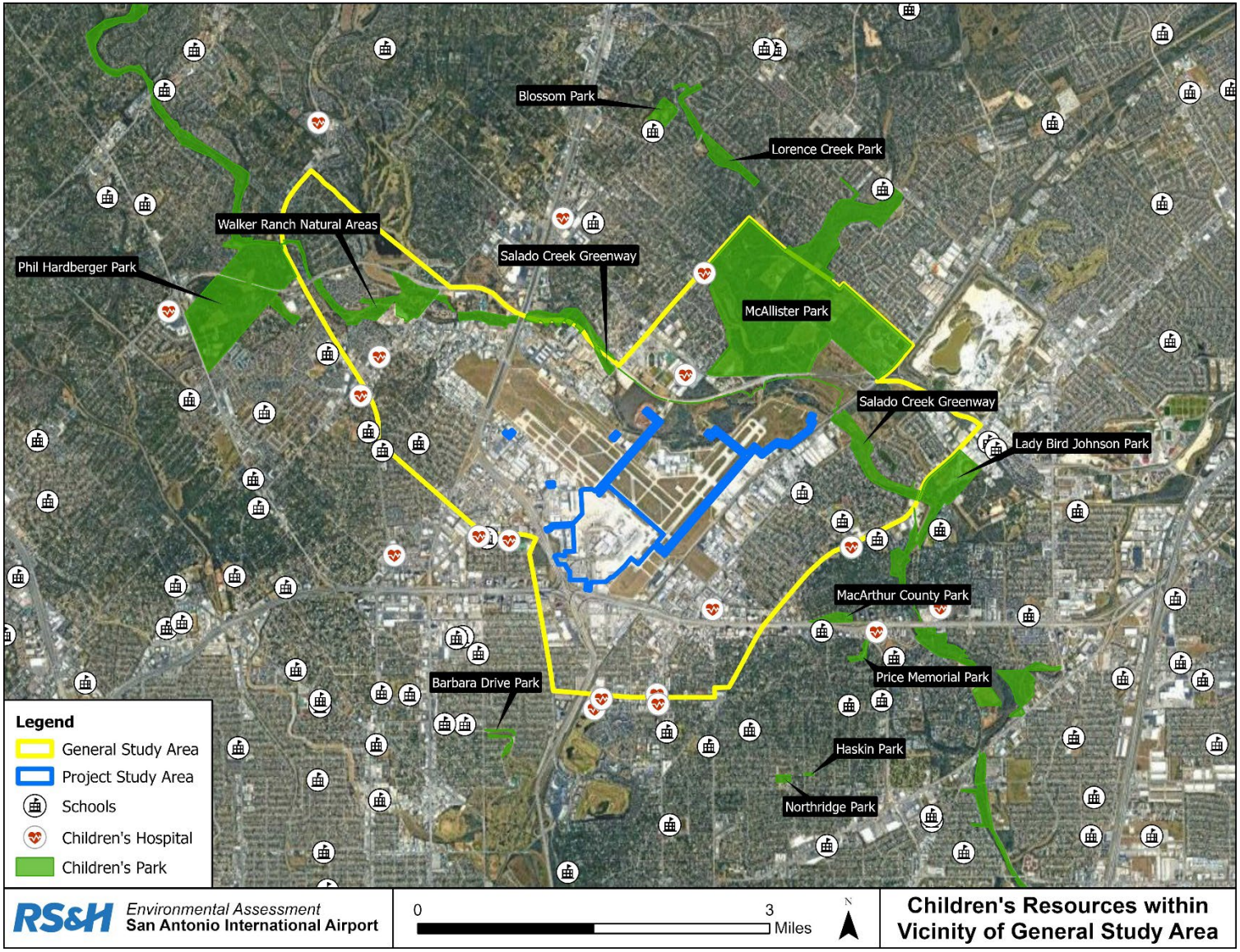
Under the No Action Alternative, SAAS would not implement the Proposed Project. SAAS would continue to operate the Airport, perform maintenance, and serve forecast aviation demands. Under the No Action Alternative, the 65 DNL noise contour and aircraft emissions would increase as a result of the forecast growth in aircraft operations. However, these increases would not exceed significance thresholds. Overall, the No Action Alternative would have **no significant impact** on children's environmental health and safety risks would occur.

3.13.4.5.2 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 use, transportation, and disposal of hazardous waste and materials. Construction noise would not affect children at the nearby schools or disrupt learning activities because the closest school is far enough away that the noise level would be at or below 60 dB, which is considered compatible with educational land uses.

[149] Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

EXHIBIT 3-10
CHILDREN'S RESOURCES WITHIN VICINITY OF GENERAL STUDY AREA



Source: City of San Antonio, 2024; RS&H, 2024.

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

3.13.4.6 Mitigation Measures

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

3.14 VISUAL EFFECTS

3.14.1 Regulatory Setting

There are no special purpose laws or requirements specific to light emissions or visual effects. However, some protected visual resources include scenic roadways, wild and scenic rivers, national scenic areas, scenic easements, trails protected under the national trails system act, biological resources, parks, recreation areas, wildlife or waterfowl refuges, historic properties, and other features protected under other federal, state, or local regulations.

Refer to **Appendix B** for more details on regulations associated with visual effects.

3.14.2 Affected Environment

The study area for visual effects encapsulates the 8,320-acre General Study Area (see **Exhibit 3-1**).

3.14.2.1 Light Emissions

3.14.2.1.1 Project Study Area

Existing light emissions within the Project Study Area include lighting to airfield (e.g., runways, taxiways, and aprons), airside facilities, and landside facilities.

As the primary runway at SAT, Runway 13R-31L is equipped with Instrument Landing System (ILS), including precision approach path indicator (PAPI) lights on both ends. Runway 13R-31L is also equipped with runway centerline lights (RCL) and high intensity runway lights (HIRL). The Runway 13R end has a high intensity approach lighting system with sequenced flashing lights category II and touchdown zone lights. The Runway 31L end has a medium intensity approach lighting system with runway alignment indicator lights (MASLR).

Runway 13L-31R is equipped with runway end identifier lights (REIL), medium intensity runway lights (MIRL), and PAPI lights at both ends. Runway 4-22 is equipped with RCL and HIRL. The Runway 4 end is equipped with an ILS and a

PAPI, and a medium intensity approach lighting system (MASL). The Runway 22 end is equipped with PAPI and REIL. All taxiways and taxilanes are equipped with taxiway edge lighting. Adequate lighting of the airfield is essential to the safe and efficient movement of aircraft.

Lighting is installed on the outside of airside and landside buildings including Terminal A, Terminal B, storage buildings, offices, and hangars. Streetlights and/or lamp posts also illuminate all parking lots, parking garages, and access roads. Airport lighting helps to ensure the safety of vehicles and pedestrians using airside and landside facilities.

3.14.2.1.2 General Study Area

The Airport is within a developed area of San Antonio with numerous light emission sources from surrounding residential, commercial, and industrial buildings, streetlights, lamp posts, and other forms of lighting for highways, roads, parking lots, open space, and recreational areas.

The nearest light-sensitive land use would be residential housing approximately 0.40 miles southeast of the Project Study Area on the other side of Wetmore Road.

3.14.2.2 Visual Resources and Visual Character

3.14.2.2.1 Project Study Area

The visual character of the Project Study Area largely consists of the paved airfield facilities and Airport structures including runways, taxiways, aprons, Terminals A and B, offices, storage buildings, hangars, parking lots, and access road. Grass turf surrounds all paved airfield facilities. Landscaping surrounds most of the buildings including maintained grass, ornamental trees, and ornamental shrubs.

The undeveloped portions of the Project Study Area include Salado Creek and an unnamed tributary to Olmos Creek, and their associated wetland habitats. Salado Creek contains widely-spread, mature trees with an herbaceous understory, while the unnamed tributary to Olmos Creek is disturbed from previous and current development with only a narrow band of trees along the creek (refer to **Section 3.5.2.1.1** for more details).

As described in **Section 3.9**, Building 1322 was determined eligible for listing on the NRHP, as it is significant under Criterion A and C, and retains integrity of a New Formalism architectural style building.

The Project 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.

3.14.2.2.2 General Study Area

The visual character in the General Study Area largely consists of an urbanized environment, and includes low- to medium density of residential, commercial, and industrial development, numerous parks, and recreational facilities (refer to **Section 3.7.2** and **Section 3.10.2** for more details). Numerous roads and transportation facilities, including U.S. Highway 281 and Interstate 410, intersect the General Study Area. The General Study Area also contains areas of open space, including reaches of Mud Creek, Lorence Creek, Panther Springs Creek, Salado Creek, and the unnamed tributary to Olmos Creek.

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. Building 1322, noted in the section above, is the only NRHP-listed or eligible property within the General Study Area.

3.14.3 Significance Threshold

FAA Order 1050.1F[150] does not provide a significance threshold for visual effects. However, it does provide a number of 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.
- Affect the visual character of the area due to the light emissions including the importance, uniqueness, and aesthetic value of the affected visual resources.
- Block or obstruct the views of visual resources.

3.14.4 Methodology

The visual effects analysis first identified existing visual resources for the Project Study Area and General Study Area. This includes light emissions (i.e., airfield lighting, building lighting, streetlights, etc.); visual characteristics (i.e., infrastructure, development, and natural areas); existing light-sensitive land uses (i.e., homes, parks, natural areas); and the presence of any visual resources protected under other federal, state, or local regulations (i.e., historic resources, scenic roadways, wildlife refuges).

Next, the extent to which the Proposed Action and No Action Alternative would either: 1) produce light emissions (during construction or operation) that create annoyance or interfere with activities; or 2) contrast with, or detract from, the

[150] Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

visual resources and/or the visual character of the existing environment was evaluated.

3.14.5 Environmental Consequences

This section describes the potential impacts to visual resources associated with implementation of the No Action Alternative or Proposed Project.

3.14.5.1 No Action Alternative

Under the No Action Alternative, no physical changes to Airport configuration, buildings or infrastructure would occur that could produce light emissions or affect visual resources and visual character of the existing environment. Future Airport development would be subject to review and approval under the NEPA. Therefore, the No Action Alternative would have **no impact** on visual resources.

3.14.5.2 Proposed Project

3.14.5.2.1 Light Emissions

Construction of the Proposed Project would occur entirely on Airport property. Construction is unlikely to occur during the nighttime; however, any light emissions from nighttime-related construction would be temporary and would not be visible to the nearest residence, located approximately 0.40 miles southeast of the Project Study Area on the other side of Wetmore Road.

The Proposed Project would remove light emissions on the outside of seven structures proposed for demolition (project component D-1 to D-7. New lighting would be installed on the outside of the following eight new structures: Terminal (T-1), Terminal A / B Connector (T-2), New Public Safety Building (S-1), New Parking Structure and Ground Transportation Center (S-3), Office Support Building (S-5), Temporary Trailer Farm (S-8), and New Badge Office (S-9). Stand-alone lighting would also be installed along the new Commercial Aircraft Apron (A-1), Airport Access Roadway Improvements (R-1), Terminal Curbside Roadway Improvements (R-2), and Expansion of Public Parking (S-7). Refer to **Exhibit 1-7** in **Section 1.4** for the location of the above Proposed Project components.

The Airport has been in operation since approximately 1941 and Airport lighting features have been present for decades. Combined, the Proposed Project would likely result in a net increase in light emissions. However, any new lighting associated with proposed buildings, roadways, or apron/parking areas would be in line with typical lighting on existing Airport facilities. The nearest light-sensitive land use are residences over 0.4 miles from the Project Study Area. As such, the Proposed Project should not create an annoyance among the community, cause any interference with normal activities, nor affect the visual character of the area due to light emissions.

The NRHP-eligible Building 1322 is proposed for demolition under the Proposed Project, and therefore would not be impacted by light emissions from the Proposed Project following construction. No other visual resources protected under other federal, state, or local regulations occur within the Project Study Area or General Study Area.

3.14.5.2.2 Visual Resources and Visual Character

Short-term, temporary visual impacts during construction may include views of construction equipment. The Proposed Project includes the demolition of seven existing buildings, and construction/reconfiguration of eight new buildings, most notably the construction of a new Terminal C and reconfiguration of Terminal A and Terminal B. A new commercial apron would be constructed next to Terminal C. Upgrades to roadways, parking facilities, and utilities are also proposed. The extent of the Proposed Project would alter the visual resources of the Airport. However, the Proposed Project would be constructed in a similar design to existing infrastructure and would be consistent with other buildings and facilities elsewhere on Airport property. Therefore, the Proposed Project would not significantly change the visual character of the Airport or surrounding area.

The NRHP-eligible Building 1322 is proposed for demolition under the Proposed Project, and therefore would not be affected by changes to the visual environment from the Proposed Project following construction. No other visual resources protected under other federal, state, or local regulations occur within the Project Study Area or General Study Area.

3.14.5.2.3 Proposed Project Visual Effects Conclusion

The Proposed Project is not anticipated to create an annoyance or interfere with normal activities due to light emissions, would not affect the visual character of the area, nor block or obstruct views of any visual resources. Light emissions of the Proposed Project are anticipated to be similar to emissions from existing facilities. Likewise, the Proposed Project would be constructed in a similar design to existing infrastructure and is not anticipated to affect the visual character of the area. Therefore, the Proposed Project would have **no significant impact** on visual effects.

3.14.6 Mitigation Measures

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

3.15 WATER RESOURCES

3.15.1 Wetlands

3.15.1.1 Regulatory Setting

Appendix B lists the regulations associated with wetlands.

3.15.1.2 Affected Environment

The USFWS National Wetland Inventory (NWI)[151] map identified riverine wetlands associated with Salado Creek north of the Airport and an unnamed tributary to Olmos Creek west of the Airport, and their tributaries (see **Exhibit 3-11**). Both Salado Creek and Olmos Creek are intermittent tributaries to the San Antonio River.[152, 153] The NWI-mapped riverine wetlands are classified as R4SBA indicating an intermittent stream with deepwater habitat and adjacent palustrine emergent (PEM), palustrine shrub-scrub (PSS), or palustrine forested (PFO) wetlands. The NWI map also identified two freshwater ponds north of Wurzbach Parkway.

A preliminary wetland delineation, performed by RS&H within the Project Study Area on January 8-9, 2024, identified PFO wetlands along Salado Creek and the unnamed tributary to Olmos Creek, and PEM wetlands within a stormwater drainage area near the Aircraft Rescue and Fire Fighting (ARFF) station (refer to **Appendix D**).

The PFO wetlands along Salado Creek consist of mature facultative (FAC)[154] trees, including maple, ash, and oak with an herbaceous understory. Few shrubs are present. The PFO wetlands along Salado Creek are relatively undisturbed from human development. The PFO wetlands along the unnamed tributary to Olmos Creek consist of a narrow buffer of facultative upland (FACU),[155] FAC, and facultative wetland (FACW)[156] trees, including honey mesquite, sugarberry, and black ash, with an herbaceous understory. Few shrubs are present. The PFO wetlands along the unnamed tributary to Olmos Creek have been disturbed from existing uses as a utility corridor and grading for stormwater conveyance (refer to **Appendix D**).

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151 U.S. Fish and Wildlife Service. National Wetlands Inventory Mapper. Retrieved February 2024 from https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

152 Texas Commission on Environmental Quality. Total Maximum Daily Load Program: Salado Creek. Retrieved January 2024 from https://www.tceq.texas.gov/waterquality/tmdl/11-salado.html

153 U.S. Army Corps of Engineers. 2006. Planning Design Report and Environmental Assessment for Olmos Creek Section 206 Aquatic Ecosystem Restoration Project, Bexar County, Texas: Retrieved January 2024 from https://www.swf.usace.army.mil/Portals/47/docs/ContinuingAuthoritiesProgram/Olmos%20Creek/Olmos_Creek_Planning_Design_Report_and_Environmental_Assessment.pdf?ver=2015-09-02-111319-777

154 Facultative indicates vegetation is equally likely to occur in wetlands or non-wetlands.

155 Facultative upland indicates vegetation usually occurs in non-wetlands, but occasionally occurs in wetlands.

156 Facultative wetland indicates vegetation usually occurs in wetlands, but occasionally occurs in non-wetlands.

EXHIBIT 3-11
WETLANDS IN VICINITY OF PROJECT STUDY AREA

Source: USFWS, 2024; USGS, 2024; RS&H, 2024.

3.15.1.3 Significance Threshold

FAA Order 1050.1F,[157] defines the FAA's significance threshold for wetlands, which states that a significant impact would occur if "The action would:

- Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers;
- Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected;
- Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public);
- Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands;
- Promote development of secondary activities or services that would cause the circumstances listed above to occur; or
- Be inconsistent with applicable state wetland strategies."

3.15.1.4 Methodology

To evaluate the presence of potential wetlands within the Project Study Area, a desktop analysis was performed reviewing public databases, agency resources, and spatial data that include USGS topographic maps,[158] USFWS NWI data,[159] Federal Emergency Management Agency (FEMA) floodplain maps,[160] NRCS Web Soil Survey data,[161] and recent and past aerial imagery.

Following the desktop analysis, a preliminary wetland delineation was performed within the Project Study Area on January 8-9, 2024, employing technical methods outlined in the *Army Corps of Engineers Wetlands Delineation Manual*[162] and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great*

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157 Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

158 U.S. Geological Survey. National Geologic Map Database, Topo View. Retrieved February 2024 from https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.06

159 U.S. Fish and Wildlife Service. National Wetlands Inventory Mapper. Retrieved February 2024 from https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

160 Federal Emergency Management Agency. FEMA Flood Map Service Center. Retrieved March 2024 from https://msc.fema.gov/portal/search?AddressQuery=9800%20Airport%20Blvd%2C%20San%20Antonio%2C%20TX%2078216

161 U.S. Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey. Retrieved February 2024 from https://websoilsurvey.nrcs.usda.gov/app/

162 U.S. Army Corps of Engineers. 1987. Army Corps of Engineers Wetland Delineation Manual. Retrieved February 2024 from https://usace.contentdm.oclc.org/digital/collection/p266001coll1/id/4532/

Plains Region.[163] The desktop analysis and delineation data are provided in the preliminary wetland delineation report in **Appendix D**.

3.15.1.5 Environmental Consequences

This section describes the potential impacts to wetlands associated with implementation of the No Action Alternative or Proposed Project.

3.15.1.5.1 No Action Alternative

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

3.15.1.5.2 Proposed Project

The Proposed Project includes utility line upgrades (U-2) under the unnamed tributary to Olmos Creek and installation of hydrant fuel transmission lines (S-2) under Salado Creek (Alternative A or B locations) via horizontal directional drilling underneath the creeks and adjacent wetland habitats (see **Exhibit 1-7** and **Exhibit 1-9** in **Section 1.4** and **Section 1.4.5**, respectively). The entry and exit bore holes would be sited a minimum of 25 feet upgradient of wetland boundaries to ensure bore holes are sited in upland areas, thereby avoiding direct wetland impacts.

Likewise, construction of the Office Support Building (S-5) near the ARFF station (see **Exhibit 1-7**) would be constructed outside of the 0.11-acre delineated PEM wetland, thereby avoiding wetland impacts.

Prior to construction, the general contractor would obtain a Construction General Permit (CGP) and the Airport Sponsor would update their existing Texas Pollutant Discharge Elimination System (TPDES) Permit (No. TXR050000) to cover construction and operation of the Proposed Project.

During construction, a Stormwater Pollution Prevention Plan (SWP3) would be implemented by the contractor to comply with the CGP and TPDES Permit. The SWP3 includes construction Best Management Practices (BMPs); erosion control measures; spill prevention and response measures; among other pollution prevention measures. Implementation of the SWP3 would minimize short-term influxes of suspended sediments from ground disturbing activities, or fuels, lubricants, and solvents from construction equipment from indirectly affecting nearby wetlands and water resources.

Following construction, all disturbed upland areas would be seeded with a seed mix containing species appropriate for the region.

[163] U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0). Retrieved February 2024 from https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7613

Through avoidance and minimization measures, and implementation of SWP3 during construction, the Proposed Project would have **no significant impact** on wetlands.

3.15.1.6 Mitigation Measures

In accordance with Executive Order 11990, *Protection of Wetlands*,[164] and Section 404 of the Clean Water Act,[165] wetland mitigation would not be required as the Proposed Project avoids temporary and permanent impacts to wetlands.

All work would be conducted in compliance with the Airport Sponsor's TPDES permit and the general contractor's CGP. When implementing horizontal directional drilling under waterbodies, the entry and exit bore holes would be sited a minimum of 25 feet upgradient of wetland boundaries to ensure bore holes are sited in upland areas. Additional mitigation measures are not proposed.

3.15.2 Floodplains

3.15.2.1 Regulatory Setting

Appendix B lists the regulations associated with floodplains.

3.15.2.2 Affected Environment

As shown on **Exhibit 3-12**, the Project Study Area contains floodplains associated with Salado Creek north of the Project Study Area. Floodplains associated with Olmos Creek are west of U.S. Highway 281 and outside of the Project Study Area. These floodplains are identified as "Zone AE" on FEMA Flood Insurance Rate Map (FIRM) Panels[166] #480290C0265H and #48029C0263H, which are areas that are within the 100-year floodplain.

3.15.2.3 Significance Threshold

According to FAA Order 1050.1F,[167] a significant impact to a floodplain would occur if "the action would cause notable adverse impacts on natural and beneficial floodplain values." Examples of natural and beneficial values include a floodplain's capacity to carry and store floodwaters; sustain agriculture, aquaculture, or aquatic or terrestrial organisms; provide for groundwater recharge; provide recreation opportunities; or maintain water quality.

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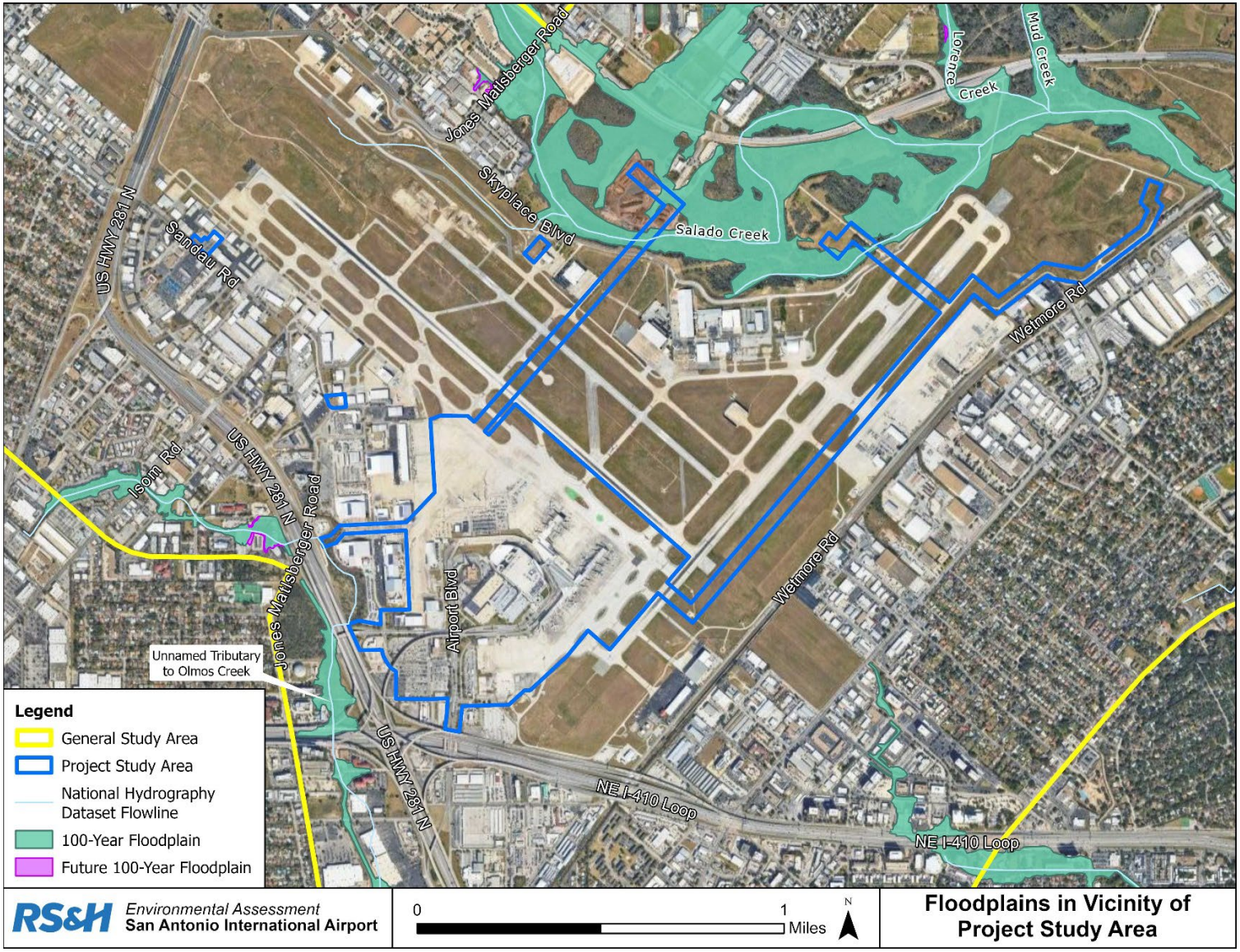
164 Executive Order 11990 – Protection of Wetlands. Retrieved February 2024 from https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/Req-EO11990wetlands.pdf

165 Title 33 United States Code. Title 33: Navigation and Navigable Waters. Chapter 26, Water Pollution Prevention Act. Section 1251 et seq. Retrieved February 2024 from https://www.govinfo.gov/content/pkg/USCODE-2018-title33/pdf/USCODE-2018-title33-chap26.pdf

166 Federal Emergency Management Agency. FEMA Flood Map Service Center. Retrieved March 2024 from https://msc.fema.gov/portal/search?AddressQuery=9800%20Airport%20Blvd%2C%20San%20Antonio%2C%20TX%2078216

167 Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

EXHIBIT 3-12
FLOODPLAINS IN VICINITY OF PROJECT STUDY AREA



Source: FEMA, 2024; USGS, 2024; RS&H, 2024.

3.15.2.4 Methodology

Recent floodplain maps were obtained from FEMA FIRM Panels[168] #480290C0265H and #48029C0263H and compared with the Proposed Project's footprint and proposed impacts to determine if any project components would encroach upon the 100-year floodplain. Delineation of the floodplain based on the Federal Flood Risk Management Standard was not required as the Proposed Project does not include new construction within the floodplain.

3.15.2.5 Environmental Consequences

This section describes the potential impacts to Floodplains associated with implementation of the No Action Alternative or Proposed Project.

3.15.2.5.1 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 the NEPA. Therefore, the No Action Alternative would have **no impact** on wetlands.

3.15.2.5.2 Proposed Project

The Proposed Project includes installation of hydrant fuel transmission lines (S-2) under Salado Creek in the Alternative A or B locations (see **Exhibit 1-9** in **Section 1.4.5**) that would occur within the 100-year floodplain. Construction activities include excavation of bore holes for horizontal directional drilling of utility lines underneath Salado Creek.

Prior to construction, the Airport Sponsor would obtain a Floodplain Development Permit from Bexar County[169] for construction activities within the floodplain; this includes a "no rise" certification,[170] which must be signed, sealed, and dated by a professional engineer.

The general contractor would also obtain a CGP from TCEQ and the Airport Sponsor would update their TPDES Permit (No. TXR050000) to cover construction and operation of the Proposed Project.

During construction, a SWP3 would be implemented by the contractor to comply with the CGP and updated TPDES Permit (No. TXR050000) that includes erosion

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168 Federal Emergency Management Agency. FEMA Flood Map Service Center. Retrieved March 2024 from https://msc.fema.gov/portal/search?AddressQuery=9800%20Airport%20Blvd%2C%20San%20Antonio%2C%20TX%2078216

169 Bexar County. Floodplain Development Permits. Retrieved March 2024 from https://www.bexar.org/1492/Floodplain-Development-Permits

170 A No Rise Certification is a certified statement signed by a licensed engineer that the proposed project would not increase flood heights (elevations) in the floodway or floodplain based on an engineering analysis. The No Rise Certification ensures the proposed project does not alter conveyance or the flood storage capacity of the regulated floodplain.

and sediment control BMPs, spill prevention and response measures, and other pollution prevention measures to protect water resources, including floodplains.

Following construction, the land would be re-graded to match historic grade, resulting in no net rise to the floodplain and maintaining natural and beneficial floodplain values. Through compliance with the CGP, TPDES, and Floodplain Development Permit, the Proposed Project would have **no significant impact** on floodplains.

3.15.2.6 Mitigation Measures

All work would be conducted in compliance with the Airport Sponsor's TPDES permit, Bexar County Floodplain Development Permit, and TCEQ CGP. Additional mitigation measures are not required or proposed.

3.15.3 Surface Waters

3.15.3.1 Regulatory Setting

Appendix B lists the regulations associated with surface waters.

3.15.3.2 Affected Environment

As shown on **Exhibit 3-12**, Salado Creek and an unnamed tributary to Olmos Creek cross the Project Study Area to the north and west, respectively. Both creeks are intermittent and are typically inundated by a combination of groundwater inflow and stormwater runoff.[171] The segment of Salado Creek within the Project Study Area is 303(d)-listed for dissolved oxygen, indicating dissolved oxygen has exceeded USEPA water quality standards.[172] Olmos Creek is not on the 303(d) list.[173]

Tributaries to Salado Creek, including Mud Creek, Lorence Creek, Panther Springs Creek, and an artificial lake, named Silver Horn Lake, are within the General Study Area (refer to **Exhibit 3-2**).

Based on a Drainage Inventory conducted as a part of the 2021 Airport Master Plan,[174] stormwater runoff from the Airport primarily drains through a series of underground drainage systems that eventually flow to Salado Creek, the unnamed tributary to Olmos Creek, or the City of San Antonio storm sewer system. According to the Drainage Inventory, most stormwater runoff from the Airport drains into

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171 WSP. 2021. San Antonio International Airport Strategic Development Plan, 2021 Airport Master Plan. Retrieved February 2024 from https://flysanantonio.com/business/about-saas/strategic-development/

172 Texas Natural Resource Conservation Commission. One Total Maximum Daily Lad for Dissolved Oxygen in Salado Creek: Segment 1910. Retrieved February 2024 from https://www.tceq.texas.gov/downloads/water-quality/tmdl/salado-creek-aquatic-life-11/11-salado-creek-tmdl.pdf

173 Texas Commission on Environmental Quality. Texas Integrated Report of Surface Water Quality for Clean Water Act Sections 305(b) and 303(d). Retrieved February 2024 from https://www.tceq.texas.gov/waterquality/assessment

174 WSP. 2021. San Antonio International Airport Strategic Development Plan, 2021 Airport Master Plan. Retrieved February 2024 from https://flysanantonio.com/business/about-saas/strategic-development/

Salado Creek through approximately 18 outfalls. Stormwater from the Airport and surrounding area (approx. 126 square miles total) results in significant flow inputs into Salado Creek during storm events.

3.15.3.3 Significance Threshold

According to FAA Order 1050.1F,[175] a significant impact to surface waters 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 public health may be adversely affect."

The Order also lists the following factors to consider that may have a significant impact on surface water:

- » Adversely affect natural and beneficial water resource values to a degree that substantially diminishes or destroys such values;
- » Adversely affect surface waters such that the beneficial uses and values of such waters are appreciably diminished or can no longer be maintained, and such impairment cannot be avoided or satisfactorily mitigated; or
- » Present difficulties based on water quality impacts when obtaining a permit or authorization.

3.15.3.4 Methodology

To evaluate surface water within the Project Study Area and General Study Area, a desktop analysis was performed by reviewing public databases, agency resources, and spatial data that included the TCEQ 303(d) list,[176] Texas Natural Resource Conservation Commission TMDL reports,[177] SAT Drainage Inventory,[178] and previous Airport environmental studies.

The increase in impervious surfaces related to the Proposed Project was estimated based on preliminary project designs. Water quality and mitigation requirements associated with the implementation of the Proposed Project were also reviewed.

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[175] Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

[176] Texas Commission on Environmental Quality. Texas Integrated Report of Surface Water Quality for Clean Water Act Sections 305(b) and 303(d). Retrieved February 2024 from https://www.tceq.texas.gov/waterquality/assessment

[177] Texas Natural Resource Conservation Commission. One Total Maximum Daily Lad for Dissolved Oxygen in Salado Creek: Segment 1910. Retrieved February 2024 from https://www.tceq.texas.gov/downloads/water-quality/tmdl/salado-creek-aquatic-life-11/11-salado-creek-tmdl.pdf

[178] WSP. 2021. San Antonio International Airport Strategic Development Plan, 2021 Airport Master Plan. Retrieved February 2024 from https://flysanantonio.com/business/about-saas/strategic-development/

3.15.3.5 Environmental Consequences

This section describes the potential effects to surface water associated with implementation of the Proposed Project compared to the No Action Alternative.

3.15.3.5.1 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 the NEPA. Therefore, the No Action Alternative would have **no impact** on surface water.

3.15.3.5.2 Proposed Project

The Proposed Project includes utility line upgrades (U-2) under the unnamed tributary to Olmos Creek and installation of hydrant fuel transmission lines (S-2) under Salado Creek (Alternative A or B locations) via horizontal directional drilling underneath the creeks and adjacent wetland habitats (see **Exhibit 1-7** and **Exhibit** 1-9 in **Section 1.4** and **Section 1.4.5**, respectively). The entry and exit bore holes would be sited a minimum of 25 feet upgradient of wetland boundaries to ensure bore holes are sited in upland areas, thereby avoiding direct surface water impacts.

Prior to construction, the general contractor would obtain a CGP from TCEQ. The Airport Sponsor would also update their existing TPDES Permit (No. TXR050000) to cover construction and operation of the Proposed Project.

During construction, a SWP3 would be implemented by the contractor to comply with the CGP and updated TPDES Permit (No. TXR050000) that includes erosion and sediment control BMPs, spill prevention and response measures, and other pollution prevention measures to prevent indirect impacts to surface water resources.

Following construction, impervious surfaces would increase by up to 11,080 square feet (SF) (0.25-acre). Impervious surfaces would increase in the following locations and extents (see **Exhibit 1-7**):

- Office Support Building (S-5) – 5,000 SF (0.11-acre)
- Terminal Curbside Roadway Improvements (R-1) – 6,080 SF (0.14-acre)

The increase in the amount and rate of stormwater can be accommodated by the Airport's existing stormwater management system. The increase in impervious surfaces would be negligible and would result in minimal change to 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.

Through compliance with the TPDES permit and CGP that includes implementation of a SWP3 during construction, the Proposed Project would have **no significant impact** on surface water resources.

3.15.3.6 Mitigation Measures

All work would be conducted in compliance with the Airport Sponsor's TPDES permit and the general contractor's CGP. When implementing horizontal directional drilling under waterbodies, the entry and exit bore holes would be sited a minimum of 25 feet upgradient of wetland boundaries to ensure bore holes are sited in upland areas. Additional mitigation measures are not required or proposed.

3.15.4 Groundwater

3.15.4.1 Regulatory Setting

Appendix B lists the regulations associated with groundwater.

3.15.4.2 Affected Environment

The Project Study Area is in proximity to, but does not encroach upon, the transition zone of the Edwards Aquifer, an EPA-designated Sole Source Aquifer.[179] The northwest portions of the General Study Area overlap the transition zone of the Edwards Aquifer (refer to **Exhibit 3-13**). According to a study by the USGS in coordination with the City of San Antonio,[180] the Airport overlies a deeper, confined zone of the Edwards Aquifer. The confined zone is less susceptible to contamination because layers of impermeable material overlay the aquifer. Further, the confined zone is downgradient from the unconfined zone, which minimizes the potential for water quality impacts from Airport activities to affect the unconfined zone.

A review of well data from the Texas Water Development Board groundwater data viewer,[181] the water table ranges between 17 feet and 30 below the land surface on Airport property.

The Project Study Area does not contain any known hazardous materials sites or contamination areas, though historic fire-fighting activities may have led to a release of PFAS or other environmental contaminants at locations in the northern portion of the Project Study Area (refer to **Section 3.8.2.1**).

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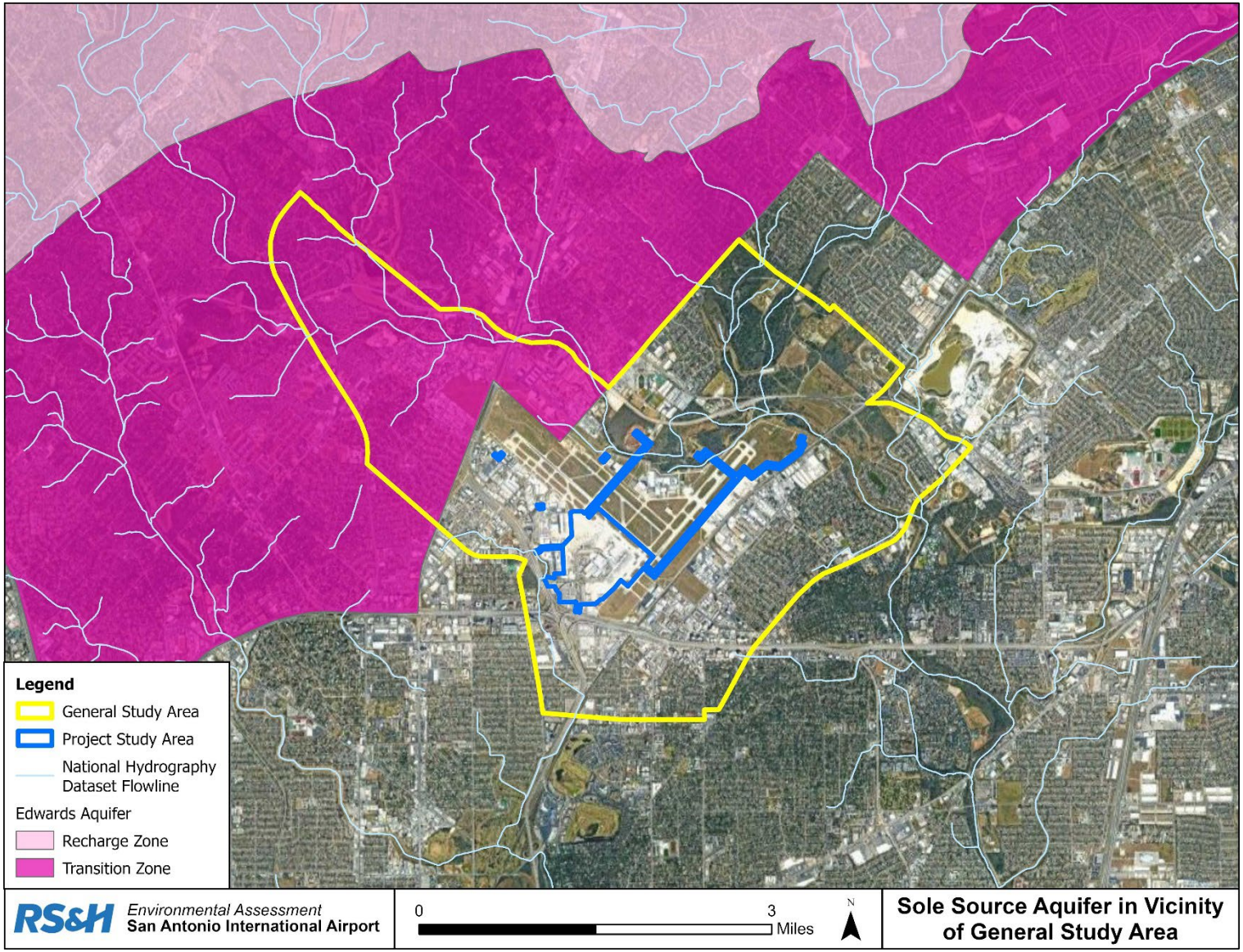
[179] Texas Commission on Environmental Quality. Edwards Aquifer Protection Program, Edwards Aquifer Map Viewer. Retrieved February 2024 from https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=2e5afa3ba8144c30a49d3dc1ab49edcd

[180] U.S. Geological Survey. 2020. Effects of Urbanization on Water Quality in the Edwards Aquifer, San Antonio and Bexar County, Texas, Fact Sheet 2020-3028. Retrieved April 2024 from https://pubs.usgs.gov/fs/2020/3028/fs20203028.pdf

[181] Texas Water Development Board. Groundwater Database, Groundwater Data Viewer. Retrieved February 2024 from https://www3.twdb.texas.gov/apps/WaterDataInteractive/GroundwaterDataViewer/?map=sdr

EXHIBIT 3-13
SOLE SOURCE AQUIFER IN VICINITY OF GENERAL STUDY AREA



Source: TCEQ, 2024; RS&H, 2024.

SAAS is conducting a TDP Baseline Environmental Investigation for PFAS at the proposed Terminal C location. While this study is ongoing, groundwater was not encountered during the Baseline Environmental Investigation. Due to the reported depth of groundwater within the Project Study Area, it is unlikely that PFAS releases or historical contamination from airport operations have affected the groundwater quality.

3.15.4.3 Significance Threshold

According to FAA Order 1050.1F,[182] a significant impact to groundwater would occur if the action would:

- » "Exceed water 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 affect."

The Order also lists the following factors to consider that may have a significant impact on groundwater:

- » Adversely affect natural and beneficial groundwater values to a degree that substantially diminishes or destroys such values;
- » Adversely affect groundwater quantities such that the beneficial uses and values of such groundwater are appreciably diminished or can no longer be maintained, and such impairment cannot be avoided or satisfactorily mitigated; or
- » Present difficulties based on water quality impacts when obtaining a permit or authorization.

3.15.4.4 Methodology

To evaluate the groundwater within the Project Study Area, a desktop analysis was performed by reviewing public databases, agency resources, and spatial data that include the EPA Sole Source Aquifer mapper,[183] TCEQ Edwards Aquifer Map Viewer,[184] TCEQ Water Well Report Viewer,[185] Texas Water Development Board groundwater data viewer,[186] and previous Airport environmental studies.

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[182] Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

[183] Environmental Protection Agency. Interactive Map of Sole Source Aquifer Locations. Retrieved February 2024 from https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b

[184] Texas Commission on Environmental Quality. Edwards Aquifer Map Viewer. Retrieved February 2024 from https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=2e5afa3ba8144c30a49d3dc1ab49edcd

[185] Texas Commission on Environmental Quality. Water Well Report Viewer. Retrieved February 2024 from https://www.tceq.texas.gov/gis/waterwellview.html

[186] Texas Water Development Board. Groundwater Database, Groundwater Data Viewer. Retrieved February 2024 from https://www3.twdb.texas.gov/apps/WaterDataInteractive/GroundwaterDataViewer/?map=sdr

Maintaining groundwater impacts below the significance threshold includes geotechnical and hydrogeological analysis of groundwater conditions in the preliminary design phase of the Proposed Project to determine whether groundwater would be encountered, and incorporate monitoring, dewatering, and water treatment and management if needed during construction activities. All construction activities would be in compliance with the Airport Sponsor's TPDES permit and general contractor's CGP.

3.15.4.5 Environmental Consequences

This section describes the potential effects to groundwater associated with implementation of the Proposed Project compared to the No Action Alternative.

3.15.4.5.1 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. Future Airport development would be subject to review and approval under the NEPA. Therefore, the No Action Alternative would have **no impact** on groundwater.

3.15.4.5.2 Proposed Project

The maximum depth of excavation for construction of the Proposed Project is estimated to be approximately 10 feet in locations of utility line upgrades or installation. As noted in **Section 3.15.4.2**, depth to groundwater is around 17 feet or more below the surface. Therefore, it is unlikely that construction of the Proposed Project would encounter groundwater during construction. In addition, the Proposed Project does not involve any groundwater withdrawals or construction activities associated with new or existing wells.

A SWP3 would be implemented by the contractor during construction to comply with the CGP and updated TPDES Permit (No. TXR050000), 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 up to approximately 11,080 square feet (0.25-acre) (refer to **Section 3.15.3.5**). The increase in the amount and rate of stormwater can be accommodated by the Airport's existing stormwater management system. The increase in impervious surfaces would be negligible and would result in minimal change to 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.

Through compliance with the TPDES permit and CGP that includes implementation of a SWP3 during construction, the Proposed Project would have **no significant impact** on groundwater.

3.15.4.6 Mitigation Measures

All work would be conducted in compliance with the Airport Sponsor's TPDES permit and general contractor's CGP. Additional mitigation measures are not required or proposed.

3.16 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 **Section 3.4** through **Section 3.15**.

The General Study Area represents the spatial boundary for the cumulative analysis. Past actions include those which have occurred within the last five years, and reasonably foreseeable future actions include those planned within the next five years. Since some future projects are in various stages of conceptual development, are subject to change, and do not provide enough data to ensure reasonable analysis, it is not possible to fully quantify the effects associated with them.

3.16.1 Regulatory Setting

Per 40 CFR Part 1508.7,[187] cumulative impacts are defined as the "impact on the environment which results from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time."

3.16.2 Affected Environment

3.16.2.1 Past Actions

Actions completed within the past five years on-Airport property and within the General Study Area:

» 2018 to 2019 – City of San Antonio, Belfast Drive & Janda Susan Road Area Sidewalk and Storm Drain Project

[187] Title 40 Code of Federal Regulations Part 1508.7 – Cumulative Impact. Retrieved April 2024 from https://www.govinfo.gov/content/pkg/CFR-2010-title40-vol32/pdf/CFR-2010-title40-vol32-sec1508-9.pdf

- 2018 to 2022 – City of San Antonio, Starcrest Drive Pedestrian Mobility & Street Project
- 2019 to 2020 – City of San Antonio, Lotus Blossom Street Drainage Improvements
- 2020 to 2021 – City of San Antonio, McCalister Park Trail Improvements
- 2021 to 2023 – SAT, Mill and Overlay of Runway 13L-31R
- 2021 to 2023 – SAT, Reconstruct Taxiway R
- 2022 to 2023 – SAT, West Apron Taxilane Reconstruction
- 2022 to 2023 – SAT, Demo and Relocate ATCT and TRACON
- 2023 – SAT, Consolidated Rental Car Facility (ConRAC) Upgrades
- 2023 to 2024 – SAT, Expand East Cargo Phase I

3.16.2.2 Present Actions

Present actions occurring on-Airport property and within the General Study Area:

- 2018 to 2025 – City of San Antonio, Errol Drive Pedestrian Mobility & Street Project
- 2023 to 2024 – SAT, Emergency Response Road Reconstruction
- 2023 to 2024 – SAT, Airport Lighting Control and Monitoring System
- 2023 to 2024 – SAT, Runway 4-22 Centerline Lighting Circuit Replacement
- 2023 to 2024 – SAT, Enhanced Parking Area
- 2023 to 2025 – SAT, Taxiway H Reconstruction Phase I and Phase II.
- 2024 – SAT, Reconstruct Taxiway N North of Taxiway D
- 2024 – SAT, Skyplace Road Reconstruction
- 2024 – SAT, Utility Electrical Line Upgrades
- 2024 to 2025 – SAT, Relocate Employee Parking to Interim Location
- 2024 to 2025 – SAT, Ground Loading Facility (GLF) in Terminal A
- 2024 to 2025 – SAT Runway 13R-13L Rehabilitation

3.16.2.3 Reasonably Foreseeable Future Actions

The following Airport projects may occur within the reasonably foreseeable future pending NEPA analysis and approval:

- 2025 to 2029 – Texas Department of Transportation, I-410 Improvements (from West Avenue to Broadway Street) and US 281 Improvements (from I-410 to E. Nakoma Dr.)

The following Airport projects may occur within the reasonably foreseeable future pending NEPA analysis and approval:

- 2025 to 2027 – SAT, Outside Plant Campus IT Ring
- 2026 to 2029 – SAT, Improvement of Runway 13L-13R and Associated Taxiways to Air Carrier Standards
- 2026 to 2030 – SAT, Expand East Cargo Phase II
- 2027 – SAT, Land Acquisition (Parcel L10) for Maintenance Facilities
- 2027 – SAT, Strategic Land Acquisition (Parcel L11)
- 2027 – SAT Land Acquisition for Runway 13R RPZ

3.16.3 Significant Threshold

The analysis of potential cumulative impacts uses the same thresholds of significance in FAA Order 1050.1F, Exhibit 4-1,[188] that FAA has developed for each individual environmental resource category.

3.16.4 Methodology

The past, present, and reasonably foreseeable actions identified were researched using federal, state, and local agency websites, such as from the City of San Antonio,[189] San Antonio River Authority,[190] Bexar County,[191] and Texas Department of Transportation (TxDOT).[192] On-Airport projects were identified from the Airport's Capital Improvement Program (CIP) and information provided by Airport staff.

As there is no potential for impact, those environmental resource categories listed in **Section 3.3** are not further evaluated for cumulative impacts. Similarly, those environmental resource categories identified in **Sections 3.4** through **Section 3.15** in which the Proposed Project would have no impact when compared to the No Action Alternative, are not further evaluated for cumulative impacts. Cumulative impacts are only evaluated for resources the Proposed Project would affect (e.g., air quality) in combination with past, present, and reasonably foreseeable future actions.

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188 Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

189 City of San Antonio. Public Works Department: Projects. Retrieved April 2024 from https://www.sanantonio.gov/PublicWorks/Projects

190 San Antonio River Authority. River Authority Projects. Retrieved April 2024 from https://www.sariverauthority.org/services/projects/?fwp_project_status=active

191 Bexar County. Public Works Department: Projects. Retrieved April 2024 from https://www.bexar.org/1502/Projects

192 Texas Department of Transportation. Projects and Studies: San Antonio. Retrieved April 2024 from https://www.txdot.gov/projects/projects-studies/san-antonio.html

3.16.5 Environmental Consequences

3.16.5.1 No Action Alternative

Under the No Action Alternative, SAAS would not implement the Proposed Project and no physical changes to Airport configuration, buildings, or infrastructure would occur. SAAS 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.

3.16.5.2 Proposed Project

Based on the assessment performed in **Section 3.4** through **Section 3.15**, 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.

3.16.5.2.1 Air Quality

Bexar County is in attainment for all NAAQS criteria pollutants. The Proposed Project in addition to past, present, and reasonably foreseeable future actions listed in **Section 3.16.2** would result in temporary construction emissions. Since construction of past and present projects does not coincide with the construction period of the Proposed Project, temporary emissions would not cause a significant cumulative effect. Construction of reasonably foreseeable future actions may coincide with the Proposed Project. However, none of the reasonably foreseeable future projects are anticipated to have substantial short- or long-term impacts on air quality that would affect Bexar County's attainment status. Therefore, the Proposed Project, when considered with past, present, and reasonably foreseeable future actions, would have **no significant cumulative impact** on air quality.

3.16.5.2.2 Biological Resources

The Proposed Project would have no effect on federally-listed species, and is not anticipated to impact any state-listed, SGCN, or migratory bird species. While each project listed in **Section 3.16.2** would be individually evaluated for the potential presence of special status and migratory bird species, it can be assumed that the species list obtained from the USFWS IPaC database and TxNDD database are appropriate for evaluating the cumulative impacts to biological resources. Most projects listed occur on Airport property, which contains no suitable habitat for federally-listed species, and provides low habitat value for other species due to the high levels of human activity, lack of native and diverse plant species, and lack of water resources. Likewise, the listed transportation and trail projects by the City of San Antonio and TxDOT 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 projects listed are not anticipated to significantly impact biological resources. Therefore, the Proposed Project, when considered with past, present,

and reasonably foreseeable future actions, would have **no significant cumulative impact** on biological resources.

3.16.5.2.3 Climate

The Proposed Project in addition to past, present, and reasonably foreseeable future actions listed in **Section 3.16.2** would result in *de minimis*, temporary construction emissions that include GHG emissions. Since construction of past and present projects does not coincide with the construction period of the Proposed Project, temporary GHG emissions would not cause a significant cumulative effect. Construction of reasonably foreseeable future actions may coincide with the Proposed Project; however, none of these projects are anticipated to have substantial short- or long-term impacts on air quality, or GHG emissions. Further, 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.

3.16.5.2.4 Department of Transportation Section 4(f)

The Proposed Project would physically use a Section 4(f) resources through the demolishment of the Badge and ID Office (Building 1322), which is eligible for listing on the National Register of Historic Places (NHRP). However, adverse effects to historic resources would be resolved through mitigation agreed upon in the Memorandum of Agreement (MOA), resulting in no significant impact to Section 4(f) resources. Besides the Proposed Project, none of the listed past, present, and reasonably foreseeable future projects are anticipated to affect Section 4(f) resources. Most projects listed occur on Airport property, which does not contain any other NRHP-listed or -eligible properties, publicly owned parks, recreation areas, wildlife refuges, or waterfowl refuges. Likewise, the transportation projects listed by the City of San Antonio and TxDOT do not affect Section 4(f) resources. The McAllister Park Trail Improvements do occur within a publicly-owned park; however, trail improvements do not constitute physical or constructive use of Section 4(f) resources. Therefore, none of the past, present, and reasonably foreseeable future projects listed are anticipated to affect Section 4(f) resources, and when combined with the Proposed Project would have **no significant cumulative impacts** to Section 4(f) resources.

3.16.5.2.5 Hazardous Materials, Solid Waste, and Pollution Prevention

The Proposed Project involves demolition of three buildings known to contain asbestos, which would occur only after asbestos is removed by an accredited asbestos removal contractor. Other hazardous materials are unlikely to be encountered during construction. During construction, the Proposed Project would involve the use of hazardous materials (e.g., fuels and solvents), and would temporarily generate solid waste. However, the contractor would be required to properly handle and dispose of hazardous materials and solid waste, and adhere to

the Airport Sponsor's Texas Pollutant Discharge Elimination System (TDPES) permit and the contractor's Construction General Permit (CGP), which includes a Stormwater Pollution Prevention Plan (SWP3). Most projects listed in **Section 3.16.2** occur on Airport property, which would also require adherence with the Airports' TPDES permit and/or contractor's CGP. The listed transportation and trail projects by the City of San Antonio and TxDOT occur on previously paved and/or graded surfaces and hazardous materials are unlikely to be encountered. Like Airport projects, City and State projects require the contractor to properly handle and dispose of hazardous materials and solid waste. As these projects are likely to impact over 1 acre of land, a CGP that includes a SWP3 would also be required. Therefore, the Proposed Project, when considered with past, present, and reasonably foreseeable future actions, would have **no significant cumulative impact** on hazardous materials, solid waste, and pollution prevention.

3.16.5.2.6 Historical, Architectural, Archaeological, and Cultural Resources

The Proposed Project would demolish the Badge ID Office (Building 1322), which is eligible for listing on the NHRP. However, adverse effects of the Proposed Project would be resolved through mitigation agreed upon in the MOA, resulting in no significant impact to historic resources. The General Study Area does not contain any NRHP-listed properties. All Airport, transportation, and trail projects listed in **Section 3.16.2** occur on previously paved and/or graded surfaces and are unlikely to contain NRHP-eligible within or in the vicinity of the construction footprints. Therefore, none of the past, present, and reasonably foreseeable future projects listed are anticipated to affect NRHP-listed or NRHP-eligible properties, and when combined with the Proposed Project would have **no significant cumulative impact** on historical, architectural, archaeological, and cultural resources.

3.16.5.2.7 Natural Resources and Energy Supply

The Proposed Project would temporarily increase natural resource and energy use during construction. Since construction of past and present projects does not coincide with the construction period of the Proposed Project, there would not be a significant cumulative effect on natural resources or energy supplies. Construction of reasonably foreseeable future actions may coincide with the Proposed Project; however, short-term increases in natural resource 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 projects listed in **Section 3.16.2** would marginally increase the demand on electricity, sewer, and water utilities, which can be accommodated by existing sources. Therefore, the Proposed Project, when considered with past, present, and reasonably foreseeable future actions, would have **no significant cumulative impact** on natural resources or energy supply.

3.16.5.2.8 Socioeconomics, Environmental Justice, and Children's Health and Safety

Implementation of the Proposed Project and past, present, and reasonably foreseeable future projects would result in temporary increases in employment during construction, but would not result in permanent increases in employment. Construction of the Proposed Project and several projects listed in **Section 3.16.2** may require temporary road, sidewalk, or trail closures during construction; however, long-term access will improve through reduced congestion, improved traffic flow, and upgraded facilities. None of the projects listed, including the Proposed Project, require relocation or alteration of residences, businesses, schools, daycares, or parks, nor cause significant environmental impacts that would affect children, minority, or low-income populations. Therefore, the Proposed Project, when considered with past, present, and reasonably foreseeable future actions, would have **no significant cumulative impact** on socioeconomics, environmental justice, or children's environmental health and safety.

3.16.5.2.9 Visual Effects

Implementation of the Proposed Project, and some Airport and transportation projects listed in **Section 3.16.2** result in additional, minor light emissions that are not anticipated to create an annoyance or interfere with normal activities, effect the visual character of the area, nor block or obstruct views of any visual resources. The Proposed Project and past, present, and reasonably foreseeable future projects that include airport, land acquisition, transportation, and trail improvements would be constructed in a similar design to existing infrastructure, and therefore are not anticipated to significantly alter the visual character of the surrounding area. There are no visual resources protected under federal, state, or local regulations within the General Study Area. Therefore, the Proposed Project, when considered with past, present, and reasonably foreseeable future actions, would have **no significant cumulative impact** on visual effects.

3.16.5.2.10 Water Resources

The Proposed Project avoids impacts to delineated wetlands and will minimize impacts to wetlands, floodplains, surface water, and groundwater through implementation of erosion and sediment control BMPs during construction in compliance with the SWP3, CGP, and TPDES permit. Following construction work, land within the floodplain would be re-graded to match historic grade, resulting in no net rise to the floodplain and maintaining natural and beneficial floodplain values. 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 impacts to water resources, City and State projects require erosion and sediment control BMPs to be implemented during construction, and a CGP that includes a SWP3 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 impact** on water resources.

3.16.5.3 Conclusions

Based on the cumulative impacts analysis, it is concluded that the Proposed Project, when added to past, present, and reasonably foreseeable future projects, would have **no significant cumulative impact** 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 impacts 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
CONSULTATION

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4.1 INTRODUCTION

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

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

- Provide information about the Proposed Action's purpose and need and the alternatives the EA discusses.
- Obtain feedback about possible environmental concerns from agencies, organizations, and the public interested in and affected by the Proposed Action (i.e., interested parties).
- Inform those 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 Action.
- Record comments received from interested parties.

4.2 AGENCY AND ORGANIZATION COORDINATION

4.2.1 Agency Scoping Meeting

On February 20, 2024, the San Antonio Airport System (SAAS) held an agency and organization scoping meeting at the Airport Center, 10100 Reunion Place, Suite 350, San Antonio, TX 78216 from 11:00 AM to 12:00 PM. In total, 57 agencies and 621 organizations were invited to the agency and organization scoping meeting. None of the invited agencies or organizations attended the scoping meeting. The format of the scoping meeting was a presentation followed by an opportunity for representatives of agencies and organizations to ask clarifying questions and provide comments. While SAAS received no oral or written comments during the agency and organization scoping meeting, one agency comment was received via email during the 34-day early consultation period. **Appendix J** includes the advertisements for the agency and organization scoping meeting, the scoping meeting materials, the agency comment received, and the response to the agency comment.

4.2.2 Agency Consultation

4.2.2.1 Section 106 Consultation

To comply with the National Historic Preservation Act, the FAA initiated Section 106 consultation with the Texas Historical Commission (THC) that included a description of the Proposed Project and proposed Area of Potential Effect (APE) on September 28, 2023. THC concurred with the FAA-recommended APE on October 13, 2023. The FAA submitted the results of the Historic Resources Survey, supporting research, determination of eligible historic properties, and determination of project effects to THC on February 15, 2014, and provided additional materials on March 7, 2024. THC concurred with the FAA's determination of eligible properties and project effects on March 14, 2024.

The FAA initiated Section 106 consultation with the following tribal communities on April 4, 2024: Alabama-Coushatta Tribe of Texas, Apache Tribe of Oklahoma, Comanche Nation of Oklahoma, Coushatta Tribe of Louisiana, Mescalero Apache Tribe of the Mescalero Reservation in New Mexico, Tāp Pīlam Coahuiltecan Nation, and Tonkawa Tribe of Indians of Oklahoma. The consultation letter invited tribal communities to comment on the Proposed Project and invited them to participate in the development of a Memorandum of Agreement (MOA) that outlines minimization and mitigation stipulations for adverse impacts to historic properties. No tribal community expressed an interest in being a consulting party.

The FAA submitted a letter to the following potential stakeholders on April 4, 2024, with an invitation to participate in the development of an MOA that outlines minimization and mitigation stipulations for adverse impacts to historic properties: City of San Antonio Office of Historic Preservation, San Antonio Conservation Society, Bexar County Historical Commission, Mid Tex Mod, Preservation Texas, Power of Preservation, and the American Institute of Architects San Antonio Chapter. Only the City of San Antonio Office of Historic Preservation (OHP) requested to be a consulting party.

Lastly, the FAA notified the Advisory Council on Historic Preservation (ACHP) of the determination of adverse effect and intention to enter into an MOA with specified documentation on July 3, 2024. The ACHP chose not to participate in the consultation on July 17, 2024.

The MOA Consulting Parties included the FAA, Airport Sponsor, THC, and the San Antonio OHP. The FAA hosted an online kickoff meeting on May 14, 2024, with SAAS, THC, and OHP to discuss the TDP, Building 1322, MOA procedures, and mitigation measures. The SAAS held an onsite meeting with the THC, San Antonio OHP, and three commissioners from the City of San Antonio Historic and Design Review Commission on June 14, 2024, to discuss the TDP, Building 1322, and to present proposed mitigation measure options. Mitigation measures were identified

during the online kickoff meeting, and refined through subsequent coordination among Consulting Parties.

The City of San Antonio Historic and Design Review Commission provided conceptual approval of the TDP on June 28, 2024, noting approval of the recommended mitigation strategies for the demolition of Building 1322.

The MOA was signed by the Consulting Parties on September 12, 2024. The results of agency consultation and MOA are located in **Appendix F** (see final attachment).

4.2.2.2 Section 4(f) Consultation

To comply with Section 4(f) of the U.S. DOT Act of 1966, the FAA initiated consultation with the Department of the Interior (DOI) Office of Environmental Policy and Compliance (OEPC) on September11, 2024; the consultation package included a Section 4(f) Evaluation, in which the FAA determined there are no feasible and prudent alternatives to the physical use of Building 1322, a Section 4(f) resource, and that the Proposed Project includes all possible planning to minimize harm resulting from such physical use (see **Appendix G**). The Proposed Project includes mitigation measures to resolve adverse effects to Building 1322, which are included in an executed MOA (see final attachment in **Appendix F**). The DOI OEPC concurred with the FAA's Section 4(f) determination on October 8, 2024.

4.3 PUBLIC INVOLVEMENT

The SAAS published a public notice in San Antonio Express News on January 19, January 21, and February 13, 2024, to announce that it was holding a public scoping open house on February 20, 2024, for the Proposed Project. In addition, the SAAS announced the public scoping open house through several other news and social media platforms. The public scoping open house occurred on February 20, 2024, from 6:30 PM to 8:00 PM at the Airport Center, 10100 Reunion Place, Suite 350, San Antonio, TX 78216. The format of the public scoping open house included display boards with a brief overview of NEPA and the NEPA process, purpose and need for the project, alternatives being considered, and the Proposed Project, along with how to provide comments during the 30-day early consultation period. Members of the public had an opportunity to review the display boards and talk to SAAS staff and the EA consultant team. In addition, members of the public were given the opportunity to submit written comments during the public scoping open house or provide oral comments to a stenographer. The SAAS received two written comments and four verbal comments during the public scoping open house and one public comment during the 34-day early consultation period. **Appendix J** includes the advertisements for the public scoping open house, the public scoping open house materials, public comments received, and response to public comments.

4.4 DISTRIBUTION OF DRAFT EA

The SAAS published a notice of availability for the Draft EA in *La Prensa* on July 7, 2024; in the *San Antonio Express News* on July 8, 2024 and August 1, 2024; in *The San Antonio Observer* on July 10, 2024; and in the *San Antonio Business Journal* on July 19, 2024 (see **Appendix J**). As shown in **Table 4-1**, hard copies of the Draft EA were made available to the public and agencies for a 45-day review period at the San Antonio Airport System Stewardship Office and four local libraries during normal business hours. A digital copy of the Draft EA was made available on the San Antonio International Airport website (https://flysanantonio.com/business/about-saas/environmental-stewardship/) during the 45-day review period. Comments were accepted via email to Jon Erion at jon.erion@rsandh.com or via U.S. Mail to Sandra Lauterbach at 13750 San Pedro Avenue, Suite 300, San Antonio TX 78232. Comments were accepted through 5:00 PM Central Daylight Time on August 23, 2024.

TABLE 4-1
DRAFT EA AVAILABLE LOCATIONS

Location Name	Address
SAAS Stewardship Office	10100 Reunion Place, Suite 300, San Antonio TX 78216
Central Library	600 Soledad, San Antonio TX 78205
Thousand Oaks Branch Library	4618 Thousand Oaks, San Antonio TX 78233
Tobin Branch Library	4134 Harry Wurzbach, San Antonio TX 78209
Brookhollow Branch Library	530 Heimer, San Antonio TX 78232
Westfall Branch Library	6111 Rosedale Court, San Antonio TX 78201

Sources: RS&H, 2024 and SAAS, 2024.

4.5 PUBLIC REVIEW OF DRAFT EA

In addition to the notice of availability, the SAAS published notice of a public meeting for the Draft EA in *La Prensa* on July 7, 2024; in the *San Antonio Express News* on July 8, 2024, and August 1, 2024; in *The San Antonio Observer* on July 10, 2024; and in the *San Antonio Business Journal* on July 19, 2024.

The public meeting for the Draft EA was held on August 8, 2024, from 6:00 p.m. to 7:30 p.m. Central Daylight Time, at the Airport Center, 10100 Reunion Place, Suite 350, San Antonio, TX 78216. The format of the public meeting included 16 display boards with an overview of the NEPA and the EA process, the project's Purpose and Need, the Proposed Project, alternatives considered, alternatives screening process; environmental resource categories analyzed, along with how to provide comments during the 45-day Draft EA review period. Members of the public had an opportunity to review the display boards and talk to SAAS staff and the EA consultant team. In addition, members of the public were given the opportunity to submit written comments during the public meeting or provide oral comments to a

stenographer. **Appendix J** includes the advertisements for the Draft EA notice of availability and public meeting, and the public meeting materials.

One person provided oral comments to a stenographer during the public meeting, and two agencies provided comments via email during the 45-day review period. Agency and public comments on the Draft EA were addressed, as appropriate, in the Final EA. **Appendix K** includes the public comments received on the Draft EA and responses to public comments.

4.6 FINAL EA

The Final EA will be made available at the San Antonio Airport System offices and the San Antonio International Airport website (https://flysanantonio.com/business/about-saas/environmental-stewardship/).

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CHAPTER 5
REFERENCES

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5.1 INTRODUCTION

The following sections list 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

Federal Aviation Administration. 2006. National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions. Retrieved March 2024 from https://www.faa.gov/documentLibrary/media/Order/5050.4B.pdf

Federal Aviation Administration. 2015. FAA Advisory Circular 150/5070-6B, Chapter 7, Section 703, *Factors Affecting Aviation Activity*. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/advisory_circular/150-5070-6b-change-2-consolidated.pdf

Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

Federal Aviation Administration. 2021. CY 2021 Enplanements at All Commercial Service Airports, Rank Order. Retrieved March 2024 from https://www.faa.gov/sites/faa.gov/files/2022-09/cy21-commercial-service-enplanements.pdf

Federal Aviation Administration. 2021. *Federal Aviation Administration Terminal Area Forecast Summary, Fiscal Years 2021-2045*.

Federal Aviation Administration. 2023. 1050.1F Desk Reference, v3. Retrieved March 2024 from https://www.faa.gov/media/71921

Federal Aviation Administration. 2023. Terminal Area Forecast (TAF). Retrieved March 2024 from https://www.faa.gov/data_research/aviation/taf/

Federal Aviation Administration. 2024. Aeronautical Informational Services, San Antonio International Airport. Retrieved March 2024 from https://nfdc.faa.gov/nfdcApps/services/ajv5/airportDisplay.jsp?airportId=SAT

Title 40 Code of Federal Regulations, Subchapter A National Environmental Policy Act Implementing Regulations, Parts 1500-1508. Retrieved March 2024 from https://www.ecfr.gov/current/title-40/chapter-V/subchapter-A

5.3 ALTERNATIVES CHAPTER

No references were used in this chapter.

5.4 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES CHAPTER

Airport Cooperative Research Program. 2008. Airport Sustainability Practices: A Synthesis of Airport Practice. Retrieved March 2024 from https://crp.trb.org/acrp0715/wp-content/themes/acrp-child/documents/077/original/ACRP_10_Airport_Sustainability_Practices.pdf

Bexar County. Floodplain Development Permits. Retrieved March 2024 from https://www.bexar.org/1492/Floodplain-Development-Permits

Bexar County. Public Works Department: Projects. Retrieved April 2024 from https://www.bexar.org/1502/Projects

Bexar County. *Schools*. Retrieved February 2024, from: https://gis-bexar.opendata.arcgis.com/search?collection_=Dataset&q=school

City of San Antonio. City of San Antonio One Stop Map. Retrieved March 2024 from https://gis.sanantonio.gov/DSD/OneStop/Index.html

City of San Antonio. Major Thoroughfare Plan 2024. Accessed March 2024 from https://www.sanantonio.gov/Portals/0/Files/GIS/Maps/MTP_8.5x11.pdf

City of San Antonio. Public Works Department: Projects. Retrieved April 2024 from https://www.sanantonio.gov/PublicWorks/Projects

City of San Antonio. Unified Development Cod. *Sec. 34-331. "AHOD" Airport Hazard Overlay District"*. Retrieved March 2024 from https://library.municode.com/tx/san_antonio/codes/unified_development_code?nodeId=ARTIIIZO_DIV4OVDI_S35-331AHAIHAOVDI

City of San Antonio Parks & Recreation. Find A Park Interactive Map. Retrieved February 2024 from https://gis.sanantonio.gov/ITSD/ParkSearch/index.html

City of San Antonio Parks & Recreation. Greenway Trails: Salado Creek Greenway (North of Loop 1604 to Rittman Road). Retrieved February 2024 from https://www.sanantonio.gov/ParksAndRec/Parks-Facilities/Trails/Greenway-Trails#158963930-salado-creek-greenway-system-north--south

City of San Antonio Parks & Recreation. Parks & Facilities Details: McCalister Park. Retrieved February 2024 from https://www.sanantonio.gov/ParksAndRec/Parks-Facilities/All-Parks-Facilities/Parks-Facilities-Details/ArtMID/14820/ArticleID/2578/McAllister-Park

City of San Antonio Parks & Recreation. Parks & Facilities Details: Walker Ranch Historic Landmark Park. Retrieved February 2024 from https://www.sanantonio.gov/ParksAndRec/Parks-Facilities/All-Parks-Facilities/Parks-Facilities-Details/ArtMID/14820/ArticleID/2467/Walker-Ranch-Historic-Landmark-Park

Council on Environmental Quality. 2024. Revised Draft Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas and the Effects of Climate Change in NEPA Reviews. Retrieved March 2024 at https://energy.gov/sites/prod/files/2014/12/f19/CEQ%20Guidance%20on%20Greenhouse%20Gas%20Emissions%20-%20Revised%20Draft%20for%20Public%20Comment2014-30035.pdf

Dixon, James R. and Werler, John E. 2000. Texas Snakes: A Field Guide. Austin, Texas: University of Texas Press. pp. 284–285.

Executive Order 11990 – Protection of Wetlands. Retrieved February 2024 from https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/Req-EO11990wetlands.pdf

Environmental Protection Agency. Interactive Map of Sole Source Aquifer Locations. Retrieved February 2024 from https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b

Federal Aviation Administration. 1998. CertAlert No. 98-05. Grasses Attractive to Hazardous Wildlife. Retrieved January 2024 from https://www.faa.gov/sites/faa.gov/files/airports/airport_safety/wildlife/resources/cert9805.pdf

Federal Aviation Administration. 2006. National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions. Retrieved March 2024 from https://www.faa.gov/documentLibrary/media/Order/5050.4B.pdf

Federal Aviation Administration. 2015. Order 1050.1F, Environmental Impacts: Policies and Procedures. Retrieved March 2024 from https://www.faa.gov/documentlibrary/media/order/faa_order_1050_1f.pdf

Federal Aviation Administration. 2020. 1050.1F Desk Reference: Climate. Accessed March 2024 from https://www.faa.gov/sites/faa.gov/files/about/office_org/headquarters_offices/apl/3-climate.pdf

Federal Aviation Administration. 2020. 1050.1F Desk Reference: Noise and Noise-Compatible Land Use. Accessed March 2024 from https://www.faa.gov/sites/faa.gov/files/about/office_org/headquarters_offices/apl/11-noise.pdf

Federal Aviation Administration. 2020. Advisory Circular 150/5200-33C. Hazardous Wildlife Attractants on or near Airports. Retrieved January 2024 from https://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5200-33C.pdf

Federal Emergency Management Agency. FEMA Flood Map Service Center. Retrieved March 2024 from https://msc.fema.gov/portal/search?AddressQuery=9800%20Airport%20Blvd%2C%20San%20Antonio%2C%20TX%2078216

Institute for Policy Integration et al. 2014. Omitted Damages: What's Missing from the Social Cost of Carbon. Retrieved March 2024 from https://costofcarbon.org/files/Omitted_Damages_Whats_Missing_From_the_Social_Cost_of_Carbon.pdf

Interagency Working Group. 2021. Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide. Interim Estimates under Executive Order 13990. Retrieved March 2024 from https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf

Intergovernmental Panel on Climate Change. 2023. Climate Change 2023 Synthesis Report. Retrieved March 2024 from https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf

National Oceanic and Atmospheric Administration. 2010. San Antonio Climate Summary. Retrieved February 2024 from https://www.edwardsaquifer.org/wp-content/uploads/2019/02/2010_NASA_SanAntonioClimate.pdf

Poznecki-Camarillo, Inc. 2018. Environmental Inventory Technical Report, Airport Master Plan Phase 1. Prepared for City of San Antonio Aviation Departments, Bexar County, Texas

San Antonio Airport System. 2012. San Antonio International Airport Soil Management Plan. SAAS Environmental Stewardship Division, San Antonio, Texas

San Antonio River Authority. River Authority Projects. Retrieved April 2024 from https://www.sariverauthority.org/services/projects/?fwp_project_status=active

San Antonio River Authority. 2022. Bexar Future Land Use & Cibolo Future/Existing Land Use (2020). Retrieved March 2024 from https://geoportal-mpo.opendata.arcgis.com/maps/90138edf2dc74930aa9fe84839731957/about

Sustainable Aviation Guidance Alliance. Sustainable Principals and Practices. Retrieved March 2024 from http://www.airportsustainability.org/

Texas Commission on Environmental Quality. 2023. *Municipal Solid Waste in Texas: A Year* in *Review, 2022 Data Summary and Analysis.* Retrieved January 2024 from https://www.tceq.texas.gov/downloads/permitting/waste-permits/publications/as-187-23.pdf

Texas Commission on Environmental Quality. 2023. *Municipal Solid Waste in Texas: A Year in Review, 2022 Data Summary and Analysis.* Retrieved January 2024 from https://www.tceq.texas.gov/downloads/permitting/waste-permits/publications/as-187-23.pdf

Texas Commission on Environmental Quality. Edwards Aquifer Map Viewer. Retrieved February 2024 from https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=2e5afa3ba8144c30a49d3dc1ab49edcd

Texas Commission on Environmental Quality. Edwards Aquifer Protection Program, Edwards Aquifer Map Viewer. Retrieved February 2024 from

https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=2e5afa3ba8144c30a49d3dc1ab49edcd

Texas Commission on Environmental Quality. Texas Integrated Report of Surface Water Quality for Clean Water Act Sections 305(b) and 303(d). Retrieved February 2024 from https://www.tceq.texas.gov/waterquality/assessment

Texas Commission on Environmental Quality. Total Maximum Daily Load Program: Salado Creek. Retrieved January 2024 from https://www.tceq.texas.gov/waterquality/tmdl/11-salado.html

Texas Commission on Environmental Quality. Water Well Report Viewer. Retrieved February 2024 from https://www.tceq.texas.gov/gis/waterwellview.html

Texas Department of Transportation. Projects and Studies: San Antonio. Retrieved April 2024 from https://www.txdot.gov/projects/projects-studies/san-antonio.html

Texas General Land Office. The Texas Coastal Zone. Retrieved March 2024, from https://www.glo.texas.gov/coast/coastal-management/forms/files/CoastalBoundaryMap.pdf

Texas Natural Resource Conservation Commission. One Total Maximum Daily Lad for Dissolved Oxygen in Salado Creek: Segment 1910. Retrieved February 2024 from https://www.tceq.texas.gov/downloads/water-quality/tmdl/salado-creek-aquatic-life-11/11-salado-creek-tmdl.pdf

Texas Natural Resources Information System. TNRIS Data Hub. Retrieved February 2024 from https://data.tnris.org/

Texas Parks and Wildlife Department. 2016. Texas Monarch and Native Pollinator Conservation Plan. Retrieved February 2024 from https://tpwd.texas.gov/publications/pwdpubs/media/pwd_rp_w7000_2070.pdf

Texas Parks and Wildlife Department. Black-capped Vireo (*Vireo atricapilla*). Retrieved February 2024 from https://tpwd.texas.gov/huntwild/wild/species/bcv/

Texas Parks and Wildlife Department. Geographic Information Systems: Interactive Web Maps. Retrieved February 2024 from https://tpwd.texas.gov/gis/

Texas Parks and Wildlife Department. James E. Daughtrey WMA. Retrieved March 2024 from https://tpwd.texas.gov/huntwild/hunt/wma/find_a_wma/list/?id=46

Texas Parks and Wildlife Department. Rare, Threatened, and Endangered Species, Bexar County. Retrieved December 2023 from https://tpwd.texas.gov/gis/rtest/

Texas Parks and Wildlife Department. Texas Natural Diversity Database. Retrieved January 2024 from https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/txndd/

Texas Parks and Wildlife Department. The Blackland Prairies. Retrieved February 2024 from https://tpwd.texas.gov/wildlife/wildlife-diversity/wildscapes/wildscapes-plant-guidance-by-ecoregion/the-blackland-prairies/

Texas Parks and Wildlife Department. The Monarch Butterfly and Other Insect Pollinators. Retrieved February 2024 from https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/texas_nature_trackers/monarch/

Texas Parks and Wildlife Department. Wildlife Diversity Program: Texas Natural Diversity Database (TxNDD). Retrieved December 2023 from https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/txndd/data.phtml

Texas Tech University. Eastern Spotted Skunk, *Spilogale putorius*. Retrieved February 2024 from https://www.depts.ttu.edu/nsrl/mammals-of-texas-online-edition/Accounts_Carnivora/Spilogale_putorius.php

Texas Tech University. Hog-Nosed Skunk, *Conepatus leuconotus*. Retrieved February 2024 from https://www.depts.ttu.edu/nsrl/mammals-of-texas-online-edition/Accounts_Carnivora/Conepatus_leuconotus.php

Texas Tech University. Western Spotted Skunk, *Spilogale gracilis*. Retrieved February 2024 from https://www.depts.ttu.edu/nsrl/mammals-of-texas-online-edition/Accounts_Carnivora/Spilogale_putorius.php

Texas Water Development Board. Groundwater Database, Groundwater Data Viewer. Retrieved February 2024 from https://www3.twdb.texas.gov/apps/WaterDataInteractive/GroundwaterDataViewer/?map=sdr

Title 7 Code of Federal Regulations Part 658 – Farmland Protection Policy Act. Retrieved March 2024 from https://www.ecfr.gov/current/title-7/subtitle-B/chapter-VI/subchapter-F/part-658

Title 14 Code of Federal Regulations Part 150 – Airport Noise Compatibility Planning. Retrieved March 2024 from https://www.ecfr.gov/current/title-14/chapter-I/subchapter-I/part-150

Title 33 United States Code. Title 33: Navigation and Navigable Waters. Chapter 26, Water Pollution Prevention Act. Section 1251 et seq. Retrieved February 2024 from https://www.govinfo.gov/content/pkg/USCODE-2018-title33/pdf/USCODE-2018-title33-chap26.pdf

Title 36 Code of Federal Regulations Part 800 – Protection of Historic Places. Retrieved March 2024 from https://www.ecfr.gov/current/title-36/chapter-VIII/part-800?toc=1

Title 36 Code of Federal Regulations Part 800, Subpart B, 800.6 – Resolution of Adverse Effects. Retrieved March 2024 from https://www.ecfr.gov/current/title-36/chapter-VIII/part-800/subpart-B/section-800.6

Title 43 Code of Federal Regulations Part 774 - Policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites. Retrieved March 2024 from https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-774?toc=1

U.S. Army Corps of Engineers. 1987. Army Corps of Engineers Wetland Delineation Manual. Retrieved February 2024 from https://usace.contentdm.oclc.org/digital/collection/p266001coll1/id/4532/

U.S. Army Corps of Engineers. 2006. Planning Design Report and Environmental Assessment for Olmos Creek Section 206 Aquatic Ecosystem Restoration Project, Bexar County, Texas: Retrieved January 2024 from https://www.swf.usace.army.mil/Portals/47/docs/ContinuingAuthoritiesProgram/Olmos%20Creek/Olmos_Creek_Planning_Design_Report_and_Environmental_Assessment.pdf?ver=2015-09-02-111319-777

U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0). Retrieved February 2024 from https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7613

U.S. Census Bureau. 2020 Topologically Integrated Geographic Encoding and Referencing (TIGER) Interactive Map. Retrieved March 2024 from https://tigerweb.geo.census.gov/tigerweb2020/

U.S. Census Bureau. 2022: ACS 5-Year Estimates, Household Type By Household Size. Retrieved January 2024 from: https://data.census.gov/table/ACSDT5Y2022.B11016?t=Housing&g=050XX00US48029_1500000US480291207011,480291207012,480291207013,480291207014,480291207015,480291210001,480291210002,480291210003,480291210004,480291210005,480291210006,480291211191,480291211192,480291211193,480291211201,480291912011,480291912012,480291912013,480291913031,480291913041,480291913042,480291914101,480291914102,480291914103,480291914111,480291914112,480291923001,480291923002,480299800041_160XX00US4865000

U.S. Census Bureau. 2022: ACS 5-Year Estimates, Occupancy Status. Retrieved January 2024 from: https://data.census.gov/table/ACSDT5Y2022.B25002?t=Housing&g=050XX00US48029_1500000US480291207011,480291207012,480291207013,480291207014,480291207015,480291210001,480291210002,480291210003,480291210004,480291210005,480291210006,480291211191,480291211192,480291211193,480291211201,480291912011,480291912012,480291912013,480291913031,480291913041,480291913042,480291914101,480291914102,480291914103,480291914111,480291914112,480291923001,480291923002,480299800041_160XX00US4865000

U.S. Census Bureau. 2022: ACS 5-Year Estimates, Employment Status for the Population 16 Years and Over. Retrieved January 2024 from: https://data.census.gov/table/ACSDT5Y2022.B23025?q=b23025&t=Employment&g=040XX00US48_050XX00US48029_1500000US480291207011,480291207012,480291207013,480291207014,480291207015,480291210001,480291210002,480291210003,480291210004,480291210005,480291210006,480291211191,480291211192,480291211193,480291211201,480291912011,480291912012,480291912013,480291913031,480291913041,480291913042,480291914101,480291914102,480291914103,480291914111,480291914112,480291923001,480291923002,480299800041

U.S. Census Bureau. 2022: ACS 5-Year Estimates, Race. Retrieved January 2024 from: https://data.census.gov/table/ACSDT5Y2022.B02001?q=B02001&g=050XX00US48029_1500000US480291207011,480291207012,480291207013,480291207014,480291207015,480291210001,480291210002,480291210003,480291210004,480291210005,480291210006,480291211191,480291211192,480291211193,480291211201,480291912011,480291912012,480291912013,480291913031,480291913041,480291913042,480291914101,480291914102,480291914103,480291914111,480291914112,480291923001,480291923002,480299800041_160XX00US4865000

U.S. Census Bureau. 2022: ACS 5-Year Estimates, Poverty. Retrieved January 2024 from: https://data.census.gov/table/ACSDT5Y2022.B17021?q=b17021&g=050XX00US48029_1500000US480291207011,480291207012,480291207013,480291207014,480291207015,480291210001,480291210002,480291210003,480291210004,480291210005,480291210006,480291211191,480291211192,480291211193,480291211201,480291912011,480291912012,480291912013,480291913031,480291913041,480291913042,480291914101,480291914102,480291914103,480291914111,480291914112,480291923001,480291923002,480299800041_160XX00US4865000

U.S. Department of Agriculture, Natural Resources Conservation Service. Web Soil Survey. Retrieved February 2024 from https://websoilsurvey.nrcs.usda.gov/app/

U.S. Department of Agriculture, U.S. Forest Service. Interactive Visitor Map. Retrieved March 2024 from https://www.fs.usda.gov/ivm/

U.S. Department of Interior, National Parks Service. National Parks System maps. Retrieved February 2024 from https://www.nps.gov/planyourvisit/maps.htm

U.S. Department of Interior, National Park Service. National Register of Historic Places. Retrieved January 2024 from https://npgallery.nps.gov/nrhp

U.S. Department of Interior, National Parks Service. National Wild and Scenic Rivers System, Texas. Retrieved March 2024 from https://rivers.gov/texas.php

U.S. Energy Information Agency. 2012. Commercial Buildings Energy Consumption Survey, Consumption & Efficiency, 2012 CBECS Survey Data. Retrieved January 2024 from https://www.eia.gov/consumption/commercial/data/2003/index.php?view+consumption#c1a

U.S. Environmental Protection Agency. 2016. *Technical Guidance for Assessing Environmental Justice in Regulatory Analysis*. Retrieved March 2024 from https://www.epa.gov/sites/default/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf

U.S. Environmental Protection Agency. Cleanups In My Community. Retrieved January 2024 from https://cimc.epa.gov/ords/cimc/f?p=cimc:MAP:::71:P71_WELSEARCH:TX|State|TX|||true|true|true|true|true|true||-1|sites|N|basic

U.S. Environmental Protection Agency. Criteria Air Pollutants. Retrieved March 2024 from https://www.epa.gov/criteria-air-pollutants

U.S. Environmental Protection Agency. Green Book: Texas Nonattainment/ Maintenance Status for Each County by Year for All Criteria Pollutants. Retrieved March 2024 from https://www3.epa.gov/airquality/greenbook/anayo_tx.html

U.S. Environmental Protection Agency. Greenhouse Gas Inventory Data Explorer. Retrieved March 2024 from https://cfpub.epa.gov/ghgdata/inventoryexplorer/#allsectors/allsectors/allgas/econsect/all

U.S. Fish and Wildlife Service. 2020. Monarch (*Danaus plexippus*) Species Status Assessment Report, Version 2.1. Retrieved February 2024 from https://www.fws.gov/sites/default/files/documents/Monarch-Butterfly-SSA-Report-September-2020.pdf

U.S. Fish and Wildlife Service. 2022. Plains Spotted Skunk (*Spilogale interrupta*) Species Status Assessment Report. Retrieved February 2024 from https://ecos.fws.gov/ServCat/DownloadFile/238510

U.S. Fish and Wildlife Service. Correll's False Dragonhead. Retrieved February 2024 from https://www.fws.gov/species/corrells-false-dragonhead-physostegia-correllii

U.S. Fish and Wildlife Service. Information for Planning and Conservation (IPaC). Retrieved January 2024 from https://ecos.fws.gov/ipac/

U.S. Fish and Wildlife Service. Map: National Wildlife Refuge System. Retrieved February 2024 from https://www.fws.gov/sites/default/files/documents/NWRS-National-Map.pdf

U.S. Fish and Wildlife Service. Map of Karst Zones, Bexar County. Retrieved February 2024 from https://www.arcgis.com/home/item.html?id=ab0d8006d50c423e860e6b7f2f89aac6

U.S. Fish and Wildlife Service. National Wetlands Inventory Mapper. Retrieved February 2024 from https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

U.S. Fish and Wildlife Service. Species Profile: Black-capped Vireo. Retrieved February 2024 from https://www.fws.gov/species/black-capped-vireo-vireo-atricapilla

U.S. Fish and Wildlife Service. Species Profiles. Retrieved January 2024 from https://www.fws.gov/species

U.S. Fish and Wildlife Service. Terrestrial Karst Invertebrates. Retrieved February 2024 from https://www.fws.gov/library/collections/terrestrial-karst-invertebrates

U.S. Geological Survey. National Geologic Map Database, Topo View. Retrieved February 2024 from https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.06

U.S. Geological Survey. National Map Viewer. Retrieved February 2024 from https://apps.nationalmap.gov/viewer/

WSP. 2021. San Antonio International Airport Strategic Development Plan, 2021 Airport Master Plan. Retrieved February 2024 from https://flysanantonio.com/business/about-saas/strategic-development/

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, location, education, years of experience, and primary responsibility or role during preparation of the EA.

6.2 FEDERAL AVIATION ADMINISTRATION

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

Sana Drissi, Fort Worth, TX
(M.S. Environmental Health Sciences; B.S. Biology & Natural Sciences)
Ms. Drissi is the Environmental Protection Specialist for the Texas Airport District Office in the FAA's Southwest Region. She is responsible for review of the EA.

6.3 PRINCIPAL PREPARERS

Responsibility for preparation of this EA rests with the City of San Antonio. Listed below are the persons responsible for the preparation of this EA.

6.3.1 City of San Antonio

Steven K. Southers, C.M., J.D., San Antonio, TX
(B.S. Biology)
Mr. Southers has over 25 years of experience. He is the Environmental Stewardship Manager for the San Antonio Airport System and is responsible for coordinating and managing technical NEPA analyses and quality assurance of the EA.

Pedro Martell, San Antonio, TX
(B.S. Architecture)
Mr. Martell has 15 years of experience. He is the Environmental Project Manager representative for the San Antonio Airport System and is responsible for coordinating with consultants, and project schedule for delivery of the EA.

6.3.2 RS&H Inc.

Dave Full, AICP, San Francisco, CA
(M.A. Urban Planning; B.A. Urban Planning)
Mr. Full has 40 years of experience. He is the RS&H Team Project Manager and is responsible for the sub-consultant management, as well as the technical NEPA documentation and quality assurance of the NEPA analyses in the EA.

Jon Erion, Houston, TX
(B.A. Urban Planning)
Mr. Erion has 26 years of experience. He is the Deputy Project Manager serving as the lead environmental planner and is responsible for the preparation of the NEPA analyses in the EA.

David Alberts, Jacksonville, FL
(B.A. Geography)
Mr. Alberts has 23 years of NEPA-related experience. He serves as an independent quality control reviewer for this EA.

Michael Alberts, Tampa, FL
(B.A. Geography)
Mr. Alberts has 30 years of experience. He is responsible for performing the noise analysis using the FAA's Aviation Environmental Design Tool Version 3e, preparing the Noise Technical Report, and drafting the Noise and Noise-Compatible Land Use section for this EA.

Tamsen Binggeli, AICP, Boise, ID
(M.S., Environmental Science; B.B.A. International Business)
Ms. Binggeli has 18 years of experience. She is responsible for the preparation of Environmental Resources Not Affected, Biological Resources, Section 4(f) Resources, Historical and Archaeological Resources, Visual Effects, and Water Resources, and Appendices for this EA.

Michael Fesanco, Jacksonville, FL
(M.S. Aviation Management; B.S. Aviation Management)
Mr. Fesanco has 2 years of experience. He is responsible for performing the construction emissions inventory using Environmental Protect Agency MOtor Vehicle Emissions Simulator 3 for on-road construction emissions and Texas Commission on Environmental Quality TexN2.2 for non-road construction emissions. He prepared the Air Quality Emissions Inventory, Climate and Greenhouse Gas Social Cost appendices and write-ups for this EA.

Audrey Hsu, San Francisco, CA
(B.S. Environmental Management and Protection)
Ms. Hsu has 2 years of experience. She is responsible for the preparation of all exhibits, public outreach and materials, Purpose and Need Chapter, Consultation Chapter, Hazardous Materials, Solid Waste, and Pollution Prevention, Land Use, Natural Resources and Energy Supply, Socioeconomic, Environmental Justice, Children's Health and Safety, and Appendices for this EA.

Katy Martin, Vancouver, WA
(M.S. Environmental Sciences, B.S. Natural Resource Conservation)
Ms. Martin has 7 years of experience. She performed the wetland delineation and threatened and endangered species wildlife survey, and prepared the Preliminary Wetland Delineation appendix for this EA.

Dean McMath, Cleburne, TX
(B.S. Biology)
Mr. McMath has 39 years of experience. He performed QA/QC review of this EA.

Alex Philipson, Denver, CO
(M.S. Geology, B.S. Geology)
Mr. Philipson has 3 years of experience. He assisted with the noise analysis using the FAA's Aviation Environmental Design Tool Version 3e, and performed the QC review of the air quality construction emissions inventory data and write-ups for this EA.

6.3.3 Environmental Research Group LLC (formerly AmaTerra Environmental)

Deborah Dobson-Brown, San Antonio, TX
(M.S. Historic Preservation)
Ms. Dobson-Brown has over 34 years of experience in the field of historic preservation. She is a Secretary of the Interior (36 CFR 61) Qualified Architectural Historian with certifications in Section 106 from the Advisory Council for Historic Preservation and Section 4(f) from the National Preservation Institute. As the Director of Texas Services and Historic Structures Program Manager for ERG, Ms. Dobson-Brown assured compliance with the contract and reviewed deliverables.

Cherise J. Bell, San Antonio, TX
(M.S. Architectural Sciences)
Ms. Bell has over 23 years of experience in the field of historic preservation. She is a Secretary of the Interior (36 CFR 61) Qualified Architectural Historian with certifications in Section 106 for Experienced Practitioners and Meaning of Effects from the National Preservation Institute, and Section 4(f) from the Section Shipley Group. As Principal Investigator, Ms. Bell conducted the survey, research, documentation, and managed staff in the production of the Historic Resources Survey report for the San Antonio International Airport.

Erica Koteras, San Antonio, TX
(B.A. History)
Ms. Koteras is a historian with over 22 months of experience in researching, documenting, and photographing historic-age buildings, structures, and objects. She helped photograph the buildings, completed the photograph sheets, and assisted with research.

6.3.4 LSA Associates Inc.

Casey Tibbet, M.A., Architectural Historian
(M.A. History/Historic Preservation; B.A. in Political Science)
Ms. Tibbet has 19 years of experience and is a Secretary of the Interior (36 CFR 61) Qualified Architectural Historian. She was responsible for completing a peer review of the Historic Resources Survey for the Proposed New Terminal at San Antonio International Airport (2023). The focus of the peer review was on the adequacy of the report in the context of Section 106 compliance and current professional standards and practices. A memorandum summarizing the peer review comments and a comment matrix were prepared.