Airport Background Data and Assumptions Report – Santa Barbara Municipal Airport

Santa Barbara County
Airport Land Use Compatibility Plan Update

1.0 Introduction

The following report describes Santa Barbara Municipal Airport (SBA or Airport) and the surrounding area. This report is derived from the Airport's current Airport Layout Plan, the June 2014 Draft Final Master Plan, the Draft Environmental Impact Report (EIR) prepared for the Draft Final Master Plan, the Airport's website, the City of Santa Barbara's website, airport records maintained by the Federal Aviation Administration (FAA), and consultation with Airport staff. Information provided includes a description of the Airport location, the surrounding land uses, Airport facilities, and existing and forecasted operational activity at the Airport.

2.0 Airport Background

The Airport is located approximately seven miles west of downtown Santa Barbara. While the Airport property lies within the City of Santa Barbara's jurisdiction, it is bordered to the north and west by the City of Goleta, the south and southwest by the University of California Santa Barbara (UCSB) and the community of Isla Vista in unincorporated Santa Barbara County, and directly to the south by the Pacific Ocean. An aerial photo showing the Airport and surrounding areas is provided in **Exhibit A-1**.

SBA started as an airstrip and flight school founded near what is now the City of Goleta in 1928. Over the course of the 1930's, the airfield developed into a full-fledged airport with the development of a local aircraft manufacturing industry. Commercial service began at the Airport in 1932 and United Airlines began service at the Airport in 1936. The facility that now comprises the SBA was dedicated in 1941, partially funded by a federal government program established under the Civil Aeronautics Act to promote civil aviation and air defense.

The current Airport occupies approximately 948 acres, 400 of which are dedicated to aviation uses. Approximately 450 acres are designated as part of the Goleta Slough Ecological Reserve. Surrounding land use around the Airport is highly varied. A mix of commercial and industrial uses lie to the immediate east, north, and west of the Airport. Areas of single- and multi-family residential uses lie to the northeast and southwest of the Airport, beyond the commercial and industrial areas. The UCSB campus and the Pacific Ocean lie to the south of the Airport. Existing land use is depicted in **Exhibit A-2**. Planned land use is depicted in **Exhibit A-3**.

SBA completed an update of its Master Plan in June 2014. Adoption of the Master Plan is pending; however, the Airport Layout Plan was approved by the FAA in February 2015.

Table A-1, below, provides a summary of Airport background information.

Table A-1 - Airport Background Summary – Santa Barbara Municipal Airport

General Information	Description
Airport Ownership	City of Santa Barbara
Year Opened	1941
Airport Property Size	948 acres
Airport Classification	Commercial Service (Primary)
Airport Elevation	13 feet MSL

Table A-1 - Airport Background Summary – Santa Barbara Municipal Airport

Airport Planning Documents	Description
Airport Master Plan	Santa Barbara Municipal Airport Industrial Area Specific Plan, 1998; Santa Barbara Municipal Airport Aviation Facilities Plan, last updated 2003. Airport Master Plan, certified December 12, 2017.
Airport Layout Plan	Santa Barbara Municipal Airport ALP, revalidated by FAA, February 2009.
14 CFR Part 150 Noise Study	NCP approved January 2006

Notes: MSL = Mean Sea Level
NCP=Noise Compatibility Plan
Source: FAA, 2011; SBCAG, 2011, 2017.

3.0 Airport Characteristics

The following sections provide a brief description of the Airport characteristics. Airside facilities described include runways, taxiways, and aprons. Landside facilities include the terminal building, administrative offices, air traffic control tower, general aviation (GA) facilities, and Airport support facilities. The ALP is provided in **Exhibit A-4**.

3.1 Airside Facilities

The Airport has three runways, Runway 7-25 and two parallel crosswind runways, Runways 15R-33L and 15L-33R. Runway 7-25 is oriented east-west and Runways 15L-33R and 15R-33L are oriented northwest-southeast. Runway 7-25 is 6,052 feet long and 150 feet wide, Runway 15R-33L is 4,183 feet long and 100 feet wide, and Runway 15L-33R is 4,180 feet long and 75 feet wide. Runway 7-25 has precision markings and Runways 15R-33L and 15L-33R have basic markings. Runways 15R-33L and 15L-33R are separated by 362 feet.

As the predominant operational runway at SBA, Runway 7-25 is equipped with high-intensity runway lights (HIRL) and runway end indicator lights (REIL) on the Runway 25 end. Runway 7 is equipped with a 1,400-foot medium-intensity approach light system with runway alignment indicator lights (MALSR). A 4-light precision approach path indicator (PAPI) is located on the left side of Runway 25. The runway has a pavement strength of 110,000 pounds single wheel loading (SWL), 160,000 pounds dual wheel loading (DWL); and 245,000 pounds dual tandem wheel loading (DTWL). SWL, DWL, and DTWL describe different types of aircraft landing gear.

Runway 15R-33L is equipped with medium intensity runway edge lights (MIRL). There are REIL at the Runway 15R end. The runway has a pavement strength of 48,000 pounds SWL, 63,000 pounds DWL, and 100,000 pounds DTWL.

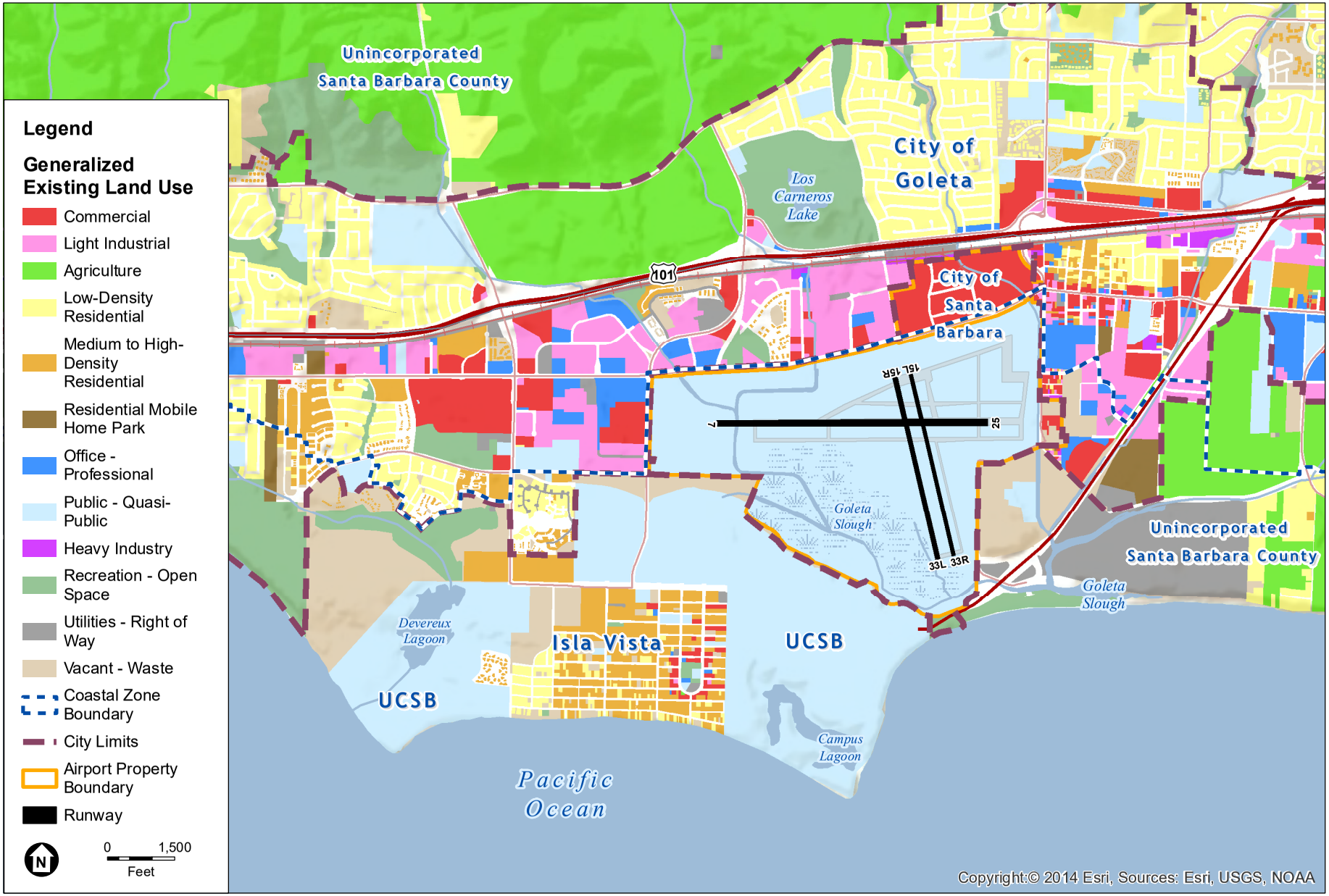
SOURCE: ESRI, Inc., 2019.

SBCAG
santa barbara county association of governments

Exhibit A-1
Santa Barbara Municipal Airport
Airport and Surrounding Areas

DRAFT- For Discussion Purposes Only

THIS PAGE INTENTIONALLY LEFT BLANK



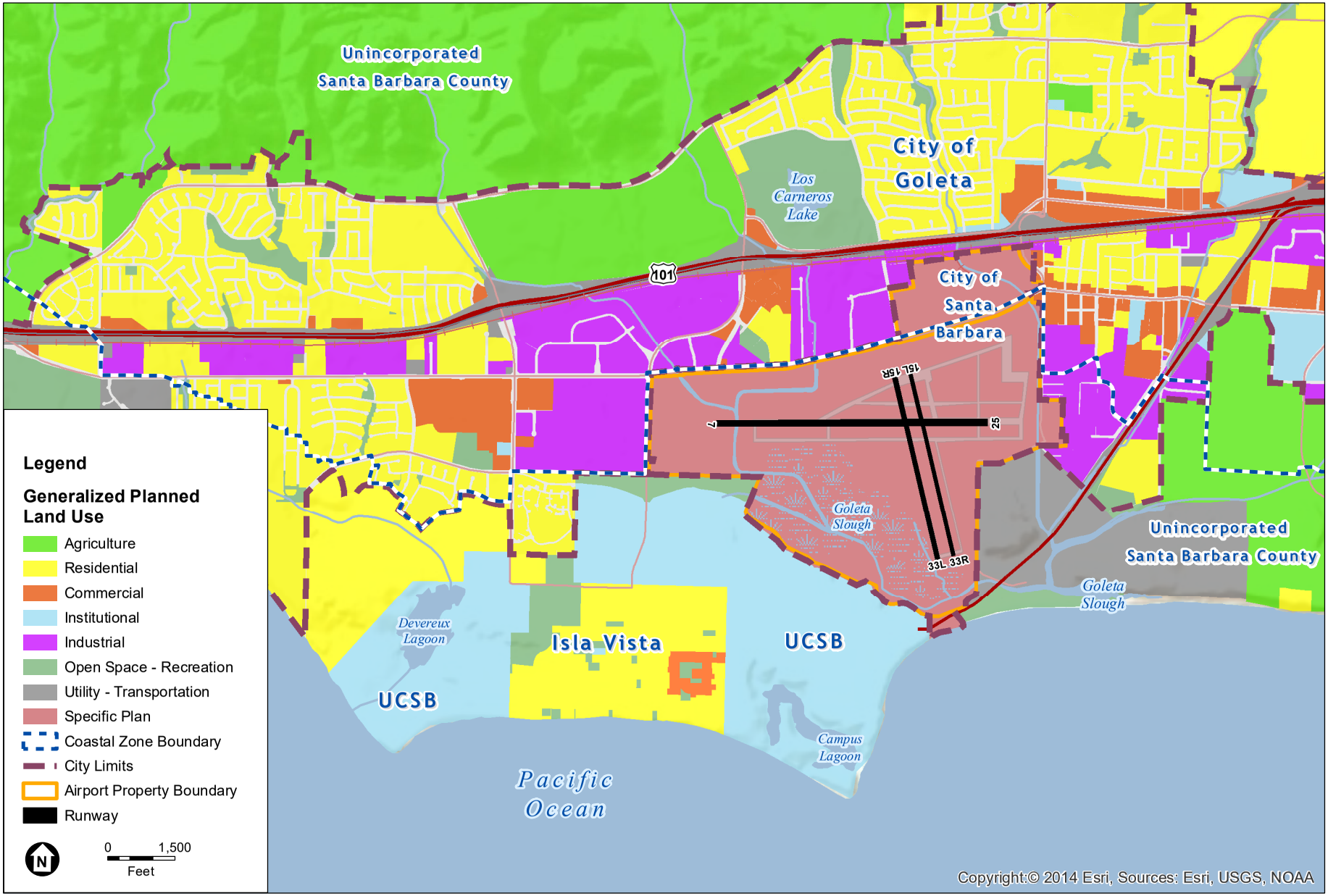
SOURCE: Santa Barbara County Tax Assessor, July 2017.

SBCAG
santa barbara county association of governments

Exhibit A-2
Santa Barbara Municipal Airport
Generalized Existing Land Use

DRAFT- For Discussion Purposes Only

THIS PAGE INTENTIONALLY LEFT BLANK



SOURCE: Santa Barbara County Tax Assessor, July 2017.

SBCAG
santa barbara county association of governments

Exhibit A-3
Santa Barbara Municipal Airport
Generalized Planned Land Use

DRAFT- For Discussion Purposes Only

THIS PAGE INTENTIONALLY LEFT BLANK

NO.	EXISTING BUILDINGS/FACILITIES — FACILITY / ELEVATION (MSL)	
1	Airline Passenger Terminal (# 481)	71'
2	Hangar (Atlantic Aviation # 121) (TBR)	47.2'
3	Hangar (Spitfire Aviation # 122) (TBR)	31.2'
4	Hangar (Atlantic Aviation # 124)	40'
5	Hangar (Port-A-Port) (TBR)	30.1'
6	Hangars (Port-A-Port) (TBR)	25.2'
7	Hangars (Port-A-Port) (TBR)	25.6'
8	Hangars (Port-A-Port) (TBR)	25'
9	Facility	22'
10	Airport Surveillance Radar (ASR)	30.2'
11	Anemometer	34.8'
12	ASOS	-
13	Localizer Building	24.0'
14	Localizer Antenna	-
15	Segmented Circle/Windsock	-
16	Glide Slope Antenna / RVR	19.4'
17	Remote Transmitter Receiver	26'
18	Office / Storage (# 345)	32.2'
19	Maintenance / Office / Storage (# 306)	28.4'
20	Maintenance / Office / Storage (# 347)	30.6'
21	Maintenance Facility (# 349)	22.5'
22	Maintenance Facility	30.3'
23	Hangar	33'
24	Sewer/Lift Station (# 319)	25.7'
25	Self-Fueling (# 310)	23'
26	FBO / Hangar (# 317)	43.7'
27	Hangar (Port-A-Port)	23.2'
28	Office (# 313)	27'
29	Office (# 312)	36'
30	Electrical Vault (# 602)	28'
31	Hangar (# 307)	52.6'
32	Fbo / Hangar (# 309)	46.8'
33	T-Hangar (# 603)	28.3'
34	T-Hangar (# 604)	29.4'
35	Hangar (# 605)	30.1'
36	Office / Storage (# 303)	28.7'
37	Office / Storage (# 304)	24.1'
38	Office / R&D (# 344)	31.7'
39	Office / R&D (# 333)	29.5'
40	Office (# 314)	29'
41	Office / Storage (# 315)	28.3'
42	Office / R&D (# 305)	24.4'
43	ATCT / Arpt Beacon/TRACON (# 601)	33' / 142.5'
44	Facility	27.3'
45	Offices (# 311 / # 351 / # 352)	30.1'
46	Fire Station (ARFF) (# 600)	64'
47	Hangar (# 209 / 210)	44.7'
48	FBO / Hangar (# 269)	25.7'
49	Hangar (# 271)	25'
50	Airport Storage (# 268)	38'
51	SBA Visitors Center (#118)	34.6'
52	Office / Industrial (# 258)	29'
53	Hangar (# 276)	38'
54	Hangar (# 267)	50.7'
55	Hangar (# 283)	29'
56	FBO / Hangar (# 257)	32.2'
57	Building	31.4'
58	Airport Administration Offices (# 255)	32.7'
59	Office (#117)	31.7'
60	Hangar (# 274 / 284 / 285)	40'
61	FBO / Hangar (# 261)	51.8'
62	Vacant Restaurant (# 252)	38.5'
63	Vacant Storage (# 251)	30.4'
64	Fuel Storage	28.7'
65	Fuel Storage	29'
66	Helicopter Parking	N/A
67	Aircraft Wash Rack	N/A
68	Hangar (# 244)	76.2'
69	Office Building (# 245)	36.5'
70	Hangar (# 249) (TBR)	49.1'
71	Hangar (# 248) (TBR)	40.1'
72	Twin Lake Golf (# 363 / 369)	41.8'
73	Twin Lake Golf (# 370)	33.6'
74	Office (# 114)	38.8'
75	Office (# 223)	37.5'
76	Building	46.6'
77	Building (# 224)	35.6'
78	Building (# 225)	41.4'
79	Buildings (# 226)	42.2'
80	Building (# 115)	37'
81	Building (# 116)	41.7'
82	Building (# 507)	49.2'
83	Building (# 503)	54.5'
84	Building (# 504 / 505)	55'
85	Building (# 506)	55.1'
86	Consolidated R-A-C Services (# 508)	48'
87	Building	42.5'

* To Be Removed (TBR)

No.	ULTIMATE BUILDINGS/FACILITIES — FACILITY
91	NOAA ATMOSPHERIC RIVER OBSERV.
92	T-HANGAR (15 units)
93	T-HANGAR (15 units)
94	T-HANGAR (13 units)
95	T-HANGAR (13 units)
96	TERMINAL EXPANSION
97	MAINTENANCE YARD (Relocated)
98	AIRLINE LAVATORY DUMP STATION/ AIRLINE EQUIPMENT MAINTENANCE/ WASH RACK FACILITY
99	FBO LEASE AREA-1
100	FBO LEASE AREA-2
101	RESTAURANT/CONFERENCE CENTER

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
	SAME	ABANDONED PAVEMENT (To Be Removed)
		AIRPORT PROPERTY LINE
	SAME	AIRPORT REFERENCE POINT (ARP)
	SAME	AIRPORT ROTATING BEACON
	SAME	BUILDING ABANDONMENT (To Be Removed)
		BUILDING / MISC. FACILITIES
	SAME	DRAINAGE
		PAVEMENT
		FENCING (up to 10 AGL)
PAPI-4	PAPI-4	NAVIGATIONAL AID INSTALLATION (PAPI-4)
	SAME	RUNWAY THRESHOLD LIGHTS and REIL
	SAME	SECTION CORNER (None Available)
	SAME	SEGMENTED CIRCLE/WIND INDICATOR
10	SAME	TOPOGRAPHY (NAVD 88)
		HOLDING POSITION MARKING
	SAME	PARCELS
RVZ	SAME	RUNWAY VISIBILITY ZONE
TOFA	SAME	TAXIWAY OBJECT FREE AREA
TSA	SAME	TAXIWAY SAFETY AREA
Extd OFA	SAME	EXTENDED OBJECT FREE AREA
xOFZ	SAME	RUNWAY OBSTACLE FREE ZONE
xRSA	SAME	RUNWAY SAFETY AREA
xOFA	SAME	RUNWAY OBJECT FREE AREA
	SAME	SURVEY MONUMENT (PACS/SACS)
		RUNWAY PROTECTION ZONE (RPZ)
BRL	SAME	BUILDING RESTRICTION LINE (BRL)
AS	uAS	APPROACH SURFACE
xTSS	uTSS	THRESHOLD SITING SURFACE
	SAME	ASOS
xLOC	SAME	LOCALIZER CRITICAL AREA
xGS	uGS	GLIDE SLOPE CRITICAL AREA
	SAME	LOCALIZER ANTENNA
		GLIDE SLOPE ANTENNA
	SAME	MALSR APPROACH LIGHT SYSTEM
	SAME	PRECISION OBSTACLE FREE ZONE (POFZ)
		TIE-DOWNS
N/A		RUNWAY SHADE
		EASEMENT
N/A		ISLAND (PAVEMENT MARKING)
		SHOULDERS
N/A		FBO LEASE AREA-1 and AREA-2

GENERAL NOTES:

1. Depiction of features and objects, including related elevations and clearances, within the runway protection zones are depicted on the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWINGS.
2. Details concerning terminal improvements depicted on the TERMINAL AREA DRAWING.
3. Recommended land uses within the airport environs are depicted on the AIRPORT LAND USE DRAWING.
4. NAVD 88 Datum was used for all vertical elevations and NAD 83 for all horizontal elevations.
5. See the INNER PORTION OF RUNWAY APPROACH SURFACE DRAWINGS for TSS Object Penetrations.
6. Proposed taxiway modifications limit direct access from apron areas to runways to reduce runway incursion potential. Taxiway modifications include: relocating the Taxiway E connector between the terminal apron and Taxiway B; Taxiway K is planned to be closed.
7. The Building Restriction Line (BRL) is established in accordance with F.A.R. Part 77 criteria, 35 feet vertical object height. The BRL location occurs coincident with the ASR Critical Area.

DEVIATION TO FAA DESIGN STANDARDS

DEVIATION DESCRIPTION	EFFECTED DESIGN STANDARD	STANDARD	ACTUAL / EXISTING	PROPOSED DISPOSITION
Taxiway E Holding Position Marking & Sign	Runway 15R-33L Centerline to Holdline	125' Separation	99.3' Separation	Request Modification to Standards
Taxiway E Holding Position Marking & Sign	Runway 15L-33R Centerline to Holdline	125' Separation	101.5' Separation	Request Modification to Standards
Service Road inside RSA	240' x 150' Runway Safety Area @ Runway 33L end	240' from Runway 33L end	107' from Runway 33L end	Relocate Road
Service Road inside OFA	240' x 250' Object Free Area @ Runway 33L end	240' from Runway 33L end	0' from Runway 33L end	Request Modification to Standards
Service Road inside OFZ	200' x 250' Obstacle Free Zone @ Runway 33L end	200' from Runway 33L end	0' from Runway 33L end	Request Modification to Standards
Telcolotito Creek inside OFZ	200' x 250' Obstacle Free Zone @ Runway 33L end	200' from Runway 33L end	0' from Runway 33L end	Request Modification to Standards
Service Road inside RSA	240' x 150' Runway Safety Area @ Runway 33R end	240' from Runway 33L end	233' from Runway 33R end	Relocate Service Road
Service Road inside OFA	240' x 250' Object Free Area @ Runway 33R end	240' from Runway 33L end	231' from Runway 33R end	Relocate Service Road
Service Road inside OFA	1000' x 800' Object Free Area @ Runway 7 end	1000' from Runway 7 end	598' from Runway 7 end	Request Modification to Standards
Telcolotito Creek inside OFA	1000' x 800' Object Free Area @ Runway 7 end	1000' from Runway 7 end	787' from Runway 7 end	Request Modification to Standards
Service Road inside POFZ	200' x 800' Precision Obstacle Free Zone (**POFZ**) @ RWY 7	200' from Runway 7 end	200' from Runway 7 end	Closed & Remove
Service Road inside OFA	1000' x 800' Object Free Area @ Runway 25 end	1000' from Runway 25 end	973' from Runway 25 end	Request Modification to Standards
Aircrafts inside TOFA	Taxiway B Object Free Area @ Runway 33R end	89' Twy Centerline to TOFA	Twy Centerline to objects (50')	Remove Aircrafts & Parking Positions

FOR APPROVAL BY:

Airport Manager [signature] DATE 2/5/15

FAA APPROVAL STAMP

Approved conditionally MAR 16 2015
Subject to comments contained in our letter dated: MAR 16 2015
FEDERAL AVIATION ADMINISTRATION
Western-Pacific Region
By [signature]
Manager - LAX/ADO

No.	REVISIONS	DATE	BY	APP'D.
3	Master Plan Update	1/29/15	Coffman	–
2	Revalidated Airport Layout Plan (Approved)	2/9/09	M&H	FAA
1	Updated Airport Layout Plan (Approved)	6/11/97	M&H	FAA

THE CONTENTS OF THIS PLAN DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE F.A.A. ACCEPTANCE OF THIS DOCUMENTS BY THE F.A.A. DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

SANTA BARBARA MUNICIPAL AIRPORT
AIRPORT LAYOUT PLAN
Santa Barbara, California

PLANNED BY: Eric S. Pfeifer
DETAILED BY: Larry D. Johnson
APPROVED BY: James M. Harris, P.E.

January 29, 2015 SHEET 3 OF 18

Coffman Associates Airport Consultants www.coffmanassociates.com

THIS PAGE INTENTIONALLY LEFT BLANK

Runway 15L-33R is not equipped with lights or approach aids and only operates during daytime hours. The runway has a pavement strength of 35,000 pounds SWL, 41,000 pounds DWL, and 63,000 pounds DTWL.

In addition to the runway and visual approach lighting, the airport maintains a beacon on top of the Air Traffic Control Tower (ATCT) and obstruction lighting on objects that penetrate the FAR Part 77 imaginary surfaces. Objects on the airfield marked with obstruction lighting include the ATCT, wind cones placed near the Runway 7, 15R, and 33L ends, the automated surface observing system (ASOS), the glide slope antenna, and several poles and buildings.

There are currently three published instrument approaches to the Airport, all serving Runway 7-25: ILS or LOC RWY 07, RNAV (GPS) RWY 07, and VOR OR GPS RWY 25. SBA is also served by one Standard Terminal Arrival (STAR), the PITBL ONE, and six Standard Instrument Departure (SID) procedures, the FLOUT FIVE, GAUCH ONE, HABUT FOUR, KWANG FIVE, MISHN TWO, and the SANTA BARBARA FOUR. The three instrument approach procedures are described in greater detail in **Table A-2**. Excluding Runways 33 L/R, there are numerous obstructions beyond each of the runway ends, including trees, fences, and buildings.

The Airport's runways are served by a series of 13 taxiways, Taxiways A through C, E through H, J through N, and P. Taxiway A runs parallel to the south side of Runway 7-25 and connects to the runway via connector taxiways P, N, F, M, B, J, and G. Taxiway B runs parallel to the east side of Runway 15L-33R and connects to both Runways 15R-33L and 15L-33R via taxiways E, A, H, E, and C. Taxiway B provides access to a tie down apron for transient general aviation (GA) and Fixed-Base Operator (FBO) facilities west of the Runway 33R end. Along with Taxiway A, Taxiway B provides access to the main terminal building. Taxiway C connects to Taxiway F, midway down Runway 7-25, then runs northeast, connecting to the Runway 15R and 15L ends. From the Runway 15L end, Taxiway C provides access to an aircraft parking apron and hangars north and west of the runways, as well as access to further aircraft parking aprons, FBO facilities, and helicopter parking apron via Taxiway J. Taxiway E runs northwest from just north of the Runway 33R end, crossing Runway15R-33L before connecting to Taxiway M. Taxiway F connects Taxiway A to Runway 7-25. Taxiway G connects Taxiway A to the Runway 25 threshold. Taxiway H runs parallel to the north side of Runway 7-25 and connects to Taxiway M, Runways 15R-33L and 15L-33R, Taxiway B, and Taxiway J. Taxiway J connects Taxiway A, the Runway 25 end, and Taxiway H to the tie-down area, helicopter parking, and FBO lease areas. Taxiway K connects Runway 15L-33R to Taxiway B. Taxiway L connects the Runways 33 L/R ends. Taxiway M runs from Taxiway C along the west side of Runway 15R-33L and connects to the runway just past its midpoint. Taxiway N and P connect Runway 7/25 to Taxiway A near the Runway 7 end. The taxiway system is lit by blue Medium Intensity Taxiway Lights (MITL).

Other airside facilities include the joint ATCT/Terminal Radar Approach Control facility (TRACON), the ASOS (weather station), navigational aids, GA facilities (hangars, FBOs), and airport cargo facilities. The ATCT/TRACON is open between 6:00 a.m. and 11:00 p.m.

3.2 Landside Facilities

Landside facilities at SBA include a full-service passenger terminal, administration buildings, public short- and long-term parking lots, rental car services, airport maintenance facilities, commercial/industrial leased property, a visitor’s center, and the Aircraft Rescue and Firefighting Facility (ARFF)(City of Santa Barbara Fire Department Station 8).

Table A-2 presents a summary of the Airport's airside and landside facilities.

Table A-2 - Airport Facilities Summary – Santa Barbara Municipal Airport

Airside Facilities	
Runways	**Description**
Runway Designation	Runway 7-25
Airport Reference Code (ARC)	D-III
Critical Design Aircraft	Gulfstream G450/G550
Runway Dimensions	6,052' x 150'
Pavement Strength	110,000 (SWL), 160,000 (DWL), 245,000 (DTWL)
Runway Lighting/ Visual Approach Aids	HIRL, REIL, MALSR, 4-light PAPI on left side of Runway 25 (3.00 degrees glide path)
Runway Designation	Runway 15R-33L
Airport Reference Code (ARC)	B-I
Critical Design Aircraft	Beech Baron 58
Runway Dimensions	4,184' x 75'
Pavement Strength	48,000 (SWL), 63,000 (DWL), 100,000 (DTWL)
Runway Lighting	MIRL
Runway Designation	Runway 15L-33R
Airport Reference Code (ARC)	B-I
Critical Design Aircraft	Beech Baron 58
Runway Dimensions	4,180' x 75'
Pavement Strength	35,000 (SWL), 41,000 (DWL), 63,000 (DTWL)
Runway Lighting	None
Taxiways	A, B, C, E, F, G, H, J, K, L, M, N, P
Taxiway Lighting	MITL
Heliport/Helipad	None
Runway Protection Zones (RPZs)	
Runway 07	1,000' x 2,500' x 1,750'; Approach Slope 50:1/40:1
Runway 25	500' x 1,700' x 1,010'; Approach Slope 34:1
Runway 15R	250' x 1,000' x 450'; Approach Slope 20:1
Runway 33L	250' x 1,000' x 450'; Approach Slope 20:1
Runway 15L	250' x 1,000' x 450'; Approach Slope 20:1
Runway 33R	250' x 1,000' x 450'; Approach Slope 20:1
Approach Protection	**Description**
Approach Obstacles	Runway 07: 77' tree, 3,100' from runway end, 350' right of centerline, 37:1 slope to clear Runway 25: 6' fence, 275' from runway, 12:1 slope to clear, approach ratio 50:1 to displaced threshold Runway 15R: 53' tree, 600' from runway, 200' right of centerline, 8:1 slope to clear Runway 33L: 65' tree, 1,300' from runway, 400' left of centerline, 17:1 slope to clear Runway 15L: 37' building, 900' from runway, 4' right of centerline, 19:1 slope to clear, approach ratio 30:1 to displaced threshold Runway 33R: None

Table A-2 - Airport Facilities Summary – Santa Barbara Municipal Airport

Traffic Patterns and Approach Procedures			**Description**		
Aircraft Traffic Patterns					
Runway 07			Right		
Runway 25			Left		
Runway 15R			Left		
Runway 33L			Right		
Runway 15L			Left		
Runway 33R			Right		
Pattern Altitude			Small and Turboprop Aircraft 990'; Large Aircraft 1,490'		
Instrument Approach Procedures	**Type**	**NAVAIDS**	**Aircraft Category**	**Minimums**	
				Ceiling	**Visibility**
ILS or LOC RWY 07	Straight in	ILS	A,B,C,D	213'	2,400'
	Straight in	LOC	A,B	500'	2,400'
	Straight in	LOC	C	500'	4,000'
	Straight in	LOC	D	500'	5,000'
	Circling	LOC	A	800'	1 mile
	Circling	LOC	B	800'	1¼ mile
	Circling	LOC	C	800'	2¼ miles
	Circling	LOC	D	1,000'	3 miles
Instrument Approach Procedures	**Type**	**NAVAIDS**	**Aircraft Category**	**Minimums**	
				Ceiling	**Visibility**
RNAV (GPS) RWY 07	LNAV	GPS	A,B,C,D	380'	4,000'
	LNAV	GPS	A,B	866'	2 miles
	LNAV	GPS	C	866'	2½ miles
	LNAV	GPS	D	866'	2¾ miles
	LNAV	GPS	A,B	560'	2,400'
	LNAV	GPS	C	560'	5,000'
	LNAV	GPS	D	560'	6,000'
	Circling	GPS	A	800'	1 mile
	Circling	GPS	B	800'	1¼ mile
	Circling	GPS	C	800'	2¼ miles
	Circling	GPS	D	1,000'	3 miles
VOR OR GPS RWY 25	Straight in	GPS	A,B	920'	1¼ miles
	Straight in	GPS	C	920'	2¾ miles
	Straight in	GPS	D	920'	3 miles
	Circling	GPS	A,B	920'	1¼ miles
	Circling	GPS	C	920'	2¾ miles
	Circling	GPS	D	960'	3 miles
Landside Facilities					
Building Area			**Description**		
Aircraft Parking Location			East of Runway 33R, north of Runway 25/northeast of Runway 15L, west of Runway 15R		
Aircraft Parking Gates			Four at main passenger terminal		
Aircraft Hangars			14 T-hangars, 10 long-term lease hangars		

Table A-2 - Airport Facilities Summary – Santa Barbara Municipal Airport

Building Area	Description
Other Facilities	Full service passenger terminal
Fuel	100LL, Jet A
Other	Two FBOs, oxygen, parking tie-down, major airframe and power plant repairs

Notes: MSL = Mean Sea Level
HIRL=High Intensity Runway Lights
REIL=Runway End Indicator Lights
MALSR=Medium-intensity Approach Lighting System with Runway Alignment Indicator Lights
MIRL=Medium Intensity Runway Lights
ILS=Instrument Landing System
LOC=Localizer
GPS=Global Positioning System
LNAV=Lateral navigation
PAPI=Precision Approach Path Indicator

Source: Santa Barbara Municipal Airport ALP, 2015; Federal Aviation Administration National Flight Data Center <https://nfdc.faa.gov/nfdcApps/services/airportLookup/airportDisplay.jsp?airportId=ksba>, accessed May 2017; Santa Barbara Airport Master Plan, December 2017.

4.0 Airport Activity

The following sections describe both existing and forecasted airport activity at SBA. Aircraft operational data is derived from the Airport's Master Plan, certified in December 2017.

4.1 Existing Airport Activity

The SBA Airport Master Plan includes airport activity forecasts for three years: 2017, 2022, and 2032. In addition, real data for 2011 was used as a baseline for purposes of forecasting. These forecasts were approved for use in planning by the FAA in November 2012. For purposes of this report, existing activity at the Airport is based on 2011 conditions. The 2011 operational counts provided in the Draft Final Master Plan were based on operational numbers derived from the FAA's Air Traffic Activity System (ATADS). The ATADS system provides counts of itinerant and local aircraft operations as reported by ATCTs.

The Master Plan reports 108,285 annual aircraft operations at SBA for 2011. There were 37,390 local operations at SBA in 2011. Local operations are defined as arrivals and departures completed by aircraft operating within the Airport's local traffic pattern or airspace. Touch-and-go operations are included as local operations. These operations consist of general aviation (GA) and military activity. Local operations represent approximately 35 percent of operations at the Airport in 2011. The remaining approximate 65 percent of aircraft operations at SBA are itinerant operations. Itinerant operations are conducted by aircraft with origins or destinations other than the Airport, outside the Airport's airspace.

In 2011, approximately 75 percent of operations at SBA were GA operations. This includes itinerant operations by business jets, as well as itinerant and local operations by single and twin engine propeller aircraft. Air carrier operations represent the next largest category of operations at the Airport. Air carrier operations represented approximately 20 percent of operations in 2011. Air carrier aircraft include narrow body regional jet aircraft (e.g., Embraer 175, Canadair Regional Jet, and Airbus 319) as well as twin-turboprop commuter aircraft. Other air taxi operations represented approximately four percent of operations at SBA in 2011. This category

of operation typically includes commuter passenger, commuter cargo, and for-hire GA operations. Finally, less than one percent of operations were conducted by the military in 2011.

Prevailing winds at the Airport are from the west and the majority of operations at SBA are conducted on Runway 7-25. The Draft Final Master Plan states that between 2007 and 2011 runway usage was as follows:

- Runway 25 – 56.1 percent
- Runway 7 – 17.3 percent
- Runway 15L – 13.7 percent
- Runway 15R – 10.2 percent
- Runway 33R – 1.9 percent
- Runway 33L – 0.7 percent

Traffic at the Airport generally operates within three corridors: straight west of the Airport off Runway 7, south-southeast of the airport off Runway 25, and due south of the Airport off Runways 33L/R. Commercial arrival traffic to Runway 7 tends to be more concentrated along the extended runway centerline. Commercial aircraft arriving to Runway 25 generally fly in from over the ocean over More Mesa, approximately 2.25 miles southeast of the Airport, before turning towards the runway for the final approach. Commercial aircraft departing Runway 25 generally fly straight west off the runway above the Ellwood neighborhood in the City of Goleta and out over the ocean or turn to the south and fly out over the ocean above undeveloped areas west of Isla Vista in unincorporated Santa Barbara County. Commercial aircraft departing Runway 7 fly east for approximately a mile before turning southeast to head out over the ocean above an unincorporated area of Santa Barbara County east of More Mesa and south of downtown Goleta.

GA aircraft that use Runway 7-25 follow the same general flight paths as those used by commercial aircraft, though because they are able to make turns closer to the runway ends, both departing and arriving aircraft tend to be more widely dispersed. Noise abatement procedures in effect at the Airport encourage GA aircraft departing Runways 33L/R to turn after departure prior to and along Highway 101. Similarly, GA aircraft arriving to Runways 15R/L enter the base leg of the local traffic pattern above and north of Highway 101, before turning towards the runways on the final approach above the Los Carneros Park neighborhood in the City of Goleta. Helicopter traffic either heads directly south out over the ocean or operates directly above Highway 101.

Table A-3, below, provides a summary of the forecasted airport activity data representative of existing airport activity.

4.2 Forecast Airport Activity

California state law requires that an Airport Land Use Compatibility Plans (ALUCP) be based on a long-range Airport Master Plan or ALP that forecasts anticipated growth at an airport for the next 20 years. For purposes of this ALUCP update, the Draft Final Master Plan's long-term forecast for 2032 is used to characterize future airport activity. **Table A-3,** below, provides a summary of forecasted airport activity for 2032 as provided in the Draft Final Master Plan. The 2032 forecast represents a 19 percent increase in overall aircraft operations over 2011 existing conditions.

Table A-3 – Airport Activity Data – Santa Barbara Municipal Airport

Aircraft Operations	**Existing Conditions (2011)**		**Future Conditions (2032)**	
Annual Total	108,285		133,150	
Average Annual Day Total	297		365	
Operations by Aircraft Type (Average Annual Day)				
Itinerant Operations	**Number of Operations**	**Percentage by Aircraft Type**	**Number of Operations**	**Percentage by Aircraft Type**
Air Carrier	59	20%	68	19%
Air Cargo/Other Air Taxi	13	4%	19	5%
Total Commercial	*72*	24%	*87*	
General Aviation	119	40%	147	40%
Military	3	1%	3	1%
Local Operations				
General Aviation	102	34%	126	35%
Military	1	0%	1	0%
Total	**297**	**100%**	**365**	**100%**

Average Annual Runway Use							
Aircraft Category	**Departures**						
	Rwy 7	**Rwy 25**	**Rwy 15R**	**Rwy 33L**	**Rwy 15L**	**Rwy 33R**	**Total**
Air Carrier - Turbojet	25%	75%	0%	0%	0%	0%	100%
Air Carrier - Turboprop	25%	75%	0%	0%	0%	0%	100%
General Aviation - Turboprop	25%	75%	0%	0%	0%	0%	100%
General Aviation - Prop	7%	28%	29%	0.5%	34%	1.5%	100%
Aircraft Category	**Arrivals**						
	Rwy 7	**Rwy 25**	**Rwy 15R**	**Rwy 33L**	**Rwy 15L**	**Rwy 33R**	**Total**
Air Carrier - Turbojet	40%	60%	0%	0%	0%	40%	100%
Air Carrier - Turboprop	40%	60%	0%	0%	0%	40%	100%
General Aviation - Turboprop	40%	60%	0%	0%	0%	40%	100%
General Aviation - Prop	7%	28%	34%	0.5%	29%	1.5%	100%

Source: Santa Barbara Municipal Airport Master Plan, 2017; Draft Environmental Impact Report for the Santa Barbara Municipal Airport Draft Final Master Plan, 2015.

5.0 Draft Compatibility Factors

The four draft compatibility factors depicted on the following exhibits were developed following guidance provided in the California Department of Transportation's (Caltrans) Airport Land Use Compatibility Handbook (Handbook) and represent operating conditions specific to SBA as projected for the next 20 years, consistent with state statutory requirements. Each compatibility factor is further discussed below.

5.1 Draft Noise Compatibility Data

Exhibit A-5 depicts noise contours for year 2032 conditions at the Airport. These noise contours are taken from the Draft EIR prepared for the Draft Final Airport Master Plan in 2014 and are based on the Airport's approved forecasts. The 2032 noise contour represents 133,150 annual operations, or 365 annual average daily operations. **Table A-3** provides the breakdown of operations by aircraft category and the runway use percentages used in the noise modeling.

5.2 Draft Safety Compatibility Data

The proposed safety zones for the Airport were developed based on guidance provided in the Handbook, which includes dimensions for "generic" safety zones. These generic safety zones are geometric shapes representing areas of progressive degree of risk of aircraft accident based on statistical analysis of accident locations. Typically, the closer to the runway end, the higher the risk for an accident. While the number of safety zones at an airport may vary based on the airport's unique operating conditions, the Handbook provides guidance for six safety zones. **Table A-4**, below, describes these safety zones in detail.

Safety zones for SBA were developed by selecting the appropriate sets of generic safety zones from the examples provided in the Handbook and then overlaying them on the runways. Where necessary, adjustments were made to the safety zones to reflect the unique operating conditions at the Airport. For purposes of adjusting the safety zones for the Airport, the primary flight tracks (backbones) used to model the noise contours depicted in **Exhibit A-5** were georeferenced in GIS and used to show the general aircraft operating patterns at the Airport. In addition, two weeks of Aircraft Situation Display to Industry (ASDI) radar data (June 1-7, 2016 and December 1-7, 2016) and one week of System Wide Information Management (SWIM) radar data (July 1 – 7, 2017) was processed and used to validate the adjustments to the safety zones. **Exhibit A-6** shows the proposed safety zones.

Safety Zones for Runway 7-25 were based on *Example 3: Long General Aviation Runway*, included in the Handbook. *Example 3* assumes a runway length greater than 6,000 feet, approach visibility minimums less than ¾ miles, and runway protection zones (RPZs) of 1,000 feet by 1,750 feet by 2,500 feet. No adjustments were necessary for the safety zones off the Runway 7 end. Safety Zone 1 off the Runway 25 end was adjusted to reflect the dimensions of the RPZ as provided for in the 2015 ALP. The Runway 25 RPZ is 500 feet by 1,700 feet by 1,010 feet. Safety Zone 2 off the Runway 25 end was extended westward by 800 feet to meet Safety Zone 1 and the inner boundaries of Safety Zone 3 were adjusted to reflect the changes to Safety Zones 1 and 2. Safety Zone 4 was extended to the south off the Runway 25 end to reflect arrival and departure traffic from the southeast. Aircraft departing Runway 7 primarily turn to the south and cross the shoreline above the More Mesa area. Similarly, aircraft arriving to Runway 25 typically enter the Airport's traffic pattern over the coast above More Mesa, making a left base turn to the final approach.

Safety zones for the parallel runways (Runways 15L/22R and 15R/22L) were based on *Example 2: Medium General Aviation Runway*, included in the Handbook. *Example 2* assumes a runway length between 4,000 and 5,999 feet, approach visibility minimums greater than or equal to ¾ a mile and less than a mile, and RPZs of 1,000 feet by 1,150 feet by 1,700 feet. Between approximately 1¼ and ¾ of mile from the runway end, GA aircraft arriving to Runways 15L/R turn from the left or right base leg of the local traffic pattern to head straight in on the final approach to the runway. Off the Runway 33 R/L ends, the predominant traffic is departure traffic from Runways 15L/R that heads south almost immediately over the ocean. No adjustments were made to the safety zones for these runways as operations as represented by the flight tracks were assumed to be generally consistent with the criteria established for the generic zones.

5.3 Draft FAR Part 77 Airspace Compatibility Data

Exhibit A-7 shows the Part 77 airspace surfaces for SBA as presented in the current ALP. The exhibit includes the conical, horizontal, and inner approach surfaces. The outer approach surface extends to the west, over the ocean and is not shown here. Part 77 airspace surfaces reflect three-dimensional areas around airports determined by FAA regulations that should be protected from obstructions and visual impacts that may interfere with safe operation of aircraft.

5.4 Draft Overflight Compatibility Data

Exhibit A-8 shows the overflight notification area for the Airport. The overflight notification area is based on the current Airport Influence Area. Adjustments were made to the outer boundaries based on the safety zones and flight tracks used to model the noise contours shown in **Exhibit A-5**. Both the ASDI data from June and December 2016 and SWIM data from July 2017 was used to validate the extent of the overflight notification area.

5.5 Draft Airport Influence Area

Exhibit A-9 shows the Airport Influence Area (AIA) for SBA. The AIA is “the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses.” (Business and Professions Code 11010(b)(13)(b).) The AIA is divided into two areas; Review Area 1 and Review Area 2. Review Area 1 consists of a combination of the noise contours and six safety zones for the Airport, and represents areas where noise and/or safety concerns may require limitations on the type of allowable land uses. Review Area 2, consists of areas beyond Review Area 1, but within the area covered by the combined airspace surfaces and overflight notification area. Restrictions on the height of objects within Review Area 2 may apply. Review Area 2 includes the outer approach surface from SBA’s Part 77 airspace map, but is not shown here as the majority of this area falls over the ocean. Portions of the area that would fall within Review Area 2 that lie over the ocean have been identified with crosshatching.

Table A-4 – Airport Safety Zones

Landside Facilities	
Safety Zone	**Description**
Safety Zone 1	• Runway Protection Zone • Reflects areas where aircraft are on very close approach or departure; • Altitude: Typically less than 200 feet above the runway.
Safety Zone 2	• Inner Approach/Departure Zone • Aircraft overflying at low altitudes on final approach and straight-out departure; • Altitude: Between 200 and 400 feet above the runway.
Safety Zone 3	• Inner Turning Zone • Aircraft, (especially smaller, piston-powered aircraft) turning base to final on landing approach or initiating turn to en route direction on departure; • Altitude: Less than 500 feet above runway, particularly on landing.
Safety Zone 4	• Outer Approach/Departure Zone • Approaching aircraft usually at less than traffic pattern altitude. Particularly applicable for busy general aviation runways (because of elongated traffic pattern), runways with straight-in instrument approach procedures, and other runways where straight-in or straight-out flight paths are common; • Altitude: Less than 1,000 feet above the runway.
Safety Zone 5	• Sideline Zone • Area not normally overflown; primary risk is with aircraft (especially twins) losing directional control on takeoff; excessive crosswind gusts or engine torque; • Altitude: Runway elevation.
Safety Zone 6	• Traffic Pattern Zone • Aircraft within a regular traffic pattern and pattern entry routes; • Altitude: Ranging from 500 to 1,500 feet above the runway.

Source: Caltrans Airport Land Use Compatibility Handbook, 2011.

THIS PAGE INTENTIONALLY LEFT BLANK

SBCAG
santa barbara county association of governments

SANTA BARBARA COUNTY
AIRPORT LAND USE COMMISSION

Legend

Noise Exposure Range

- 60 - 65 dB CNEL
- 65 - 70 dB CNEL
- 70 - 75 dB CNEL
- 75+ dB CNEL
- Runways
- Airport Property Boundary
- Freeways/Highways
- Primary or Secondary Street
- City Limits
- Parcel Lines

Prepared by: Environmental Science Associates

Source: URS Corporation; ATAC Corporation; Santa Barbara Airport Master Plan Draft EIR, August 2015; Parcels - County of Santa Barbara Clerk-Recorder-Assessor's Mapping Division, July 2017; Roadway Centerlines - Santa Barbara County Mapping and GIS, December 2010; ESRI Layer Package: North American Airports - ESRI, November 2010; World Shaded Relief - ESRI Online (Sources ESRI, USGS, NOAA), 2014 (Updated February 2017), http://goto.arcgisonline.com/maps/World_Shaded_Relief.

0 0.25 0.5 0.75 1 Miles

0 3,000 6,000 Feet

NAD 1983 StatePlane California V FIPS 0405 (US Feet)

N

Exhibit A-5

Noise Compatibility Data Map: Santa Barbara Municipal Airport

DRAFT - For Discussion Purposes Only

THIS PAGE INTENTIONALLY LEFT BLANK

SBCAG
santa barbara county association of governments

SANTA BARBARA COUNTY
AIRPORT LAND USE COMMISSION

Legend

- Zone 1 - Runway Protection Zone
- Zone 2 - Inner Approach/Departure Zone
- Zone 3 - Inner Turning Zone
- Zone 4 - Outer Approach/Departure Zone
- Zone 5 - Sideline Zone
- Zone 6 - Traffic Pattern Zone
- Over Water
- Runways
- Airport Property Boundary
- City Limits
- Parcel Boundaries
- Freeways/Highways
- Primary or Secondary Street

Prepared by: Environmental Science Associates

Source: URS Corporation: CPH Jones Consulting; ATAC Corporation; Parcels - County of Santa Barbara Clerk-Recorder-Assessor's Mapping Division, July 2017; Roadway Centerlines - Santa Barbara County Mapping and GIS, December 2010; ESRI Layer Package: North American Airports - ESRI, November 2010; World Shaded Relief - ESRI Online (Sources ESRI, USGS, NOAA), 2014 (Updated February 2017), http://goto.arcgisonline.com/maps/World_Shaded_Relief.

0 0.25 0.5 0.75 1 Miles

0 1,000 2,000 3,000 4,000 5,000 Feet

NAD 1983 StatePlane California V FIPS 0405 (US Feet)

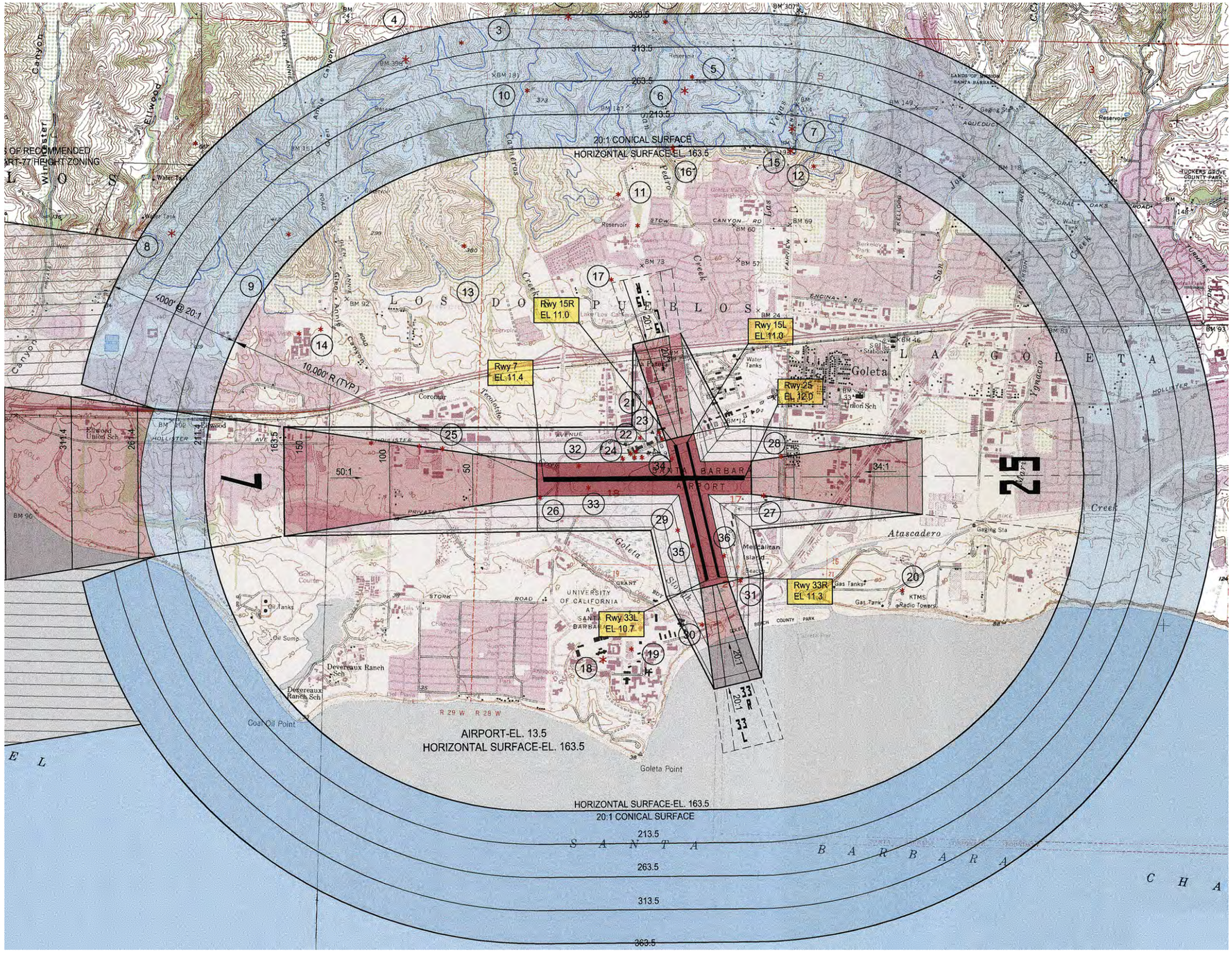
N

Exhibit A-6

Safety Compatibility Data Map
Santa Barbara Municipal Airport

DRAFT - For Discussion Purposes Only

THIS PAGE INTENTIONALLY LEFT BLANK



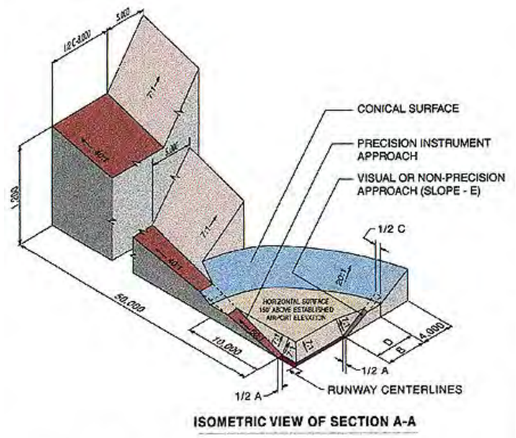
SBCAG
santa barbara county association of governments

SANTA BARBARA COUNTY
AIRPORT LAND USE COMMISSION

OBSTRUCTION LEGEND

OBSTRUCTION

EL 380 TOPOGRAPHIC OBSTRUCTION



SOURCE: 14 CFR Part 77, Section 77.25, Civil Airport Imaginary Surfaces.

NOTE: Entire outer approach surface not depicted. Outer edge of the Conical Surface the recommended limit for FAR Part 77 height zoning.

Prepared by: ATAC Corporation
Source: Santa Barbara Municipal Airport Airport Layout Plan, 2015

NOT TO SCALE

Exhibit A-7

FAR Part 77 Airspace Protection Compatibility Data Map: Santa Barbara Municipal Airport

DRAFT - For Discussion Purposes Only

THIS PAGE INTENTIONALLY LEFT BLANK

SBCAG
santa barbara county association of governments

SANTA BARBARA COUNTY
AIRPORT LAND USE COMMISSION

Legend

- Real Estate Notification Area
- Overflight Notification Area
- AIA-Review Area-1
- AIA-Review Area 2
- Over Water
- Runways
- Airport Property Boundary
- City Limits
- Parcel Lines
- Freeways/Highways
- Primary or Secondary Street

Prepared by: Environmental Science Associates

Source: URS Corporation; CPH Jones Consulting; ATAC Corporation; Parcels - County of Santa Barbara Clerk-Recorder-Assessor's Mapping Division,July 2017; Roadway Centerlines - Santa Barbara County Mapping and GIS, December 2010; ESRI Layer Package: North American Airports - ESRI, November 2010; World Shaded Relief - ESRI Online (Sources ESRI, USGS, NOAA), 2014 (Updated February 2017), http://goto.arcgisonline.com/maps/World_Shaded_Relief.

0 0.25 0.5 0.75 1 1.25 1.5 Miles

0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 Feet

NAD 1983 StatePlane California V FIPS 0405 (US Feet)

N

Exhibit A-4

Overflight Compatibility Data Map: Santa Barbara Municipal Airport

THIS PAGE INTENTIONALLY LEFT BLANK

SBCAG
santa barbara county association of governments

SANTA BARBARA COUNTY
AIRPORT LAND USE COMMISSION

Legend

- AIA-Review Area-1
- AIA-Review Area 2
- Over Water
- Runways
- Airport Property Boundary
- City Limits
- Parcel Lines
- Freeways/Highways
- Primary or Secondary Street

Prepared by: Environmental Science Associates

Source: URS Corporation; CPH Jones Consulting; ATAC Corporation; Parcels - County of Santa Barbara Clerk-Recorder-Assessor's Mapping Division,July 2017; Roadway Centerlines - Santa Barbara County Mapping and GIS, December 2010; ESRI Layer Package: North American Airports - ESRI, November 2010; World Shaded Relief - ESRI Online (Sources ESRI, USGS, NOAA), 2014 (Updated February 2017), http://goto.arcgisonline.com/maps/World_Shaded_Relief.

0 0.25 0.5 0.75 1 1.25 1.5 Miles

0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 Feet

NAD 1983 StatePlane California V FIPS 0405 (US Feet)

N

Exhibit A-9

Airport Influence Area Map: Santa Barbara Municipal Airport

THIS PAGE INTENTIONALLY LEFT BLANK