

FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE
TITLE 14 CFR PART 97.33

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated.
Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or feet RVR.

<u>AIRPORT</u> SAN FRANCISCO INTL	<u>AIRPORT ID</u> KSFO	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 19L	<u>ORIGINAL/AMENDMENT</u> 3A	<u>CITY</u> SAN FRANCISCO	<u>STATE</u> CA	
<u>AIRPORT ELEVATION</u> 13	<u>TDZE</u> 11	<u>SUPERSEDED</u> RNAV (GPS) RWY 19L	<u>ORIGINAL/AMENDMENT</u> 3	<u>DATED</u> 09/18/2014	<u>MAG VAR</u> 14E	<u>EPOCH YEAR</u> 2015
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 8 NOVEMBER 2018	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>		

TERMINAL ROUTES

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>LEG TYPE</u>	<u>FO/FB</u>	<u>RNP</u>	<u>COURSE</u>	<u>DISTANCE</u>	<u>ALTITUDE</u>
UPEND	IAF	BERKS		TF	FB	1.00	193.98	11.61	5000
BERKS	IF	SHAKE		TF	FB	1.00	193.91	7.24	2800
SHAKE	FAF	ROGGE/5.50 NM TO RW19L		TF	FB	0.30	193.86	3.09	
ROGGE/5.50 NM TO RW19L		RW19L	MAP	TF	FO	0.30	193.86	5.50	
RW19L	MAP	500 MSL		CA			193.86		500
500 MSL		DUMBA		DF	FO				3000

MISSED APPROACH

MAP:

LPV: DA
LNAV/VNAV: DA
LNAV: RW19L

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 500 THEN CLIMBING LEFT TURN TO 3000 DIRECT DUMBA AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



PROFILE:

1. PT	SIDE OF COURSE	OUTBOUND	FT WITHIN	MILES OF	(IAF)
2. PROFILE STARTS AT BERKS					
3. FAC:	193.86	FAF: SHAKE	DIST FAF TO MAP: 8.59	DIST FAF TO THLD: 8.59	
4. MIN ALT: BERKS 5000, SHAKE 2800, ROGGE/5.50 NM TO RW19L 1800*					
5. DIST TO THLD FROM OM:	MM:	IM:	150 HAT:	282 HAT: 0.71	GS ANT:
6. MIN GP INCPT: 2800	GP ALT AT FAF : SHAKE 2800			OM:	MM: IM:
7. GP ANGLE: 3.00	34:1: IS NOT CLEAR	20:1: IS NOT CLEAR	TCH: 55.0		
8. MSA FROM: RW19L 5100					

PBN REQUIREMENTS NOTE:

RNP APCH.

NOTES:

CHART NOTE: HELICOPTER VISIBILITY REDUCTION BELOW 1 SM NOT AUTHORIZED.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW 3C OR ABOVE 54C.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}).
*LNAV ONLY
CHART NOTE: FOR INOPERATIVE ALS, INCREASE LPV CAT A/B VISIBILITY TO RVR 4500, LNAV/VNAV ALL CATS VISIBILITY TO RVR 6000 AND LNAV CAT A/B TO RVR 5500.
CHART NOTE: INOPERATIVE TABLE DOES NOT APPLY TO LPV CAT C/D.

ADDITIONAL FLIGHT DATA:

WAAS CHANNEL #58015
REFERENCE PATH ID: W19A
FAS OBST: 150 SHIP 374028N/1222020W.
HOLD E, LT, 283.98 INBOUND
LTP HAE: -29.4 M

MINIMUMS:

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA ☐ STANDARD

CATEGORY:	A			B			C			D			E		
FINAL TYPE	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA
LPV DA	293	4000	282	293	4000	282	293	5000	282	293	5000	282			
LNAV/VNAV DA	350	4000	339	350	4000	339	350	5000	339	350	5000	339			
LNAV MDA	560	4000	549	560	4000	549	560	1 3/8	549	560	1 3/8	549			



<u>AIRPORT</u>	<u>AIRPORT ID</u>	<u>PROCEDURE NAME</u>	<u>ORIGINAL/AMENDMENT</u>	<u>CITY</u>	<u>STATE</u>
SAN FRANCISCO INTL	KSFO	RNAV (GPS) RWY 19L	3A	SAN FRANCISCO	CA

CHANGES - REASONS

1. DELETED NOTE "DME/DME RNP-0.3 NA - ADDED REQUIREMENT TO SPECIFY THE APPLICABLE NAVIGATION SPECIFICATION IN THE PBN REQUIREMENTS BOX.
2. ADD PBN EQUIPMENT REQUIREMENTS NOTE "RNP APCH" - IAW 8260.19H PARA 8-6-6 B.
3. REMOVED FAHRENHEIT TEMP (38F) AND (130F) FROM BARO-VNAV CRITICAL HI/LOW TEMPERATURE NOTE - NO LONGER REQUIRED FOR CHARTING IAW 8260.19H PARA 8-6-9 S.
4. CHANGED MISSED APPROACH CLIMB TO ALTITUDE FROM 420 TO 500 - MISSED APPROACH WITH INITIAL TURNS GREATER THAN 1 DEGREE MUST PROVIDE A MINIMUM CLIMB TO ALTITUDE THAT IS EQUAL OR EXCEED THE HIGHER OF THE END OF SECTION 1 END AIRCRAFT ALTITUDE (SOC) OR 400 FEET ABOVE AIRPORT ELEVATION.
5. DELETED PLANVIEW NOTE "RADAR REQUIRED" - NOT REQUIRED FOR GPS PROCEDURES.
6. CHANGED INOPERATIVE TABLE NOTE FROM 'FOR INOPERATIVE MALSF, INCREASE LPV CAT A/B VISIBILITY TO RVR 4500, LNAV/VNAV ALL CATS VISIBILITY TO RVR 6000 AND LNAV CAT D TO 1 5/8" TO "FOR INOPERATIVE ALS, INCREASE LPV CAT A/B VISIBILITY TO RVR 4500, LNAV/VNAV ALL CATS VISIBILITY TO RVR 6000 AND LNAV CAT A/B TO RVR 5500" - UPDATED IAW 8260.3C TABLES 3-3-1, 3-3-3 AND 3-3-4.
7. FAS DATA: LTP/FTP LAT/LONG CHANGED FROM 373738.4280N1222201.5970W TO 373738.4315NN1222201/5990W, CRC REMAINDER CHANGED FROM DF9A5B75 TO 7AB5DB58 - USED UPDATED AIRNAV DATA.
8. ADDED NOTE "HELICOPTER VISIBILITY RESTRICTION BELOW 1 SM NOT AUTHORIZED" - CAT A/B AREA UNLIT 20:1 PENETRATION.
9. ADDED 20:1 IS NOT CLEAR TO LINE 7 - CAT A/B AREA UNLIT 20:1 PENETRATION.



COORDINATED WITH:

A4A ☐ ALPA ☒ AOPA ☒ APA ☒ HAI ☐ NBAA ☒ OTHER: ZOA, NORCAL APP CON, SFO ATCT, AMGR, CA AERO, ATA

<u>FLIGHT CHECKED BY</u> DANIEL C FAVORITE	<i>Digitally signed by</i> ROBERT G HAMILTON Aug 07, 2018	<u>OFFICE</u> FICO	<u>DATE</u> 8/2/18	
<u>DEVELOPED BY</u> GEORGETTE P. BARNETT	<i>Digitally signed by</i> GEORGETTE P BARNETT Jul 03, 2018	<u>OFFICE</u> AJV-5422	<u>DATE</u> 06/25/2018	
<u>APPROVED BY</u> JULIE MORGAN	<i>Digitally signed by</i> ROBERT G HAMILTON Aug 07, 2018	<u>OFFICE</u> AJV-5420	<u>DATE</u>	<u>TITLE</u> MANAGER



FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KSFO
RUNWAY	RW19L
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W19A
LTP/FTP LATITUDE	373738.4315N
LTP/FTP LONGITUDE	1222201.5990W
LTP/FTP ELLIPSOIDAL HEIGHT	-00294
FPAP LATITUDE	373619.5235N
FPAP LONGITUDE	1222253.9085W
THRESHOLD CROSSING HEIGHT (TCH)	00055.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0112
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	7AB5DB58
<u>ADDITIONAL PATH POINT RECORD INFORMATION</u>	
ICAO CODE	K2
LTP ORTHOMETRIC HEIGHT	+00032
FPAP ORTHOMETRIC HEIGHT	+00032

